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Perceptions of health and health service utilization among homeless and housed psychiatric consumer/survivors

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Homelessness has a direct impact on health. Homeless individuals report several barriers to accessing health care. Although research exists regarding the utilization of health services for homeless and housed psychiatric consumer/survivors, few studies have compared the perceived health and service utilization of these two groups. The objective of this study was to determine whether or not differences exist between the utilization of health services and the perceptions of health of homeless and housed psychiatric consumer/survivors in London, Ontario, Canada. It was hypothesized that differences would exist between homeless and housed psychiatric consumer/survivors on all health-related variables examined. A secondary analysis of quantitative data was conducted in a Community–University Research Alliance on Mental Health and Housing project funded by the Social Sciences and Humanities Research Council of Canada. Key findings include significant differences in the characteristics of each population, the use of health services and their perceptions of health. Implications for practice and policy are discussed.

Keywords: health, homeless, housing, mental health, policy, service utilization

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Introduction

Homelessness has a direct impact on health (Frankish *et al*. 2005). Homelessness is most commonly defined as living on the streets, in public places or in shelter-type accommodations (Tsemberis *et al*. 2004). Previous literature indicates that homelessness affects the physical health of individuals by creating and complicating physical illness. Homelessness has been found to be associated with a high rate of musculoskeletal disorders (Perkins *et al*. 1998). In addition, homelessness exposes shelter users to tuberculosis, human immunodeficiency virus/acquired immunodeficiency syndrome, and influenza, and complicates the management of diabetes and asthma (O'Connell 2004). However, it is important to note that many risk factors that are associated with homelessness, such as poverty and substance abuse, are also strong independent risk factors for ill health (Frankish *et al*. 2005).

In addition to increased health risks, increased mortality rates have been observed in the homeless population. Hwang (2000) conducted a cohort study of 8933 men who used homeless shelters in Toronto, Ontario, Canada,

finding that those who use homeless shelters experience significantly higher rates of mortality compared with Toronto's general population. Similarly, Cheung & Hwang (2004) conducted a cohort study with 1981 women who use homeless shelters in Toronto and found that they too experience significant excess mortality compared with women in the general population.

Mental health problems such as schizophrenia and mood disorders are common among homeless individuals (Toro *et al*. 1995). In a secondary analysis of 300 Toronto, Ontario, Canada, shelter users, Eynan *et al*. (2002) found that 61.3% of the sample reported suicidal ideation and 34.4% reported having attempted suicide in their lifetime, with a larger proportion of women reporting both ideation and attempts as compared with men. However, Sullivan *et al*. (2000) note that although mental health issues may play a role in initiating homelessness, it is unlikely that they comprise a sufficient risk factor for homelessness. Forchuk *et al*. (2006) suggest that it is the societal response to mental illness, rather than the mental illness itself that puts mental healthcare consumers at risk of homelessness.

To further compound the mental and physical health issues experienced by homeless psychiatric consumer/survivors, research indicates that these individuals report several barriers to accessing health care. In a survey of homeless shelter users in Thunder Bay, Ontario, Canada, individuals reported having difficulty accessing care when needed and being refused care when requested (Perkins *et al*. 1998). In addition, homeless psychiatric/consumers interviewed in a qualitative study indicated having experienced multiple conflicts with professionals and low levels of trust in services, a consequence of frequently experiencing a discrepancy between expectations and service provision (Bhui *et al*. 2006).

An additional barrier to accessing health care includes the priority that individuals ascribe to healthcare needs. Qualitative research on health among homeless psychiatric consumer/survivors indicates that individuals attribute low priority to mental health and higher priority to their physical health problems (Bhui *et al*. 2006). Moreover, O'Connell (2004, p. 1251) comments: 'The relentless immediacy of the daily struggle for safe shelter and a warm meal relegates health needs to a distant priority'. Therefore, although physical health may be viewed as a greater priority than mental health, the attainment of basic physical needs outweighs the motivation to seek health services owing to compromised living conditions. Thus, exploration of comparisons between health service utilization of housed and homeless psychiatric consumer/survivors is warranted.

A paucity of research has compared health outcomes across various living environments. In a random sample of 55 homeless and 85 housed American individuals, those who were homeless were found not to differ from the housed on diagnosis of severe mental illness or physical health symptoms (Toro *et al*. 1995). Similarly, a cross-sectional survey of 373 economically marginalized homeless and housed American individuals revealed no differences between groups with respect to physical health. However, this study revealed that significantly more homeless individuals accessed healthcare services, particularly acute care services, as compared with those who were housed (O'Toole *et al*. 1999). Although these studies compared health among individuals with various housing situations, the samples did not consist uniquely of psychiatric consumer/survivors.

Limited mental health research has investigated differences in health-related variables of homeless and housed individuals. For example, an American retrospective study (Martinez & Burt 2006) of 236 adult homeless psychiatric consumer/survivors with a dual diagnosis of substance abuse reported that the provision of supportive housing resulted in a reduced total number of hospitalizations as well as a decreased average number of admissions per individual. Moreover, data from a mental health service database of 10 340 psychiatric consumer/survivors in San Diego, USA, indicated that the homeless population was more likely to use emergency-type services, such as the emergency psychiatric unit, than those who were housed (Folsom *et al*. 2005). The findings of comparative research are not consistent and highlight the need for further investigation regarding variations in health outcomes between homeless and housed psychiatric consumer survivors.

In addition, the lack of consistent correspondence between objective measures of health and service utilization warrants further examination. Individuals' subjective perception of health may contribute to this discrepancy. Mental health research has indicated that perceptions of health can be influenced by severity of symptoms. For example, Gregor *et al*. (2005) found that in a sample of 39 individuals with a diagnosis of panic disorder, those with greater symptom severity were more likely to have negative perceptions of their health. In addition, research indicates that perceptions of health vary among the homeless population. A study by Nyamathi *et al*. (2004) with a sample of 331 homeless individuals indicated that those who are US veterans perceived their health as less favourable than those who were non-veterans. Although limited research on perception of health is available, there is a gap in the literature regarding the differences in perceptions of health among housed and homeless psychiatric consumer/survivors.

The objective of this study was to determine whether or not differences exist between the utilization of health ser-

vices and the perceptions of health among homeless and housed psychiatric consumer/survivors in London, Ontario, Canada. It was hypothesized that differences would exist between homeless and housed psychiatric consumer/survivors on all health-related variables examined.

Methods

Research design

The current study consists of a secondary analysis of quantitative data collected for the purposes of a Community–University Research Alliance (CURA) on Mental Health and Housing entitled 'Partnerships in Capacity Building: Housing, Community Economic Development and Psychiatric Consumer/Survivors' funded by the Social Sciences and Humanities Research Council of Canada. The purposes of this CURA were to promote the understanding of the housing situation for psychiatric consumer/survivors in London, Ontario and surrounding area on an individual, community, and societal level, and to improve the capacity for appropriate housing using a participatory action research approach.

A survey design was used to determine what type of housing works best for which individuals. The structured interview included multiple instruments that examined issues related to housing, demographics, quality of life, severity of psychiatric symptomatology, and the utilization of health and social services. Interviewers consisted of research staff, primary composed of undergraduate and graduate students.

Sample and data collection

For the purposes of the CURA, data were collected from 300 psychiatric consumer/survivors living in the community in 2001, 2002 and 2003. In these years of data collection, the sample was stratified by gender (male/female) and housing type (homeless shelter/group living/independent living). Individuals participated only once per year; however, they were encouraged to participate in subsequent years. The 2004 sample consisted of 267 individuals, and this sample consisted primarily of repeat interviews and an additional sample from the homeless population. Individuals in group homes were randomized and approached about participation. Those in shelters or on the streets were approached on random days. Individuals living independently could not be randomized so were recruited through direct communication with social service and housing providers, informative posters located in various community locations, and word-of-mouth through the community of psychiatric consumer/survivors.

Participants were required to have a history of a mental health issue for a minimum of 1 year. A mental health issue was defined as having experienced symptoms of an Axis I diagnosis, as outlined in the Diagnostic and Statistical Manual IV (e.g. depression, anxiety, schizophrenia). Participants were also required to be proficient in English to the degree necessary to complete the interview and be able to provide informed consent. Those less than 18 years of age and those diagnosed with an organic brain disorder that interfered with their ability to complete the interview were excluded from the study. All participants received $20 CAN as compensation for their time.

For the purposes of the current secondary analysis, individuals were classified as homeless if they reported living in a homeless shelter or on the streets at time of interview. Those who were classified as housed reported living independently or in a group living environment at time of interview. In 2001, of the total 300 individuals interviewed, 82 were homeless and 218 were housed. In 2002, 87 participants were homeless and 213 housed. In 2003, 92 individuals were homeless and 208 were housed. In addition, of the 267 participants interviewed in 2004, 104 were homeless and 163 were housed. Across all 4 years of data collection, the average length of time that housed individuals had been housed prior to interview was 217.1 ± 260.1 weeks, and the average length of time that homeless individuals were homeless prior to interview was 19.9 ± 71.9 weeks. Moreover, these overall averages and variations of time spent both homeless and housed are comparable with those found in each individual year of data collection.

Seventy-nine individuals completed the interview in all 4 years of the study. Of these 79 individuals, 99% were consistently housed in all interviews. Sixty-one psychiatric consumer survivors completed the interview in three of the 4 years of the study, with 88% of these 61 individuals having been consistently housed and 5% consistently reporting homelessness. Finally, 114 individuals completed the survey across two of the 4 years of data collection. Of these 114 cases, 74% were consistently housed and 23% were consistently homeless, with the remaining 3% reporting different housing situations and each time of interview.

Definitions and instruments

Demographic information

A Demographic Form, created for the purposes of the CURA, was used to collect data regarding the age, gender, marital status, highest level of education and primary psychiatric diagnosis of participants. Participants reported their gender as male or female, their marital status as single/never married, separated/divorced, widowed, or

married/common law, and their highest level of education as less than grade school, grade school, high school, or university/community college. Primary psychiatric diagnoses were self-reported by participants and were categorized as schizophrenia, mood disorder, anxiety disorder, other, or unknown.

Participants' severity of psychiatric symptomatology and level of functioning were measured using the Colorado Client Assessment Record (CCAR; Ellis *et al*. 1991, 1996), a standardized clinical assessment of problems, strengths and functioning. Research staff were trained in the administration of the CCAR and did not participate in interviews unless they had 90% concordance with expert established ratings on two consecutive videotaped interviews. Retraining and rating a further videotape were mandatory at each 6-month interval, in order to ensure the maintenance of this degree of inter-rater concordance across all 4 years of data collection. Problem severity was rated for the following domains: emotional withdrawal, depression, anxiety, hyperaffect, attention problems, suicide/danger to self, thought processes, cognitive problems, self-care/basic needs, resistiveness, aggressiveness, legal, violence/danger to others, family issues, family problems with, interpersonal problems, role performance, substance abuse, medical illness, security/management issues and overall degree of problem severity. Interviewers rated the participants' problem severity for each domain on a 9-point scale, ranging from 'No problem' (1) to 'Extreme problem' (9). Level of functioning consisted of five subscales (societal/role, interpersonal, daily living/personal care, physical and cognitive/intellectual) and one overall scale. Interviewers rated level of functioning on a 9-point interval with 1 indicating 'Very high functioning' and 9 indicating 'Very low functioning'.

Utilization of health services

Information regarding participants' utilization of health services was collected using the Utilization of Hospital and Community Services Form (modified from Browne *et al*. 1990). The presence or absence of an admission to hospital in the past month was recorded. For those who had reported the presence of an admission, the number and length (in days) of admissions in the past month to psychiatric hospital, general hospital and psychiatric ward of a general hospital were specified. Reasons for admission to general hospital were also recorded. Furthermore, number of psychiatric hospitalizations in the 2 years prior to interview was collected using the CCAR (Ellis *et al*. 1991, 1996).

Perceptions of health

The Brief Version of the Lehman Quality of Life Interview (Lehman *et al*. 1994) was used to collect information regarding participants' perception of their physical and emotional health, as well as their perception of their health in general. Participants rated their feelings regarding their health according to a 7-point scale, ranging from 'Terrible' (1) to 'Delighted' (7).

Ethics review

Ethics approval was received from the Research Ethics Board at The University of Western Ontario in 2001. Participants provided informed consent prior to participating in the study and were informed that their participation would not impact the level of services or care they were currently receiving. Participant confidentiality was maintained.

Statistical analysis

Descriptive statistics included frequencies, means and standard deviations. For each year of data collection, frequencies were computed to describe the gender, marital status, highest level of education, primary psychiatric diagnosis, and presence of admission to hospital in the past month of homeless and housed psychiatric consumer/survivors. Means and standard deviations were computed to describe age, perceptions of health, admissions to hospital, severity of psychiatric symptomatology and level of functioning.

Pearson Chi-square analyses were computed to determine significant differences between homeless and housed psychiatric consumer/survivors on all categorical variables. When a significant Chi-square analysis consisted of more than a 2×2 table, tests of two proportions were performed to determine specifically where significant differences existed. Independent sample *t*-tests were computed to determine differences between homeless and housed psychiatric consumer/survivors on all continuous variables. Analyses were computed separately for each year of data collection. A significance level of alpha 0.05 was used to determine the statistical significance of all two-tailed inferential tests. All statistical analyses were executed using the Statistical Package for the Social Sciences Version 11.5.

Results

Characteristics of the sample

Results describing the characteristics of the sample can be found in Table 1. Chi-square analysis revealed a significant difference between homeless and housed psychiatric consumer/survivors with respect to gender across all 4 years of data collection. Significantly, more homeless individuals were male and more housed individuals were female [2001: $\chi^2(1) = 11.3$, $P < 0.01$; 2002: $\chi^2(1) = 7.5$, $P < 0.01$; 2003:

Table 1
Characteristics of the sample

Characteristics of the sample	Percentage of sample	Year of data collection							
		2001 ($n = 300$)		2002 ($n = 300$)		2003 ($n = 300$)		2004 ($n = 267$)	
		Homeless	Housed	Homeless	Housed	Homeless	Housed	Homeless	Housed
Gender[1]	Male	65.9	44.0	62.1	44.6	62.0	45.2	73.1	46.0
	Female	34.1	56.0	37.9	55.4	38.0	54.8	26.9	54.0
Marital status	Single/never married	65.9	61.5	65.5	61.5	63.0	57.7	66.3	62.6
	Separated/divorced	25.6	27.5	28.7	29.1	31.5	31.3	27.9	26.4
	Widowed	2.4	5.5	3.4	2.8	2.2	5.8	3.8	4.9
	Married/common law	6.1	5.5	2.3	6.6	3.3	5.3	1.0	6.1
Education	Less than grade school	2.4	1.8	1.1	0.9	1.1	1.0	1.9	3.8
	Grade school	54.9	48.6	58.6	46.9	56.0	44.6	46.2	39.0
	High school	35.4	35.3	26.4	34.1	28.6	34.8	32.7	37.7
	Community college/university	7.3	14.2	13.8	18.0	14.3	19.6	19.2	19.5
Psychiatric diagnosis[2]	Schizophrenia	14.6	54.1	16.1	54.9	16.3	57.2	15.7	55.8
	Mood	47.6	22.5	49.4	21.6	48.9	25.5	45.1	22.1
	Anxiety	8.5	9.6	13.8	8.9	10.9	6.7	12.7	8.0
	Other	9.8	9.2	5.8	7.0	9.8	6.7	7.8	6.1
	Unknown	19.5	4.6	14.9	7.5	14.1	3.9	18.6	8.0

[1]Significant differences across all 4 years at $P < 0.01$.
[2]Significant differences across all 4 years at $P < 0.001$.

$\chi^2(1) = 7.2$, $P < 0.01$; 2004: $\chi^2(1) = 18.9$, $P < 0.001$]. Although gender differences were observed, homeless and housed psychiatric consumer/survivors were not found to differ with respect to marital status [2001: $\chi^2(3) = 1.5$, ns; 2002: $\chi^2(3) = 2.4$, ns; 2003: $\chi^2(3) = 2.6$, ns; 2004: $\chi^2(4) = 6.0$, ns] nor highest level of education [2001: $\chi^2(3) = 2.9$, ns; 2002: $\chi^2(3) = 3.5$, ns; 2003: $\chi^2(3) = 3.4$, ns; 2004: $\chi^2(3) = 1.9$, ns] in any of the 4 years of data collection.

In addition, Chi-square analysis indicated that primary psychiatric diagnoses differ significantly between homeless and housed psychiatric consumer/survivors in all 4 years of data collection [2001: $\chi^2(4) = 49.6$, $P < 0.001$; 2002: $\chi^2(4) = 42.6$, $P < 0.001$; 2003: $\chi^2(4) = 46.4$, $P < 0.001$; 2004: $\chi^2(4) = 43.4$, $P < 0.001$]. Tests of two proportions indicated that housed individuals more frequently reported a diagnosis of schizophrenia than homeless psychiatric consumer/survivors across all 4 years (2001: $Z = -6.15$, $P < 0.001$; 2002: $Z = -6.15$, $P < 0.001$; 2003: $Z = -6.57$, $P < 0.001$; 2004: $Z = -6.47$, $P < 0.001$), and that homeless individuals more frequently reported a diagnosis of a mood disorder than housed psychiatric consumer/survivors across all 4 years (2001: $Z = 4.26$, $P < 0.001$; 2002: $Z = 4.78$, $P < 0.001$; 2003: $Z = 3.98$, $P < 0.001$; 2004: $Z = 3.94$, $P < 0.001$).

Finally, significant differences were found between the age of homeless and housed psychiatric consumer/survivors, with homeless individuals reporting a younger mean age across all 4 years as compared with housed individuals [2001: $t(298) = 8.3$, $P < 0.001$; 2002: $t(297) = 5.3$, $P < 0.001$; 2003: $t(297) = 6.0$, $P < 0.001$; 2004: $t(265) = 9.6$, $P < 0.001$]. The overall average age of homeless psychiatric consumer/survivors was 35.0 ± 12.8 years ($n = 363$), and the overall average age of housed individuals was 45.9 ± 11.0 years ($n = 802$).

Results of comparisons of the severity of psychiatric symptomatology and level of functioning between homeless and housed psychiatric consumer/survivors can be found in Table 2. Results of inferential statistics on variables regarding the severity of psychiatric symptomatology indicated no difference between homeless and housed psychiatric consumer/survivors' emotional withdrawal [2001: $t(172) = 1.4$, ns; 2002: $t(298) = 0.2$, ns; 2003: $t(298) = -0.3$, ns; 2004: $t(265) = -1.0$, ns] or attention problems [2001: $t(298) = 0.4$, ns; 2002: $t(298) = 0.7$, ns; 2003: $t(298) = 0.002$, ns; 2004: $t(265) = 0.3$, ns] in any of the 4 years of data collection.

In 1 year of data collection, specifically 2001, housed psychiatric consumer/survivors were found to display greater problem severity than homeless individuals with respect to thought processes, $t(205) = 4.8$, $P < 0.001$, interpersonal issues, $t(190) = 3.0$, $P < 0.01$, medical illness, $t(298) = 2.4$, $P < 0.05$, and overall degree of problem

Table 2
Problem severity and level (M ± SD) of functioning variables for homeless and housed psychiatric consumer/survivors

	Year of data collection							
	2001		2002		2003		2004	
CCAR variables	Homeless	Housed	Homeless	Housed	Homeless	Housed	Homeless	Housed
Problem severity								
Emotional withdrawal	2.4 ± 1.5	2.1 ± 1.4	1.9 ± 1.2	1.9 ± 1.2	2.6 ± 1.4	2.5 ± 1.5	2.5 ± 1.3	2.4 ± 1.3
Depression[1]	3.2 ± 1.3	2.9 ± 1.6	3.3 ± 1.8	2.7 ± 1.4	3.4 ± 1.6	2.9 ± 1.7	3.6 ± 1.5	2.8 ± 1.5
Anxiety[2]	3.1 ± 1.6	2.9 ± 1.5	3.1 ± 1.5	2.8 ± 1.4	3.2 ± 1.8	2.6 ± 1.5	3.2 ± 1.6	2.8 ± 1.6
Hyperaffect[2]	1.7 ± 1.1	1.9 ± 1.3	1.9 ± 1.2	1.7 ± 1.0	2.1 ± 1.2	1.8 ± 1.1	2.1 ± 1.4	1.6 ± 1.0
Attention problems	2.9 ± 1.5	2.9 ± 1.5	2.4 ± 1.4	2.5 ± 1.3	2.9 ± 1.5	2.9 ± 1.5	3.0 ± 1.5	3.0 ± 1.4
Suicide/danger to self[2]	2.0 ± 1.1	1.8 ± 1.0	2.1 ± 1.2	1.9 ± 1.1	2.1 ± 1.3	1.7 ± 1.0	2.4 ± 1.3	1.8 ± 1.0
Thought processes[3]	1.7 ± 1.2	2.6 ± 1.7	2.0 ± 1.5	2.3 ± 1.4	2.4 ± 1.6	2.4 ± 1.5	2.6 ± 1.6	2.8 ± 1.7
Cognitive problems[4]	1.3 ± 0.8	2.0 ± 1.4	1.3 ± 0.9	1.7 ± 1.1	1.9 ± 1.2	2.0 ± 1.2	1.8 ± 1.0	2.5 ± 1.5
Self-care/basic needs[5]	2.5 ± 1.5	2.8 ± 1.8	3.4 ± 1.4	2.6 ± 1.4	3.6 ± 1.5	2.5 ± 1.2	3.7 ± 1.3	2.6 ± 1.3
Resistiveness[2]	1.7 ± 1.1	1.5 ± 0.9	1.7 ± 1.0	1.7 ± 1.0	2.4 ± 1.5	1.9 ± 1.1	2.2 ± 1.4	1.7 ± 1.0
Aggressiveness[1]	2.2 ± 1.7	1.5 ± 1.0	1.8 ± 1.4	1.4 ± 0.9	2.1 ± 1.6	1.5 ± 1.0	2.4 ± 1.8	1.5 ± 1.2
Antisocial[1]	1.8 ± 1.4	1.2 ± 0.5	1.4 ± 0.9	1.2 ± 0.4	2.0 ± 1.5	1.2 ± 0.7	2.0 ± 1.4	1.2 ± 0.6
Legal problems[1]	1.8 ± 1.5	1.2 ± 0.8	1.7 ± 1.2	1.2 ± 0.6	1.6 ± 1.2	1.1 ± 0.5	2.0 ± 1.7	1.1 ± 0.6
Violence[1]	1.6 ± 1.3	1.1 ± 0.5	1.4 ± 1.1	1.1 ± 0.4	1.7 ± 1.4	1.2 ± 0.6	1.9 ± 1.5	1.1 ± 0.6
Family issues[6]	2.1 ± 1.6	1.6 ± 1.3	1.6 ± 1.2	1.4 ± 0.8	2.2 ± 1.5	1.6 ± 1.2	2.0 ± 1.7	1.4 ± 1.0
Family problems with[1]	2.8 ± 1.9	2.1 ± 1.7	2.2 ± 1.6	1.8 ± 1.2	2.4 ± 1.6	1.8 ± 1.3	2.4 ± 1.8	1.8 ± 1.3
Interpersonal issues[3]	2.2 ± 1.3	2.8 ± 1.7	2.4 ± 1.6	2.5 ± 1.3	2.6 ± 1.5	2.5 ± 1.2	2.6 ± 1.5	2.6 ± 1.4
Role performance[6]	2.7 ± 1.6	3.3 ± 1.8	2.9 ± 1.2	2.9 ± 1.4	3.4 ± 1.5	2.8 ± 1.4	3.1 ± 1.5	2.5 ± 1.2
Substance abuse[1]	2.8 ± 1.4	1.9 ± 1.0	2.6 ± 1.5	1.9 ± 0.9	3.1 ± 1.6	1.9 ± 1.0	3.1 ± 1.3	1.9 ± 1.0
Medical illness[3]	2.2 ± 1.3	2.6 ± 1.5	2.4 ± 1.4	2.4 ± 1.4	2.4 ± 1.5	2.3 ± 1.3	2.6 ± 1.7	2.8 ± 1.7
Security issues[2]	1.4 ± 1.0	1.3 ± 0.9	1.4 ± 1.0	1.4 ± 1.0	1.6 ± 1.3	1.4 ± 0.9	2.0 ± 1.5	1.2 ± 0.7
Overall[3]	3.8 ± 1.2	4.2 ± 1.2	4.0 ± 1.2	3.7 ± 1.1	4.2 ± 1.3	4.0 ± 1.2	4.6 ± 1.1	4.3 ± 1.1
Level of functioning								
Societal/role[5]	5.2 ± 1.0	5.0 ± 1.0	5.7 ± 0.8	5.1 ± 0.9	5.8 ± 1.0	5.0 ± 1.1	5.8 ± 1.0	5.0 ± 1.0
Interpersonal	5.2 ± 1.2	5.4 ± 1.2	5.7 ± 1.1	5.5 ± 1.2	5.6 ± 1.3	5.3 ± 1.2	5.6 ± 1.1	5.4 ± 1.2
Daily living[5]	5.6 ± 0.8	5.5 ± 1.0	5.9 ± 0.7	5.4 ± 1.2	6.1 ± 0.9	5.3 ± 1.3	5.9 ± 0.9	5.4 ± 1.1
Physical functioning[3]	2.8 ± 1.9	3.6 ± 1.9	3.2 ± 2.2	3.4 ± 2.2	3.4 ± 2.1	3.6 ± 2.3	3.6 ± 2.5	3.9 ± 2.4
Cognitive/intellectual[3]	4.1 ± 1.3	5.1 ± 1.4	4.6 ± 1.4	4.9 ± 1.4	5.0 ± 1.4	4.9 ± 1.4	5.2 ± 1.3	5.4 ± 1.3
Overall[5]	5.3 ± 0.9	5.4 ± 0.9	5.8 ± 0.9	5.4 ± 1.0	5.9 ± 1.0	5.4 ± 1.0	5.9 ± 0.8	5.6 ± 0.8

CCAR, Colorado Client Assessment Record.
[1]Significant across all 4 years at $P < 0.05$.
[2]Significant in 2003 and 2004 at $P < 0.05$.
[3]Significant in 2001 at $P < 0.05$.
[4]Significant in 2001, 2002, and 2004 at $P < 0.01$.
[5]Significant in 2002, 2003, and 2004 at $P < 0.05$.
[6]Significant in 2001, 2003, and 2004 at $P < 0.05$.

severity, $t(296) = 2.8$, $P < 0.01$. In 2 years of data collection, specifically 2003 and 2004, homeless psychiatric consumer/survivors were rated as experiencing greater problem severity than their housed counterparts with respect to anxiety [2003: $t(298) = -2.6$, $P < 0.05$; 2004: $t(265) = -2.1$, $P < 0.05$], hyperaffect [2003: $t(298) = -2.1$, $P < 0.05$; 2004: $t(177) = -3.0$, $P < 0.01$], suicide/danger to self [2003: $t(140) = -3.0$, $P < 0.01$; 2004: $t(171) = -4.1$, $P < 0.001$], resistiveness [2003: $t(136) = -2.8$, $P < 0.01$; 2004: $t(176) = -2.9$, $P < 0.01$], and security/management issues [2003: $t(131) = -2.0$, $P < 0.05$; 2004: $t(129) = -5.0$, $P < 0.001$].

Homeless and housed psychiatric consumer/survivors differed significantly across 3 years of data collection in regard to their degree of cognitive problems, self-care, family issues and role performance. Housed individuals had consistently greater problem severity than homeless psychiatric consumer/survivors with respect to cognitive problems [2001: $t(242) = 4.8$, $P < 0.001$; 2002: $t(195) = 3.1$, $P < 0.01$; 2004: $t(262) = 4.3$, $P < 0.001$]; however, homeless individuals had great problem severity as compared with the housed for self-care/basic needs [2002: $t(298) = -4.6$, $P < 0.001$; 2003: $t(143) = -6.3$, $P < 0.001$; 2004: $t(251) = -7.0$, $P < 0.001$] and family issues [2001: $t(125) = -2.0$, $P < 0.05$; 2003: $t(147) = -3.1$, $P < 0.01$, 2004: $t(153) = -2.8$, $P < 0.01$]. Role performance was not consistent across the 3 years in which there were found to be significant differences between homeless and housed psychiatric consumer/survivors. Homeless individuals were found to display greater problem severity on this item than housed individuals in 2003, $t(298) = -3.1$, $P < 0.01$, and 2004, $t(265) = -3.7$, $P < 0.001$; however, housed individuals received greater problem severity scores that the homeless in 2001, $t(298) = 2.6$, $P < 0.01$.

Finally, homeless psychiatric consumer/survivors were consistently found to have greater problem severity as compared with housed individuals across all 4 years of data collection concerning ratings of depression [2001: $t(169) = -2.0$, $P < 0.05$; 2002: $t(133) = -2.9$, $P < 0.01$; 2003: $t(298) = -2.3$, $P < 0.05$; 2004: $t(265) = -4.2$, $P < 0.001$], aggressiveness [2001: $t(100) = -3.2$, $P < 0.01$; 2002: $t(113) = -1.9$, $P < 0.05$; 2003: $t(118) = -3.5$, $P < 0.01$; 2004: $t(158) = -4.6$, $P < 0.001$], antisocial problems [2001: $t(89) = -4.4$, $P < 0.001$; 2002: $t(100) = -2.6$, $P < 0.05$; 2003: $t(110) = -4.4$, $P < 0.001$; 2004: $t(132) = -5.2$, $P < 0.001$], legal problems [2001: $t(100) = -3.7$, $P < 0.001$; 2002: $t(105) = -4.0$, $P < 0.001$; 2003: $t(102) = -3.8$, $P < 0.001$; 2004: $t(121) = -5.1$, $P < 0.001$], violence/danger to others [2001: $t(88) = -3.2$, $P < 0.01$; 2002: $t(96) = -2.3$, $P < 0.05$; 2003: $t(107) = -3.4$, $P < 0.01$; 2004: $t(122) = -4.8$, $P < 0.001$], family problems with [2001: $t(134) = -2.8$, $P < 0.01$; 2002: $t(126) = -2.3$, $P < 0.05$; 2003: $t(150) = -2.9$, $P < 0.01$; 2004: $t(174) = -2.5$, $P < 0.05$], and substance abuse [2001: $t(107) = -5.0$, $P < 0.001$; 2002: $t(116) = -4.2$, $P < 0.001$; 2003: $t(117) = -6.5$, $P < 0.001$; 2004: $t(172) = -7.5$, $P < 0.001$].

With respect to the level of functioning variables, only interpersonal level of functioning did not differ between groups in any of the 4 years of data collection [2001: $t(298) = 1.3$, ns; 2002: $t(298) = -1.4$, ns; 2003: $t(298) = -1.7$, ns; 2004: $t(265) = -1.1$, ns]. In 1 year of the study, specifically 2001, homeless individuals were found to have greater levels of functioning as compared with the housed psychiatric consumer/survivors with respect to physical functioning, $t(298) = 3.3$, $P < 0.01$, and cognitive/intellectual functioning, $t(298) = 5.3$, $P < 0.001$. However, across 3 years of data collection, housed individuals were consistently found to have greater levels of functioning than the homeless in terms of daily living/personal care [2002: $t(244) = -4.8$, $P < 0.001$; 2003: $t(246) = -6.1$, $P < 0.001$; 2004: $t(249) = -4.2$, $P < 0.001$], societal/role [2002: $t(298) = -5.2$, $P < 0.001$; 2003: $t(298) = -5.5$, $P < 0.001$; 2004: $t(265) = -6.5$, $P < 0.001$], and current overall level of functioning [2002: $t(179) = -3.8$, $P < 0.001$; 2003: $t(298) = -4.3$, $P < 0.001$; 2004: $t(265) = -2.4$, $P < 0.05$].

Utilization of health services

In 2001, significantly more homeless psychiatric consumer/survivors reported an admission to hospital in the past month than housed individuals [$\chi^2(1) = 13.1$, $P < 0.001$]. A comparison between the number of admissions to provincial psychiatric hospital, psychiatric ward of a general hospital and general hospital in the past month was not possible as groups of individuals reporting an admission in 2001 were too small for adequate comparison. Only three people reported an admission to a provincial psychiatric hospital, two of which were homeless and one of which was housed. Five homeless individuals reported an admission to a psychiatric ward of a general hospital; however, no housed individuals reported such admissions in the past month. Finally, a total of 11 individuals, five homeless and six housed, reported an admission to general hospital, stating that they were admitted for such reasons as appendectomy, diabetes complications, flu, removal of gallbladder, knee replacement, injuries resulting from assault, miscarriage, reconstructive surgery and shortness of breath.

In addition to the greater proportion of homeless individuals reporting an admission to hospital in the past month, homeless individuals in 2001 reported a greater number of psychiatric hospitalizations during the previous 2 years as compared with those who were housed [$t(95) = -1.9$, $P < 0.05$]. However, admissions to hospital in the past month and number of psychiatric hospitalizations in the past 2 years did not significantly differ between homeless and housed psychiatric consumer/survivors in 2002 [$\chi^2(1) = 3.6$, ns; $t(298) = 0.5$, ns respectively], 2003 [$\chi^2(1) = 0.2$, ns; $t(297) = -0.1$, ns respectively], or 2004 [$\chi^2(1) = 0.4$, ns, $t(265) = 0.1$, ns respectively].

Perceptions of health

The analysis revealed no significant difference across all 4 years of data collection between homeless and housed psychiatric consumer/survivors with respect to their feelings about their physical condition [2001: $t(298) = 1.8$, ns; 2002: $t(297) = 1.8$, ns; 2003: $t(296) = 1.7$, ns; 2004: $t(265) = 0.8$, ns]. However, in 2002 and 2004, a significant difference was observed between homeless and housed individuals' feelings about their health in general [2002: $t(296) = 2.2$, $P < 0.05$; 2004: $t(265) = 3.6$, $P < 0.001$], with those who were homeless reporting lower satisfaction than housed individuals. Moreover, homeless and housed psychiatric consumer/survivors were consistently found to differ significantly with respect to their feelings about their emotional health [2001: $t(298) = 5.2$, $P < 0.001$; 2002: $t(296) = 6.2$, $P < 0.001$; 2003: $t(294) = 2.5$, $P < 0.05$; 2004: $t(264) = 6.4$, $P < 0.001$], with those who were homeless reporting more negative feelings about their emotional well-being as compared with their housed counterparts (see Table 3).

Discussion

The homeless and the housed represent very different groups of individuals. Those that were homeless tended to be younger, male, and more likely to have a diagnosis of

Table 3
Homeless and housed consumer/survivors' perceptions of health (M ± SD)

How do you feel about . . .	Year of data collection							
	2001		2002		2003		2004	
	Homeless	Housed	Homeless	Housed	Homeless	Housed	Homeless	House
Health in general	4.4 ± 1.6	4.6 ± 1.6	4.0 ± 1.7	4.4 ± 1.5	4.2 ± 1.6	4.5 ± 1.6	3.8 ± 1.6	4.6 ± 1.5
Physical health[1]	4.0 ± 1.8	4.4 ± 1.6	3.8 ± 1.8	4.2 ± 1.6	4.0 ± 1.7	4.4 ± 1.6	4.2 ± 1.6	4.4 ± 1.7
Emotional well-being[2]	3.5 ± 1.3	4.5 ± 1.6	3.2 ± 1.5	4.4 ± 1.6	3.8 ± 1.6	4.3 ± 1.6	3.2 ± 1.6	4.4 ± 1.5

[1]Significant in 2002 and 2004 at $P < 0.05$.
[2]Significant across all 4 years at $P < 0.05$.

mood disorder. On the other hand, those who were housed were more likely to be older, female, and have a diagnosis of schizophrenia. These findings are consistent with a recent analysis of data from a mental health service database in San Diego, USA, by Folson *et al.* (2005). The sample consisted of 10 340 individuals, 15% whom reported being homeless. The homeless individuals were more likely younger and male, as compared with the housed. However, individuals with schizophrenia and bipolar disorder had higher rates of homelessness, than those with depression, which varies from the results observed in the current analysis.

It should be noted that who is homeless and who is housed is likely dependent on contextual factors and available supports within the specific community. In this sample, people with schizophrenia seemed to have an easier time accessing group homes. Many were housed in the Homes for Special Care (HSC) programme, which required prior admission to a tertiary care facility. As that service is more likely to be accessed by people with a diagnosis of schizophrenia, it is not surprising that they were subsequently able to access HSC. Similarly, the increased number of women who found housing was related to easier access to public housing. Individuals who have a history of abuse or domestic violence are 'fast tracked' (i.e. given priority) into London's housing programme. Without fast tracking, it can take years to access public housing in this community (which has a waiting list of 5000 units and only approximately 1000 units turning over each year). As programmes geared to females and individuals diagnosed with schizophrenia have successfully managed to provide housing to psychiatric consumer/survivors, it is likely that additional housing supports specific to those who concurrently struggle with substance misuse, mood and anxiety disorders, or antisocial personality traits are required to assist in alleviating homelessness. In a different community, with different criteria to housing programmes, different demographics may be seen.

Homeless individuals display greater problem severity with respect to self-care/basic needs and substance abuse and lower daily living/personal care functioning than housed psychiatric consumer/survivors. Thus, homeless individuals may be at greater risk for infection and disease than housed individuals, which would be consistent with greater use of health services to address self-care deficits. In addition, homeless individuals also display greater problem severity with respect to resistiveness, antisocial problems, legal issues and aggressiveness compared with housed psychiatric consumer/survivors. Consequently, homeless individuals may experience greater personal barriers to accessing health care than housed individuals and justify the need for more non-traditional services, i.e. like health bus mode, a mobile service that is common in other health jurisdictions in Ontario, Canada.

Homeless individuals were rated as having greater problem severity than housed psychiatric consumer/survivors across all 4 years of data analysis regarding depression, aggressiveness, antisocial problems, legal problems, violence/danger to others, family problems and substance abuse. This is a cluster of problems not unexpected with a marginalized group. These problems are often interrelated, and difficult to treat in the absence of stable housing. This range of problems indicates the complexity of issues faced by the homeless population.

Those who are homeless seem to have different health needs compared with those who are housed based on differences in age, gender, diagnosis, severity of psychiatric symptomatology and level of functioning. This implies different policies, and interventions are required for these different groups. Homeless psychiatric consumer/survivors reported more admissions to hospital for physical conditions in the past month and more psychiatric hospitalizations in the past 2 years as compared with housed individuals. This is consistent with the literature that the homeless are less stable group than housed (O'Toole *et al.* 1999, Folsom *et al.* 2005). This finding also corroborates previous finding that homeless psychiatric consumer/survivors are more comparable with other homeless persons than with housed individuals with mental health issues (Sullivan *et al.* 2000). However, this finding was not consistent across all 4 years of data collection. This study reports on psychiatric consumer survivors being inter-

viewed annually over a 4-year period. This allows for noting that some findings are not consistently found over time while others are more consistent.

It is interesting to note that there was no difference between homeless and housed psychiatric consumer/survivors with respect to perception of physical health. This may be different from studies that have found increased health challenges among the homeless population. However, it is a subjective perception of health, not an objective rating. Findings more consistent with past studies were that the homeless reported feeling less satisfied with their emotional well-being and their health in general than housed psychiatric consumer/survivors.

As this study is a secondary analysis, it has the limitations associated with that approach. Instruments may not have been ideal for capturing the variables of interest to the question, as they were selected with a differed question in mind. Any sources of error in the design and implementation of the original study may not be known. Bias that may have existed in the original study is inherited in a secondary analysis (Polit & Hungler 1991). In addition, in this secondary analysis, utilization of services was measured but not barriers to accessing health care. Further information on barriers would provide additional insight into health-care utilization.

In conclusion, individuals who have had a history of psychiatric problems and are homeless have many differences than similar individuals who are housed. Increased problems such as depression, substance abuse and difficulty with the law highlight the need for multiple system responses to meet complex problems. Consideration of the findings of this study can raise interesting questions: Do individuals who are homeless have more needs because they are homeless? Or, are more vulnerable individuals more likely to become homeless? The variation in many findings from year to year underscores both the constantly changing face of homelessness as well as the need to look at issues with this population's longitudinally to address unmet needs.

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