

# Does Housing Chronically Homeless Adults Lead to Social Integration?

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**Objective:** Supported housing programs have been successful in helping homeless adults obtain housing. This study examined whether improvements in social integration occur after clients obtain supported housing. **Methods:** Measures of social integration were examined for 550 chronically homeless adults with mental illness who participated in the 11-site Collaborative Initiative to Help End Chronic Homelessness. Social integration was conceptualized as a multidimensional construct of variables in six domains: housing, work, social support, community participation, civic activity, and religious faith. Changes in baseline measures related to the six domains and their interrelationships were examined at six and 12 months after entry into the supported housing program. **Results:** Chronically homeless adults showed substantial improvements in housing but remained socially isolated and showed limited improvement in other domains of social integration, which were only weakly correlated with one another. **Conclusions:** More attention is needed to develop rehabilitation interventions in supported housing programs to improve social integration of chronically homeless adults. Because improvements in some domains of social integration were only weakly related, it may be necessary to intervene in multiple domains simultaneously. (*Psychiatric Services* 63:427–434, 2012; doi: 10.1176/appi.ps.201100047)

Growing literature on the effectiveness of supported housing has shown clear benefits in housing outcomes (1–4), but there has been little evidence of associated improvement in clinical and psychosocial outcomes. Adequate housing may be a prerequisite for psychiatric rehabilitation (5) but may not by itself guarantee such gains. Once clients are housed, additional efforts may be needed to improve social integration, both to ensure sustained housing tenure and to enhance quality of life. One of the main tenets

of the consumer and recovery movements has been to help clients live full and normal lives in spite of their symptoms (6,7). It can be argued that the full impact of the recovery movement has not been realized (8) unless social integration is achieved.

Social science theories of well-being emphasize the importance of belonging to and identifying with social, political, religious, and other groups as crucial for experiencing oneself as an accepted member of society (9). Individuals who are chronically homeless are a typically disenfranchised, socially marginalized group.

Not only do many experience the stigma of being homeless or having a mental illness, or both (10–12), but some are migratory and not stably rooted in any location (13–15). One of the most common complaints of clients with severe mental illness who live by themselves, including those who were formerly homeless, is that they feel lonely, isolated, and without social support (16–19). Some researchers have begun to focus on how to help clients with severe mental illness become better integrated into their communities (20).

Helping clients achieve social integration is not a new concept. Historically, community mental health centers around the United States in the postinstitutionalization era were organized around day treatment programs (21) designed to help clients rehabilitate and reintegrate into their communities (22,23). More recently, there have been novel efforts, such as “citizenship” interventions, to help homeless adults with mental illness engage in community life and take more active roles in community activities (24). Supported socialization programs also have been developed both for adults with severe mental illness (25) and for adults who are homeless (26). However, there has been little empirical examination of the social integration of chronically homeless adults after they are housed.

For this study, we defined social integration as a multidimensional construct, including domains of housing, work, social support, community participation, civic activity, and religious faith. Although social integration can ultimately be a highly subjective ex-

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perience, we sought to examine social integration at a basic level to understand the social and community activities of a large sample of chronically homeless adults who were enrolled in a multisite supported housing initiative over a one-year period.

## Methods

### *Program description*

From 2004 to 2009, the U.S. Interagency Council on Homelessness developed a federal initiative called the Collaborative Initiative to Help End Chronic Homelessness (CICH) to provide adults who were chronically homeless with permanent housing and supportive primary health care and mental health services at 11 sites (27). Details about CICH have been presented elsewhere (28). Each site developed a comprehensive plan to link supports with housing, increase the use of mainstream health and mental health services, integrate systems and services, and ensure the sustainability of these efforts. None had a specific focus on social integration.

### *Sample*

A total of 756 participants gave informed consent to participate in the evaluation of CICH. The mean number of participants at each site was 69, ranging from 52 to 98. Homeless adults were recruited by clinical and research staff at each site through a variety of methods, including community outreach and contacts with shelters and mental health agencies. Among clients who consented to participate in the evaluation, 550 (73%) had data at all three time points: baseline, six months, and 12 months. The study reported here focused on these 550 participants during their first year of program participation.

### *Measures*

**Background characteristics.** Information on sociodemographic characteristics, diagnoses, and housing history was collected from participants by CICH staff through a structured form. Three types of disabling conditions—mental health, substance abuse, or general medical—were identified at screening. The evaluation staff confirmed the conditions by clarifying the conditions noted at

screening with program intake staff and by asking clients during baseline assessment interviews.

**Clinical status.** The Medical Outcomes Study Short Form-12 (SF-12) (29) consists of 12 items that generate standardized mental health and physical health subscales. A score of 50 represents the average level of functioning in the general population, and each 10-point interval represents one standard deviation. Higher scores indicate better health.

Three subscales of the Brief Symptom Inventory (BSI) (30) were selected to measure psychoticism, depression, and anxiety. Respondents rate a list of 16 symptom items, from 0, never experience symptom, to 4, very often experience symptom. In this study, the BSI showed excellent internal consistency, with Cronbach's alpha of .92. The BSI score presented is the mean value for the three subscales.

The Addiction Severity Index (ASI) (31), which has a six-item alcohol subscale and a 13-item drug subscale, was used to document alcohol and drug use in the past month. Each subscale combines items in a standard comparable score ranging from 0 to 1, with higher scores reflecting more serious substance use.

**Housing.** The number of nights participants spent in the past three months in various settings was derived from participant self-report and categorized as nights living in own place, nights living in institution, and nights homeless. Nights living in own place was defined as nights that participants spent living in their own apartment, room, or house. Nights living in institution was defined as the number of nights in a halfway house, transitional housing, hospital, or jail. Nights homeless was defined as nights in shelters, outdoors, in vehicles, or in abandoned buildings.

**Work and income.** Participants were asked whether they worked for pay and whether they did any volunteer work in the past month. They were also asked the average number of hours per week for work of each type.

**Social support.** Social support was assessed by asking participants the number of types of persons they could "have counted on" (for example, friend, spouse, and clergy) in the previous three months for a short-

term loan of \$100, a ride to an appointment, or assistance if they felt suicidal (32). The total mean number of types of persons was calculated for a total score ranging from 0 to 10.

**Community participation.** To evaluate the extent to which individuals participated in community activities, they were asked whether they participated in each of 16 common activities (for example, going to a restaurant) during the past two weeks (33). The total number of activities was summed, and possible scores ranged from 0 to 16, with higher scores indicating greater participation in community activities.

**Civic activity.** Items on civic activity were adapted from a previous study (34). Participants were asked whether they voted in the last local election. They were also asked whether they planned to vote in the next presidential election or in the next local election. Responses were coded as yes or no and summed for a total score ranging from 0 to 3, with higher scores indicating greater civic activity (34).

**Religious faith.** The importance of religious faith was assessed with two items adapted from a previous study (35) that asked participants to rate how important their religious belief or faith has been in their life and how helpful their religious belief or faith has been in helping them deal with personal problems in the previous three months. Ratings were on a 4-point scale ranging from 0, not at all, to 3, extremely. The mean response was calculated for a total religious faith score.

Frequency of attendance at religious services was assessed with a separate item that asked participants to rate how frequently they attended a church, synagogue, mosque, temple, or other religious service in the previous three months. Ratings were on a 4-point scale ranging from 0, not at all, to 3, once a week or more.

### *Data analysis*

Independent t tests and chi square tests were used to compare sociodemographic characteristics of participants with complete data and of others assessed at baseline. Levene's test for equality of variances was used, and appropriate corrections were made when assumptions were violated.

To analyze social integration over time, repeated-measures analysis of variance was used to evaluate changes in continuous dependent variables over the three time points. Mauchly's sphericity test was used to test the equality of the variances of dependent variables. Violations of assumptions of sphericity were corrected with the Greenhouse-Geisser correction. Effect sizes for significant findings were calculated with the partial eta-squared statistic ( $\eta^2_p$ ). To separate the influence of clinical symptoms on social integration, these analyses were repeated with controls for baseline clinical status and change in clinical status over time.

To test differences over time on categorical dependent variables, Cochran's Q test was used. Cochran's Q is a nonparametric test specifically used for binominal dependent variables to test whether proportions are the same across repeated measures.

To examine the interrelationships between the various domains of social integration, partial correlations were examined between aggregated measures of social integration with data over one year and with controls for baseline clinical status. Partial correlations were also examined between change scores in these domains; change scores were created by sub-

tracting 12-month values from baseline values and testing their intercorrelations. To reduce type I error, the level of significance for all tests described above was set at .01.

## Results

With one exception, the demographic characteristics of study participants and of the 176 individuals who were excluded because they lacked complete data did not differ significantly. The exception was that study participants were more likely to be married (Table 1). The study sample was generally comparable to samples in previous studies of chronically homeless

**Table 1**

Characteristics of chronically homeless adults included in the study or excluded because of missing data

Characteristic	Included (N=550)		Excluded (N=176)		Test statistic	df	p
	N	%	N	%			
Sociodemographic							
Age (M±SD)	45.60±8.30		45.36±9.82		t=−.30	260	.77
Male	413	76	138	78	$\chi^2=.80$	1	.37
Race							
White	204	37	68	39	$\chi^2=1.78$	3	.62
Black	269	49	87	49			
Hispanic	39	7	13	7			
Native American, Asian, or Pacific Islander	33	6	6	3			
Missing data	5	1	2	1			
Education (M±SD years)	11.79±2.54		11.90±2.64		t=.59	724	.54
Not married	548	99	171	97	$\chi^2=8.57$	1	<.01
Age first homeless (M±SD)	32.28±11.92		33.41±11.70		t=1.10	724	.27
Lifetime years homeless (M±SD)	8.32±6.28		7.44±6.87		t=−1.60	724	.11
Clinical status							
Mental disorder							
Schizophrenia	107	19	28	16	$\chi^2=1.11$	1	.29
Major depressive disorder	157	29	47	27	$\chi^2=.22$	1	.64
Bipolar disorder	105	19	33	19	$\chi^2=.01$	1	.92
Posttraumatic stress disorder	32	6	18	10	$\chi^2=4.04$	1	.04
Other	15	3	2	1	$\chi^2=1.48$	1	.22
Substance use disorder							
Alcohol abuse or dependence	290	53	83	47	$\chi^2=1.66$	1	.20
Drug abuse or dependence	295	54	83	47	$\chi^2=2.24$	1	.13
Developmental disability	60	11	13	7	$\chi^2=1.76$	1	.19
General medical problem	361	66	110	63	$\chi^2=.45$	1	.50
SF-12 subscale score (M±SD) <sup>a</sup>							
Physical health	44.80±9.95		45.50±11.03		t=.75	272	.45
Mental health	38.90±7.90		38.78±9.17		t=−.16	263	.88
Brief Symptom Inventory score (M±SD) <sup>b</sup>	1.51±.90		1.56±.92		t=.63	724	.53
Days intoxicated in past month (M±SD)	1.97±5.45		1.88±5.42		t=−.20	724	.84
ASI alcohol score (M±SD) <sup>c</sup>	.12±.20		.13±.21		t=.22	724	.83
Any drug use in past month	223	41	59	34	$\chi^2=2.77$	1	.10
ASI drug score (M±SD) <sup>c</sup>	.05±.09		.05±.10		t=−.24	724	.81
Housing status in past 3 months (M±SD)							
Nights in own apartment	6.13±15.86		4.97±13.96		t=−.87	724	.39
Nights in institution	14.73±27.75		14.00±27.09		t=−.31	724	.76
Nights homeless	56.50±36.52		56.30±38.30		t=−.06	724	.95

<sup>a</sup> Medical Outcomes Study Short Form. Possible scores on the physical and mental health subscales range from 0 to 100, with higher scores indicating better health.

<sup>b</sup> Possible scores range from 0 to 4, with higher scores indicating greater psychopathology.

<sup>c</sup> Addiction Severity Index. Possible alcohol and drug scores range from 0 to 1, with higher scores reflecting more severe substance use.

**Table 2**

Clinical status of 550 chronically homeless adults at baseline and six- and 12-month follow-ups

Variable	Baseline		6 months		12 months		Test statistic <sup>a</sup>	df	p
	N	%	N	%	N	%			
SF-12 subscale score (M±SD) <sup>b</sup>									
Physical health	44.80±9.95		44.83±10.15		44.73±9.96		F=.04	2, 1,096	.97
Mental health	38.90±7.90		40.37±8.07		40.55±8.40		F=10.63	2, 1,096	<.001
Brief Symptom Inventory score (M±SD) <sup>c</sup>	1.51±.90		1.34±.90		1.25±.88		F=34.21	2, 1,020	<.001
Days intoxicated in past month	1.97±5.45		1.60±5.14		1.98±5.61		F=1.58	2, 1,098	.21
ASI alcohol score (M±SD) <sup>d</sup>	.12±.20		.10±.17		.11±.19		F=5.30	2, 1,067	<.01
Any drug use in past month	223	41	190	35	215	39	Q=10.71	2	<.01
ASI drug score (M±SD) <sup>d</sup>	.05±.09		.04±.08		.05±.09		F=4.31	2, 1,098	.01

<sup>a</sup> For difference between time points<sup>b</sup> Medical Outcomes Study Short Form. Possible scores on the physical and mental health subscales range from 0 to 100, with higher scores indicating better health.<sup>c</sup> Possible scores range from 0 to 4, with higher scores indicating greater psychopathology.<sup>d</sup> Addiction Severity Index. Possible alcohol and drug scores range from 0 to 1, with higher scores reflecting more severe substance use.

adults (36–39), although this sample appeared to have a slightly lower rate of reported substance use disorders and longer reported homeless histories. The results presented below are from analyses of the 550 participants who provided complete data at all three time points—baseline, six months, and 12 months.

Small but statistically significant increases were observed on the SF-12

mental health subscale ( $\eta^2_p=.02$ ), indicating slight improvements in overall mental health (Table 2). Scores decreased on the BSI ( $\eta^2_p=.06$ ) and on the ASI alcohol subscale ( $\eta^2_p=.02$ ), and the proportion of participants who reported drug use ( $p<.01$ ) also decreased compared with baseline; these changes indicated significant but small improvements in clinical status.

Table 3 summarizes measures of the six domains of social integration over time. After housing placement, participants spent many more nights in their own apartment ( $\eta^2_p=.83$ ) and fewer nights in institutions ( $\eta^2_p=.09$ ) or homeless ( $\eta^2_p=.65$ ). The number of participants who did volunteer work and the average number of hours volunteered declined over time ( $\eta^2_p=.01$ ). Social support total scores

**Table 3**

Measures of social integration among 550 chronically homeless adults at baseline and six- and 12-month follow-ups

Measure	Baseline		6 months		12 months		Test statistic <sup>a</sup>	df	p
	N	%	N	%	N	%			
Housing in past 3 months (M±SD)									
Nights in own apartment	6.13 ±15.86		79.25±24.54		80.07±23.50		F=2,640.49	2, 1,098	<.001
Nights in institution	14.73±27.75		4.94±16.13		4.50±14.97		F=52.64	2, 860	<.001
Nights homeless	56.50±36.52		2.71±12.15		2.12±11.03		F=1,030.16	1, 675	<.001
Work in past month									
Any employment	92	17	79	14	77	14	Q=2.67	2	.26
Average hours worked for pay (M±SD)	2.91±8.24		2.79±8.45		2.50±8.00		F=.55	2, 1,098	.58
Any volunteer work	134	24	112	20	91	17	Q=13.47	2	<.01
Hours volunteered (M±SD)	2.72±7.23		1.85±5.55		1.84±5.98		F=4.88	2, 1,029	<.01
Social support <sup>b</sup>									
Short-term loan of \$100									
Clergy	39	7	23	4	18	3	Q=14.74	2	<.01
Roommate or neighbor	15	13	8	1	7	1	Q=4.22	2	.12
Friend or neighbor	144	26	127	23	131	24	Q=2.41	2	.30
Service provider or treater	32	6	49	9	42	8	Q=2.18	2	.34
Adult child	39	7	32	6	39	7	Q=2.04	2	.36
Spouse or significant other	43	8	46	8	52	9	Q=1.62	2	.45
Brother or sister	125	23	124	23	115	21	Q=1.26	2	.53
Other family member	65	12	73	13	73	13	Q=1.05	2	.59
Parent	78	14	82	15	82	15	Q=.33	2	.85
No one	214	39	207	38	199	36	Q=1.48	2	.48

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**Table 3***Continued from previous page*

Measure	Baseline		6 months		12 months		Test statistic <sup>a</sup>	df	p
	N	%	N	%	N	%			
Give you a ride									
Service provider or treater	255	46	326	59	316	57	Q=31.43	2	<.001
Clergy	40	7	23	4	16	3	Q=16.93	2	<.001
Roommate or neighbor	26	14	14	3	9	2	Q=10.91	2	<.01
Friend or neighbor	159	29	187	34	172	31	Q=4.55	2	.10
Spouse or significant other	29	5	39	7	36	7	Q=2.23	2	.33
Adult child	21	4	29	5	21	4	Q=2.23	2	.33
Parent	39	7	31	6	32	6	Q=1.93	2	.38
Other family member	47	9	55	10	55	10	Q=1.71	2	.43
Brother or sister	70	13	64	12	67	12	Q=.51	2	.77
No one	138	21	87	16	89	16	Q=26.57	2	<.001
Assistance if you felt suicidal									
Clergy	104	19	56	10	53	10	Q=35.75	2	<.001
Roommate or neighbor	38	7	22	4	13	2	Q=15.27	2	<.001
Service provider or treater	317	58	367	67	343	62	Q=13.15	2	<.01
Brother or sister	118	21	99	18	89	16	Q=8.26	2	.02
Parent	75	14	57	10	53	10	Q=7.75	2	.02
Adult child	40	7	30	5	24	4	Q=6.32	2	.04
Friend or neighbor	173	31	163	30	159	29	Q=1.35	2	.51
Other family member	72	13	65	12	65	12	Q=.77	2	.68
Spouse or significant other	63	11	59	11	57	10	Q=.57	2	.75
No one	86	16	59	11	58	11	Q=11.05	2	<.01
Total score (M±SD) <sup>c</sup>	1.37±1.18		1.36±1.05		1.29±.95		F=1.63	2, 970	.20
Community participation in past 2 weeks <sup>b</sup>									
Go to bank	162	29	235	43	249	45	Q=50.95	2	<.001
Visit grocery store	422	77	487	89	490	89	Q=50.33	2	<.001
Visit close friends, relatives, or neighbors	326	59	399	73	401	73	Q=41.04	2	<.001
Go to shopping center, mall, or other retail store	267	49	312	57	338	61	Q=23.97	2	<.001
Go somewhere to watch or participate in a sports event	144	26	126	23	103	19	Q=11.98	2	<.01
Go to post office	146	27	185	34	186	34	Q=11.69	2	<.01
Go to movie	65	12	97	18	82	15	Q=9.48	2	<.01
Go to bars, taverns, and so forth	88	16	74	13	59	11	Q=8.95	2	.01
Read newspaper	440	80	412	75	414	75	Q=8.70	2	.01
Go to restaurant	268	49	286	52	307	56	Q=6.79	2	.03
Go to library	214	39	198	36	188	34	Q=4.76	2	.09
Attend meeting of some organization or social group	289	53	310	56	281	51	Q=4.25	2	.12
Go to park or playground	310	56	284	52	289	53	Q=3.73	2	.16
Go to theater, museum, or cultural event	59	11	64	12	74	13	Q=2.71	2	.26
Go to a health or exercise club or gym	43	8	46	8	46	8	Q=.19	2	.91
Use public transportation	478	87	477	87	479	87	Q=.02	2	.99
Total score (M±SD) <sup>d</sup>	6.77±2.79		7.26 ±2.87		7.25±2.87		F=9.71	2, 1,098	<.001
Civic activity									
Voted in last local election	114	21	164	30	169	31	Q=29.03	2	<.001
Plan to vote in next presidential election	313	63	347	69	330	67	Q=11.08	2	<.01
Plan to vote in next local election	279	57	317	64	296	61	Q=10.85	2	<.01
Total score (M±SD) <sup>e</sup>	1.41±1.19		1.63±1.20		1.61±1.25		F=13.33	2, 752	<.001
Religious faith (M±SD)									
Religious faith rating <sup>f</sup>	1.82±.90		1.75±.90		1.69±.87		F=7.06	2, 1,063	<.01
Attendance at religious services <sup>g</sup>	1.16±1.21		1.13±1.53		.99±1.38		F=4.53	2, 1,096	.01

<sup>a</sup> For difference between time points<sup>b</sup> Listed in order by size of chi square statistic<sup>c</sup> Possible scores range from 0 to 10, with higher scores indicating greater social support.<sup>d</sup> Possible scores range from 0 to 16, with higher scores indicating greater participation.<sup>e</sup> Possible scores range from 0 to 3, with higher scores reflecting greater engagement in civic activities.<sup>f</sup> Possible ratings range from 0 to 3, with higher ratings reflecting greater religious faith.<sup>g</sup> Possible scores range from 0 to 3, with higher scores reflecting greater attendance.



**Table 4**

Partial correlations between measures of housing, work, social support, community participation, and civic participation among 550 chronically homeless adults<sup>a</sup>

Variable	Nights in own apartment	Nights in institution	Nights homeless	Hours worked for pay	Hours volunteered	Social support score	Community participation score	Civic participation score	Religious faith rating
Nights in own apartment	—	-.39**	-.75**	-.03	-.08*	-.05	.04	.05	-.06
Nights in institution	-.20**	—	-.12**	-.02	-.02	.05	-.01	-.04	.01
Nights homeless	-.44**	-.49**	—	.02	.10**	.01	-.04	-.05	.05
Hours worked for pay	-.00	.00	-.07	—	.05	.07	.08*	-.02	.06
Hours worked as volunteer	-.06	-.04	.07	.04	—	.04	.10**	.06	.08*
Social support score	.04	.03	-.05	.01	-.03	—	.19**	.16**	.12**
Community participation score	.01	-.04	.02	.15*	.14*	.18**	—	.20**	.12**
Civic participation score	.00	-.10	-.03	.03	-.02	-.00	.10	—	.16**
Religious faith rating	-.05	-.02	.09	.08	.01	.12	.10	.04	—

<sup>a</sup> Correlations in the top diagonal were between aggregated measures over one year (N=1,649 observations). Correlations in the bottom diagonal were between differences in measures over one year (N=550 participants). The analysis controlled for scores on the physical and mental subscales of the Medical Outcomes Study Short Form, the alcohol and drug subscales of the Addiction Severity Index, and the Brief Symptom Inventory.

\* $p < .01$

\*\* $p < .001$

did not significantly change with time. However, a few significant changes were observed on individual items. Most notably, the number of participants who listed clergy as a source of social support decreased across all three scenarios (that is, for a short-term loan of \$100, a ride to an appointment, or assistance if they felt suicidal). In terms of giving support for a ride or if they felt suicidal, a greater proportion of participants listed service providers compared with the proportions listing roommates or neighbors.

Participants also showed a small but statistically significant increase in their community participation over time ( $\eta^2_p = .02$ ) (Table 3). The largest increases were in the number of participants who went to a bank; visited a grocery store; visited close friends, relatives, or neighbors; and went to a shopping center, mall, or other retail store. However, for nine of the 18 activities (50%), there was no significant change. Across time points, participants reported they engaged in an average of seven of the 16 (44%) community activities.

Participants also showed a small but significant increase in civic activity ( $\eta^2_p = .03$ ). The number of participants who voted in the last local election increased, as did the number who reported that they planned to vote in the next local and presidential elections. Participants also showed a

significant decrease in how important they rated their religious faith ( $\eta^2_p = .02$ ); however, no significant change was observed in the frequency of attendance at religious services.

When analyses of social integration were repeated controlling for measures of baseline clinical status and change in clinical symptoms over time, all significant changes in social integration were no longer significant except for those in the housing domain (that is, the increase in nights in own apartment and the decrease in nights homeless).

Table 4 shows partial correlations between the various domains of social integration. The upper diagonal shows the correlations between aggregated measures with controls for baseline clinical status. The strongest correlation was the link between the mutually exclusive measures of nights housed and fewer nights homeless and fewer nights living in an institution. Other notable but far more modest correlations indicated that higher community participation scores were associated with higher civic activity scores, more social support, and more hours of paid work.

The lower diagonal shows correlations between differences in measures of social integration over a one-year period with controls for differences in clinical status. These results were generally consistent in showing modest intercorrelations between

measures of social integration. Again, clients who reported increased community participation also reported more social support and worked an increased number of hours for pay. In addition, an increase in community participation was positively associated with increased hours of volunteer work.

## Discussion

This study described changes in social integration of a large sample of chronically homeless adults after they entered a supported housing program for one year. Although improvement in housing was dramatic, changes in other domains of social integration were minimal. Only a small increase (2%–3% of variance explained) was found in community participation, civic activity, and religious faith, and no significant improvement was found in work or social support. Furthermore, when adjustment was made for change in clinical symptoms, no significant increase was found in any domain of social integration except housing, suggesting that social integration may be partly mediated by symptom changes.

Thus, despite the clear success of CICH and other supported housing programs in the housing domain (1–3,27) and the widespread appreciation of the recovery concept in recent years (6,7), social integration remains an area in which chronically

homeless adults, even when housed, show little improvement. From baseline to one-year follow-up, on average, clients could not identify more than two types of people they could count on for social support and reported that they engaged in less than half (44%) of a list of common community activities. These results empirically show that formerly homeless individuals are often socially marginalized and isolated, which confirms previous observations (11,12,16,19). In addition, although CICH aimed to include plans to integrate systems and services, services to improve social integration were either not included in those plans or were not adequately implemented.

Not surprisingly, several of the domains of social integration were interrelated, albeit weakly. These findings recapitulate those of Strauss and Carpenter (40) in showing that functioning consists of several semi-independent processes. In this study, community participation was positively associated with social support and employment—that is, clients who reported engaging in more community activities also identified more individuals who could provide them with social support and reported working more paid hours. However, there were many domains that were not significantly correlated, suggesting that social integration may be a heterogeneous construct. Further research is needed on which domains are causally related to each other and which are most amenable to intervention.

Several other results were of interest. Although no significant difference was found in overall social support over time, participants reported decreased support from clergy and roommates and neighbors after they obtained housing. Although it is fairly obvious why clients would report less support from roommates and neighbors after they moved into their own apartments, we can only speculate why there would be less support from clergy. Faith-based organizations have long been involved in providing social services, food, and shelter for homeless populations (41,42). As clients enter supported housing, they may rely less on these resources and have less contact with staff members of faith-

based organizations, including clergy. We also found that as participants entered supported housing programs, there was a decrease in volunteer work. It is not clear why this occurred, but one possibility is that participants became increasingly occupied with tasks related to obtaining and maintaining their new housing.

This study was observational in nature, and we cannot rule out the possible influence of unmeasured variables on outcome measures. We did not collect data on some client characteristics, such as lifetime hospitalization history and substance abuse history, which have been found to predict outcomes (43). The data were mostly derived from participant self-report, which is susceptible to various biases and has its limitations.

Of note, we may have used narrowly defined measures of social integration. Although we defined six domains of social integration, we did not gather data on how clients themselves wanted to be integrated and in what domains. Some proponents of the recovery movement could argue that we are imposing our standards of social integration and health, which may be the case; we acknowledge that our measures of social integration may be at variance with what clients want. Social integration may be a subjective experience that cannot be adequately measured with objective indicators, such as participation in community activities, or it may need to be measured on different levels (20). Furthermore, the measures we used could have benefited from more thorough assessments; for example, we asked participants about voting but not about whether they were eligible to vote, and we asked about religious activities but not about nonreligious activities of atheists.

Thus further research is needed to further our understanding of whether and how clients want to become more socially integrated. Our measures of social integration did not address client experiences of choice or empowerment, which are important concepts that may be related to recovery (8). Studies designed to replicate our findings and to specifically to test the null hypothesis should be conducted. A better understanding is

needed of social integration and of the development of specific interventions to improve social integration for individuals who were formerly chronically homeless.

## Conclusions

Supported housing had little effect on the social integration of chronically homeless adults. As supported housing programs continue to show success in the housing domain, clients may benefit from interventions that focus on their social integration after housing is obtained.

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