Six- and Twelve-Month Outcomes among Homeless Youth Accessing Therapy and Case Management Services through an Urban Drop-in Center

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Research Objective. To evaluate the impact of case management and individual therapy offered through a drop-in center for homeless youth on substance use, mental health, housing, education, employment, and medical care utilization.

Study Population. All youth ($n = 172$) between the ages of 14–24 who accessed treatment services through an urban, southwestern drop-in center were included.

Data Source. Semistructured and self-report questionnaires were administered to youth between October 2002 and April 2005.

Study Design. A repeated measures design was utilized. Youth were assessed at baseline, 6 months, and 12 months postbaseline. Hierarchical linear modeling was used to test the hypotheses.

Principal Findings. Statistically significant improvements were found in substance abuse, mental health, and percent days housed up to 12 months postbaseline. Decreased alcohol and drug use was associated with an increase in housing. However, most youth did not acquire permanent housing, and education, employment, and medical service utilization did not significantly change over time.

Conclusions. While treatment offered through drop-in centers for homeless youth can positively impact homeless youth, policy, funding, and service provision need greater focus, collaboration, and support if youth homelessness is to be successfully addressed.

Key Words. Homeless youths, drop-in center services, policy, longitudinal outcome

Homeless youths' presence on the streets and in shelters is growing each year (Shane 1996). Homeless youth suffer high rates of alcohol consumption, illicit drug use, survival sex, physical and sexual abuse, depression, and teen

pregnancy (Wright 1990b; Johnson et al. 1996). Complicating these adverse health outcomes is the fact that many homeless youth are alienated from health and social services (Wright 1990b; Woods et al. 2002). De Rosa et al. (1999) found that only 28 percent of street youth reported ever accessing medical care services, 10 percent accessed substance abuse treatment services, and 9 percent accessed mental health services. Barriers to accessing services include youth age, fear that parents/social services will be contacted, and lack of transportation, identification, insurance, and knowledge of clinic locations (Ensign and Bell 2004).

Additional points of service delivery are drop-in centers. Drop-in centers provide immediate services, such as food, clothing, showers, laundry, and bus tokens (Joniak 2005). Many offer case management (CM), with the level of service determined by the level of government and private funding. While the proportion of homeless youth who access drop-in centers around the country is not known, De Rosa et al. (1999) found that 78 percent of homeless youth reported accessing services at drop-in centers, compared with only 40 percent at runaway shelters. Formal evaluation of the impact of the treatment services, such as CM, offered through drop-in centers is lacking. Such evaluation is necessary in order to determine the efficacy of these programs for serving homeless youth.

To date, most major federal initiatives to allocate funding for the homeless—the Stewart B. McKinney Homelessness Assistance Act (1987) and the Good Samaritan Initiative (2003)—have focused primarily on improving emergency shelters and permanent supportive housing for adults. Further, the Continuum of Care model is one treatment model developed for use with homeless adults; it emphasizes progress from outreach, to drop-in centers, and then to transitional or permanent housing (Tsemberis et al. 2003). Much less attention has been paid to programs and treatment for street living, homeless youth.

We document outcomes for the segment of homeless youth who requested CM and/or treatment services through a drop-in center in an urban southwestern city (Albuquerque, New Mexico) between October 2002 and

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April 2005. Though not as effective as programs which provide housing, Tsemberis et al. (2003) found that outpatient, drop-in services for homeless substance abusing adults can reduce substance use and mental health problems and increase social stability. We expected that homeless youth who received services would show (1) reduced alcohol and drug use, (2) increased likelihood of being housed, employed, being in school, having access to medical care, and (3) increased psychological functioning. We describe the implications of our study findings for practice and policy around housing and social services for homeless youth.

METHOD

To be eligible for the study, youth had to (1) be between the ages of 14–24, (2) have plans to remain in the area for at least 12 months, (3) agree to participate in the assessment and treatment intervention, and (4) meet homelessness criteria (“a situation in which a youth has no place of shelter and is in need of services and a shelter where he or she can receive supervision and care”) (U.S. Department of Health and Human Services 1999). Youth living with parents or other family members were not eligible for services and were referred to agencies that provided family or individual counseling. Appointments were made with local community agencies, including the local university’s Mental Health Center and Healthcare for the Homeless, so that those individuals requesting services but not eligible for drop-in services could be assisted.

Procedure

“One stop shopping” was advocated so that youth could receive all necessary services. This involved coordination with other agencies to provide services within our site. Youth who accessed the center heard about it through word of mouth, and through outreach efforts of center staff. When an eligible youth walked through the drop-in center, they signed in and were told of services offered: (1) recreation (e.g., art tables, quiet areas); (2) food or drink; (3) showers and clothes washing area; (4) Graduation Equivalency Exam (GED) tutoring; (5) health care; and (6) individual therapy (the Community Reinforcement Approach [CRA]) and CM.

When the option of CRA and/or CM was chosen, youth were engaged into the project. If youth did not wish to meet with a therapist or case manager, but only wanted to access other services, they were not engaged in the study. Upon review and signing of the consent statement (which was approved by the

University of New Mexico's Institutional Review Board) with a patient services assistant, each youth was assigned both a CRA therapist and a separate case manager. All youth received the same treatment options, and completed a baseline assessment and a 6- and 12-month follow-up assessment. Youth were compensated \$10 for completing the baseline assessment, and \$20 for completing 6 and 12 months assessments. Each assessment required <1 hour to complete.

Treatment Services

Drop-in Center Services. The drop-in center served roughly 40 youth each day and was open Monday through Friday 10 A.M.–7 P.M. Access to laundry services, showers, recreation and a place to rest, food, and clothing were offered to any homeless youth. Healthcare for the Homeless, including a nurse practitioner and her assistants, visited the center twice weekly and provided routine examinations and treatment of various health problems. Tutoring for the GED was provided onsite by volunteers from the local community college and the local AIDS task force offered HIV testing and counseling onsite once weekly.

Clinical Supervision and Training. Therapist training included reading Meyers and Smith (1995) and Godley et al.'s (2001) Adolescent-Community Reinforcement Approach manual for the treatment of adolescent marijuana abusers, a 2-day didactic and role-play seminar, and ongoing weekly supervision done in groups with all therapists and case managers in attendance. This project did not focus solely on marijuana abuse, but the Godley et al. (2001) manual provides a developmentally appropriate supplement to the CRA book which focused on adult substance abusers (Meyers and Smith 1995). Fidelity to treatment was enhanced through ongoing training and supervision.

CRA. The CRA (Meyers and Smith 1995) offers an empirically based, multifaceted approach that addresses the clinical needs of homeless individuals including substance use, homelessness, and mental health problems. CRA uses an operant perspective that is based on the belief that environmental contingencies play a powerful role in behavior change. CRA procedures overlap considerably with other cognitive-behavioral intervention models, and have been used successfully with housed adolescents (Dennis et al. 2004) and homeless youth (Slesnick et al. 2007). Although we expected treatment would be completed within

4 months, youth had a 6-month treatment window to complete the CRA sessions.

CM. All youth participating in CRA treatment were assigned a bachelor's level case manager who assisted youth in the specific areas of: (1) substance abuse; (2) basic needs (e.g., acquiring food stamps); (3) health care and mental health needs (e.g., acquiring Medicaid); (4) legal issues; and (5) support systems. Specific intervention goals were developed collaboratively with each youth. Two meetings weekly were offered for 16 weeks, but we allowed a 6-month treatment window to complete the CM meetings (32 sessions).

Follow-up Assessments

We were successful in tracking youth for follow-up, with 73 percent of youth tracked at 6 months and 76 percent at 12 months. Youth were tracked primarily at the drop-in center and were reminded of upcoming assessment interviews by drop-in staff. Our overall (completing both 6- and 12-month) follow-up assessment rate of 68 percent was comparable to the 67 percent found by Paradise and Cauce (2003). We also used hierarchical linear modeling (HLM) to make use of missing data; all subjects ($n = 172$) were used in the analysis, following an intent to treat design.

Materials

A self-reported questionnaire was administered to assess demographic characteristics. Study staff read the questions to any youth who had trouble reading.

Psychological Distress. The 53-item Brief Symptom Inventory (BSI; Derogatis and Melisaratos 1983) was utilized to assess psychological distress within the last 7 days. It yields scores on nine clinical scales and three summary scales. However, most variance among dimension scores is accounted for by a unidimensional construct, the Global Severity Index (GSI) (Piermsa, Reaume, Boes 1994), which was used in the current study. Test-retest reliability ranges from 0.68 to 0.91 with a 2-week interval between tests (Derogatis and Lazarus 1994). Handal et al. (1993) reported strong reliability of the GSI (Cronbach's $\alpha = 0.97$) among adolescents. Also, the GSI score significantly differentiated adolescents who received treatment versus those who did not, and showed significant convergent validity with other measures

of psychological distress (Handal et al. 1993). The form requires < 10 minutes to complete and is written at a sixth-grade reading level.

Alcohol and Drug Use. The Form 90, developed for NIAAA funded Project Match (Miller and Del Boca 1994) is a semistructured interview and measured frequency of drug and alcohol use, work, education, housing, and medical care access in the last 90 days. Form 90 has excellent test-retest reliability for indices of drug use in major categories (Tonigan, Miller, and Brown 1997; Westerberg, Miller, and Tonigan 2000), including among runaway substance abusing adolescents (Slesnick and Tonigan 2004) with kappas ranging from 0.74 to 0.95. Using a sample of substance abusing adolescents, Waldron et al. (2001) reported good convergent validity of the Form 90 with biologic and collateral reports of adolescent substance use.

Overview of Data Analyses

The HLM 6.03 software (Raudenbush et al. 2004) was used to estimate the model for change in alcohol and drug use, and percent days housed, employed, being in school, and medical care, and psychological distress. HLM takes into account nesting, allowing for the possibility that baseline alcohol and drug use is different for each individual, and that change in alcohol and drug use over time may also be different. As the purpose of the study was to examine how individuals changed across time, an HLM analysis with two levels was used. Level 1, or the within-subject model, involves specifying the model for the individual time paths. It includes the outcome variables for individuals at each of the 3 time points. Level 2, or the between-subject model, involves predicting individual differences in the intercept (baseline score) and slope (change over time). Predictor variables included in level 2 were: gender, age, ethnicity (white versus non-white), years of education, number of treatment sessions attended, baseline percent days of being housed, employed, school, medical care in last 90 days, alcohol and drug use, and psychological distress (BSI). Baseline scores of the matching outcome variables were excluded when predicting change of each outcome (e.g., baseline scores of alcohol and drug use was removed when predicting change over time in alcohol and drug use).

The first step of the analyses was an unconditional model, to determine variation in the individual intercept and slope parameters. The second step was to test the random coefficient models, adding the time to the model to explain variability in treatment outcomes at Level 1. The final conditional

models predicted variations in individual intercept and slope terms. The findings of these three steps were reported for all outcomes (alcohol and drug use, percent days housed, employed, school, medical care, and psychological distress, in that order).

RESULTS

Participant Characteristics

A total of 172 youth (all fluent in English) participated in the study (41 percent female, 59 percent male). The age range was 14–24 ($M = 19.96$ years). The racial/ethnic profile of participants was: White (37.2 percent), Hispanic (31.4 percent), Native American (12.2 percent), African American or black (7.6 percent), and mixed ethnicity (11.6 percent). Average percent days housed in last 90 days was 23 percent (range: 0–100 percent), with 109 youth (63.4 percent) reporting no days housed during the past 90 days. Years of education in this sample ranged from 6 to 16 years ($M = 10.54$ year).

The average percent days that youth reported using drugs or alcohol at baseline was 31.4 percent. Among these youth, 37 (21.5 percent) reported not using any alcohol or drugs during the past 90 days. The remaining 135 youth (78.5 percent) reported using drugs or alcohol on at least 1 day during the period. The mean baseline percent days of being housed was 23 percent ($SD = 35$, range: 0–100 percent), being employed was 16 percent ($SD = 24$, range: 0–89 percent), being in school was 7 percent ($SD = 17$, range: 0–100 percent), being seen for medical care was 1 percent ($SD = 2.0$, range: 0–16 percent), and the mean baseline psychological distress score was 0.96 ($SD = 0.76$, range: 0–3.15). All means, standard deviations, and the t -test result between pre- and posttreatment of the outcome variables are presented in Table 1.

Treatment Services

The average number of CRA therapy sessions attended was 5.33, with 34 youth (19.8 percent) not attending any therapy sessions. Of youth who attended at least one session, the average number of therapy sessions was 6.64.

For CM, the average number of sessions attended was 8.21 (range, 0–30), with 34 youth (19.4 percent) not attending CM sessions. Of the youth who attended at least one CM session, the average number of sessions attended was 10.23. Four youth did not attend any therapy or CM sessions.

Table 1: Means and Standard Deviations for Outcome Variables among Homeless Youth Accessing Drop-in Center Treatment Services

Variable	Pretreatment, <i>n</i> = 172	6 Month, <i>n</i> = 126	12 Month, <i>n</i> = 130	<i>t</i> , [†] <i>df</i> = 129
% days alcohol and drug use [‡]	31.40 (38.54)	32.60 (36.98)	29.45 (37.03)	0.90
% days being housed [‡]	0.23 (0.35)	0.28 (0.36)	0.43 (0.44)	− 4.71****
% days being employed [‡]	0.16 (0.24)	0.16 (0.20)	0.21 (0.27)	1.56
% days being in school [‡]	0.07 (0.17)	0.06 (0.14)	0.09 (0.19)	− 0.76
% days seeing medical care [‡]	0.01 (0.02)	0.01 (0.02)	0.01 (0.03)	− 0.80
Psychological distress (BSI) [§]	0.96 (0.76)	0.76(0.71)	0.65 (0.71)	4.66****
With youth reporting no pretreatment substance use removed				<i>t</i> [†]
	<i>n</i> = 135	<i>n</i> = 99	<i>n</i> = 103	<i>df</i> = 102
% days alcohol and drug use	40.5 (40.7)	40.5(37.9)	37.6 (38.6)	2.26*

Note.

[†]Paired-sample *t*-test between pre-treatment and 12-month follow-up.

[‡]During the past 90-day period.

[§]During the last 7 days.

Values in parentheses are standard deviations.

*****p* < .0001.

**p* < .05.

Change in Alcohol and Drug Use over Time

Only youth who had some alcohol or drug use at baseline (*n* = 135) were analyzed for change in substance use. In the unconditional model, the coefficient for alcohol and drug use was 37.33, which represents the average percent days of alcohol and drug use (within the past 90 days) across all subjects and all time points (Table 2). This value was significantly different than zero (*t* = 13.88, *p* < .0001), and there was significant variability in the baseline scores between subjects (χ^2 (133) = 347.75; *p* < .0001).

The random coefficient model added time to explain the variability in alcohol and drug use scores at Level 1. The intercept in this model was 41.17 (*t* = 12.75; *p* < .0001) and represents the average baseline percent days of alcohol and drug use. The coefficient for the slope or change over time was − 4.52 (*t* = − 2.23; *p* < .05), suggesting that on average alcohol and drug use significantly decreased over time.

The final step in the HLM analysis explored variables believed to impact outcomes. In the model predicting the intercept for alcohol and drug use, gender (− 15.05; *t* = − 2.20, *p* < .05) and percent days being in school (− 33.98; *t* = − 33.98, *p* < .05) were significant predictors explaining the variability in the intercept. Females had less alcohol and drug use at baseline than

Table 2: Hierarchical Linear Modeling (HLM) Results for the Models Testing Change in Alcohol and Drug Use[†] among Homeless Youth Accessing Drop-in Center Treatment Services ($n = 135$)[‡]

	<i>Unconditional Model</i>		<i>Random Coefficients</i>		<i>Conditional Model</i>	
	<i>Coefficient</i>	<i>t-Value</i>	<i>Coefficient</i>	<i>t-Value</i>	<i>Coefficient</i>	<i>t-Value</i>
Intercept	37.33	13.88****	41.17	12.75****	66.93	4.75****
Gender					− 15.05	− 2.20*
Age					0.93	0.67
Ethnicity					− 2.59	− 0.41
Education					− 0.50	− 0.29
# sessions [§]					− 0.23	− 0.34
% days housed [†]					− 8.13	− 1.01
% days employed [†]					− 12.20	− 0.93
% days in school [†]					− 33.98	− 2.06*
% days medical care [†]					99.45	0.40
BSI [¶]					1.62	0.38
Slope			− 4.52	− 2.23*	− 4.38	− 0.48
Gender					7.74	1.64
Age					− 0.32	− 0.36
Ethnicity					− 6.82	− 1.55
Education					0.70	0.61
# sessions [§]					− 0.18	− 0.51
% days housed [†]					− 11.22	− 2.09*
% days employed [†]					9.11	1.06
% days in school [†]					13.96	1.20
% days medical care [†]					− 130.52	− 0.96
BSI [¶]					− 0.21	− 0.08
<i>Random effects</i>	<i>Variance component</i>		<i>Variance component</i>		<i>Variance component</i>	
Intercept	582.99		667.07		641.38	
Slope	−		38.56		22.77	
Level 1	903.43		840.86		842.81	

Note.
[†]During the past 90-day period.
[‡]Only those who had at least some substance use at baseline were analyzed.
[§]Over the period of 6 months.
[¶]During the last 7 days.
Baseline information was used for gender, age, ethnicity, and years of education.
**** $p < .0001$.
* $p < .05$.

males, and those who had higher percent days being in school had lower baseline alcohol and drug use. For the slope due to time, percent days housed in last 90 days ($- 11.22$; $t = - 2.09$, $p < .05$) was a significant predictor. Those

who had a higher percent days of being housed in last 90 days showed a significant decrease in their alcohol and drug use over time, whereas those who were less housed showed nonsignificant change in alcohol and drug use.

Change in Percent Days Being Housed over Time

In the unconditional model, the coefficient for days being housed over time was 0.30 (30 percent), which represents the average percent days being housed during the period across all subjects and all time points (Table 3). This value was significantly different from zero ($t = 14.10$, $p < .0001$), and there was significant variability in the baseline scores among subjects ($\chi^2 (170) = 215.26$; $p < .05$).

In the random coefficient model, the intercept was 0.22 (22 percent) ($t = 8.59$; $p < .0001$) and represents the average baseline percent days being housed in this sample. The coefficient for the slope or change over time was 0.10 (10 percent) ($t = 4.24$; $p < .0001$), suggesting that percent days being housed increased over time.

The final step explored significant predictors of the variability in intercepts and slopes of percent days being housed (Conditional Model in Table 3). Youth who spent more days receiving education had a tendency to show a higher rate of being housed at baseline. Female youth started with higher percent days housed and increased to a greater extent over time than male youth.

The unconditional models showed that the average percent days being employed during the period across all subjects and all time points was 18 percent ($t = 12.32$, $p < .0001$; $\chi^2 (170) = 291.28$; $p < .0001$); 8 percent ($t = 7.21$, $p < .0001$; $\chi^2 (170) = 315.52$; $p < .0001$) for days being in school; and 1 percent ($t = 8.74$, $p < .0001$; $\chi^2 (170) = 211.97$; $p < .05$) for days receiving medical care in the period. The t -values show that those percent days are significantly different from zero and the χ^2 value shows that there exists significant variability in the baseline scores among subjects.

Random coefficient model showed the intercept (average baseline score) for percent days being employed was 16 percent ($t = 8.92$; $p < .0001$), for being in school 7 percent ($t = 5.27$; $p < .0001$), and for receiving medical care 1 percent ($t = 7.33$; $p < .0001$). The coefficient for the slope or change over time was 2 percent ($t = 1.48$; $p > .10$) for percent days being employed, 1 percent ($t = 0.92$; $p > .10$) for being in school, and 0.2 percent ($t = 1.15$; $p > .10$) for receiving medical care. Thus, percent days of employment, education, and medical care did not change over time. No further analysis was done for these outcome variables.

Table 3: Hierarchical Linear Modeling (HLM) Results for the Models Testing Change in Percent Days Housed[†] among Homeless Youth Accessing Drop-in Center Treatment Services ($n = 172$)

	<i>Unconditional Model</i>		<i>Random Coefficients</i>		<i>Conditional Model</i>	
	<i>Coefficient</i>	<i>t-Value</i>	<i>Coefficient</i>	<i>t-Value</i>	<i>Coefficient</i>	<i>t-Value</i>
Intercept	0.30	14.10****	0.22	8.59****	0.18	1.56
Gender					0.03	0.47
Age					-0.004	-0.29
Ethnicity					0.001	0.01
Education					-0.003	-0.22
# sessions [‡]					-0.01	-0.95
% days alcohol/drug use [‡]					0.0004	0.65
% days employed [‡]					0.17	0.10
% days in school [‡]					0.42	0.10
% days medical care [‡]					-0.48	-0.39
BSI [§]					-0.05	-1.59
Slope			0.10	4.24****	0.03	0.24
Gender					0.10	1.97*
Age					0.01	1.24
Ethnicity					-0.04	-0.83
Education					0.000	0.002
# sessions [‡]					0.01	0.21
% days alcohol/drug use [‡]					0.001	1.92 ^t
% days employed [‡]					-0.08	-0.81
% days in school [‡]					-0.06	-0.28
% days medical care [‡]					-0.03	-0.03
BSI [§]					-0.005	-0.19
<i>Random Effects</i>	<i>Variance Component</i>		<i>Variance Component</i>		<i>Variance Component</i>	
Intercept	0.02		0.13		0.01	
Slope	-		0.15		0.02	
Level 1	0.14		0.33		0.11	

Note.

[†]During the past 90-day period.

[‡]Over the period of 6 months.

[§]During the last 7 days.

Baseline information was used for gender, age, ethnicity, and years of education.

**** $p < .0001$.

* $p < .05$.

^t $p < .10$.

Change in Psychological Distress (BSI) over Time

In the unconditional model, the coefficient for the psychological distress score was 0.82, which represents the average psychological distress level across

subjects and time points. This value was significantly different than zero ($t = 17.36$, $p < .0001$), and there was significant variability in the baseline scores among subjects ($\chi^2 (171) = 566.77$; $p < .0001$) (Table 4).

The intercept in the random model was 0.95 ($t = 17.10$; $p < .0001$), representing the average baseline psychological distress score in this sample. The coefficient for the slope or change over time was -0.16 ($t = -5.06$; $p < .0001$), suggesting that psychological distress significantly decreased over time.

The final step examined variables that predicted the variability in the intercept and the slope for the psychological distress score (Conditional Model in Table 4). In the model for the intercept, none of the hypothesized variables were found to predict variability in the baseline psychological distress score. In the model for the slope, those who had lower baseline percent days in school started with a higher psychological distress score. Those with lower education days also showed a decrease over time on the psychological distress score to a greater extent, while those who had higher baseline percent days being in school started with a lower psychological distress score but showed a more gradual decrease in distress.

In sum, individual differences for baseline substance use, percent days housed, employed, being in school, being seen for medical care, and psychological distress were significant, and the variability was explained by the subject's gender, baseline percent days housed, and being in school. Among youth who had some baseline use, alcohol and drug use decreased over time. The most salient predictor of the individual variability in this change was percent days of being housed during the period; those who were spent more time housed reported a greater decrease in alcohol and drug use over time. Percent days housed increased over time and females increased to a greater extent. Psychological distress decreased over time and those who had a lower percent days of being in school at baseline decreased to a greater extent.

DISCUSSION

Limitations to the design should be considered when interpreting the study findings. We tracked youth through one urban drop-in center, and no control group was used. Youth who access drop-in center services and agree to participate in treatment services may differ in levels of motivation, distress, and history of system involvement from youth who would not access services or participate in treatment. Findings may not be replicated in other areas of the

Table 4: Hierarchical Linear Modeling (HLM) Results for the Models Testing Change in Psychological Distress (BSI)[†] among Homeless Youth Accessing Drop-in Center Treatment Services (*n* = 172)

	<i>Unconditional Model</i>		<i>Random Coefficients</i>		<i>Conditional Model</i>	
	<i>Coefficient</i>	<i>t-Value</i>	<i>Coefficient</i>	<i>t-Value</i>	<i>Coefficient</i>	<i>t-Value</i>
Intercept	0.82	17.36****	0.95	17.10****	0.98	3.83****
Gender					0.13	1.14
Age					− 0.002	− 0.09
Ethnicity					− 0.14	− 1.17
Education					− 0.01	− 0.36
# sessions [‡]					0.01	1.10
% days alcohol/drug use [§]					0.001	0.76
% days housed [§]					− 0.23	− 1.42
% days employed [§]					− 0.12	− 0.49
% days in school [§]					− 0.26	− 0.77
% days medical care [§]					− 1.98	− 1.19
Slope			− 0.16	− 5.06****	− 0.24	− 1.84 [′]
Gender					− 0.06	− 1.00
Age					0.02	1.50
Ethnicity					0.11	1.80 [′]
Education					0.03	1.44
# sessions [‡]					− 0.01	− 1.01
% days alcohol/drug use [§]					− 0.001	− 1.14
% days housed [§]					− 0.01	− 0.07
% days employed [§]					0.04	0.37
% days in school [§]					0.39	2.58*
% days medical care [§]					1.73	1.16
<i>Random Effects</i>	<i>Variance Component</i>		<i>Variance Component</i>		<i>Variance Component</i>	
Intercept	0.26		0.32		0.32	
Slope	−		0.01		0.01	
Level 1	0.28		0.25		0.24	

Note.
[†]During the last 7 days.
[‡]Over the period of 6 months.
[§]During the past 90-day period.
Baseline information was used for gender, age, ethnicity, and years of education.
*****p* < .0001.
**p* < .05.
[′]*p* < .10.

United States, subject to different political, economic, and social pressures. While findings from this study cannot determine whether outcomes are attributable to the drop-in center alone, we evaluated outcomes over a 12-month

period in street youth who received treatment through a drop-in center, which is currently absent in the literature. Improvements were observed among youth up to 12 months postbaseline in percent days being housed, psychological distress, and substance use.

Securing housing is an important goal for homeless youth and service providers. Our study showed that a decrease in substance use was associated with an increase in housing. This finding corroborates research which identifies homelessness as a risk factor for mortality, alcohol and drug use, victimization, and physical and mental health problems (e.g., Roy et al. 2000). While substance abuse problems can precede homelessness (Caton et al. 2005), some research suggests that homelessness leads to drug use (Roy et al. 2003). Similarly, Wright (1990a) noted that while 41 percent of the HCH sample of adults reported alcohol problems, 25 percent reported that drinking problems emerged after the onset of homelessness.

The finding that lower percent days of education at baseline was associated with a greater decrease in psychological distress is puzzling. Youth with less education may have had fewer connections with positive role models; the connection with positive role models offered through the drop-in center may be especially potent for ameliorating psychological distress.

No research was found identifying predictors of change in homelessness among youth. Predictors of exiting/change in homelessness are not well understood even among adults (Shinn et al. 1998; Dworsky and Piliavin 2000; Caton et al. 2005). In this study, individual characteristics including age, education level, and ethnicity were not predictive of change in homelessness. This is similar to the findings of Shinn et al. (1998) who found that individual characteristics were more important in predicting shelter requests than in predicting later stability among the adult homeless. However, females increased the percent days housed over time to a greater extent than males, which is consonant with findings indicating higher rates of homelessness among male youth (Yoder, Whitbeck, and Hoyt 2001). Our finding that higher baseline substance use did not predict housing over time does not corroborate prior findings that substance abuse and mental illness reduce the likelihood of exiting homelessness (Dworsky and Piliavin 2000; Caton et al. 2005). However, those studies were not treatment evaluation studies, and without treatment, the impact of substance use on outcome is likely more negative.

Research examining the relationship between housing and substance use treatment among street living youth was also not found. Among adults, focus on meeting basic needs such as housing before addressing substance use

and mental health issues is contrary to the continuum of care model, which first targets substance and mental health issues within a temporary housing setting and then transitions individuals to permanent housing (Tsemberis et al. 2003). Whether to provide abstinence based housing (ABH), or non-ABH (NABH) is debatable. Tsemberis et al. (2003) found that NABH housing led to greater housing stability at 24 months compared with ABH. However, Milby et al. (2005) found no differences in housing outcomes among those assigned to ABH compared with NABH at 6 months. Neither study reported differences in substance use rates. However, Milby et al. (2005) found that abstinence rates were higher in housed compared with nonhoused groups, highlighting the importance of housing in the treatment of homeless substance abusers and replicating earlier findings showing the importance of housing on abstinence (Milby et al. 1996, 2000).

Even with the promising findings, there is need for improvement. While psychological distress and substance use significantly decreased and the percent days housed increased among youth, most youth did not acquire permanent housing. Moreover, education, employment, and medical care use did not increase over time. Drop-in centers and outreach programs are limited in acquiring housing for homeless youth. Homeless youth who are minors are not able to sign leases for apartments or independent living programs without a legal guardian's co-signature, limiting their ability to stabilize, work, and maintain attendance in school. While shelter programs are usually charged with improving the housing status of the homeless, street living youth often avoid shelters and the foster care system (Kipke et al. 1995; De Rosa et al. 1999).

Attention paid to reorganizing the system of care for homeless youth to ensure adequate housing is necessary in order to facilitate reintegration. A transitional housing program in Colorado offers housing, medical care, substance use, and mental health services to homeless youth (Van Leeuwen 2004). In an evaluation of this program, it was estimated that it costs \$5,887 to permanently move a homeless youth off of the streets while it costs Colorado \$53,655 to maintain a youth in the criminal justice system for 1 year and \$53,527 for residential treatment. This underscores the cost effectiveness of such service provision. Van Leeuwen notes that in 2003, 60 percent of the youth who entered the Colorado program permanently exited the streets. While this is impressive, it also suggests that housing alone may not be the sole panacea to exiting life on the streets.

Outside of the McKinney Vento Act devoting funds to outreach, group homes, and runaway shelters, little policy is available to guide intervention

with homeless youth. State laws allowing access to mental health services and independent living programs would offer homeless minors an opportunity to access needed services without parental consent. The Good Samaritan Initiative did not impact the current project as Albuquerque, New Mexico had not yet begun to implement its 10-year plan. Even so, as of 2007, nearly 200 plans are completed or under development around the United States and the National Alliance to End Homelessness (2006) notes that many communities have markedly reduced homelessness. However, the plan does not address the barriers to providing housing to minors without a guardian co-signature and who avoid the foster care system. Advocacy organizations, service providers, and researchers are beset with a challenge in which service provision, policies, laws, and funding must converge to successfully intervene in homelessness. Such convergence requires the collaborative efforts and consultation among many groups including those targeted by intervention efforts.

Conclusions and Implications

We showed that substance use and mental health services can be effectively integrated into drop-in services for homeless youth, and these youth can be engaged and maintained in treatment. Many barriers to more intensive treatment—including transportation, trust, and financial services—are addressed through offering substance use and mental health services as part of the menu of options at a drop-in center. The findings also indicate that follow-up with youth is important to enhance service provision. Housing is an important prerequisite for stabilization, yet for youth, acquiring housing is a barrier to successful reintegration.

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