Pathways to Housing – Edmonton: A Homelessness Housing Initiative

(A Four-Phase Project)

Phase II – Final Report

A Research Project by:

Alberta Health Services and
Boyle McCauley Health Centre

Acknowledgements

Research & Evaluation
Information & Evaluation Services
Addiction and Mental Health

Report by:

Shireen Surood, Ph.D.
Supervisor

Diane McNeil, Ph.D.
Manager

Maarit Cristall, M.Sc.
Psychology Technician

Janice Godbout, B.A.
Hansen Zhou, B.Sc.
Research & Evaluation Assistants

September 30, 2012

Pathways to Housing - Edmonton: A Homelessness Housing Initiative (A Four - Phase Project) Phase II was funded by the Government of Canada's Homelessness Partnering Strategy through Homeward Trust Edmonton's Community Research Projects funding. The opinions and interpretations in this publication are those of the author and do not necessarily reflect those of the Government of Canada or Homeward Trust Edmonton.

Table of Contents

Summary

Homelessness is a major social issue in North America. Housing First approaches that provide a home and then support, have gained in popularity and have research support regarding housing stability. However, other effectiveness factors such as functioning and outcome require additional investigation. This study is Phase II of a four-phased research proposal to examine these factors in a Canadian Housing First program, the Pathways to Housing program in Edmonton, Alberta.

Participants in the Pathways to Housing program have very serious, severe, persistent, and multiple problems in their health and living situations. They have physical and mental illnesses, ongoing comorbid health conditions, psychosocial problems, drug and alcohol problems, have been hospitalized or incarcerated within the last year, have experienced chronic and absolute homelessness for an average of 6 years, have lower levels of education, are unemployed, and on income assistance. This is the population that the program has a mandate to serve.

Preliminary analyses of available data at baseline, and subsequent follow-ups show positive participant outcomes through their involvement in the program. At 12 months, provision of a home provided improvement in living conditions, work and leisure activities, and overall total health outcomes.

The results show promise with respect to the effectiveness of Housing First for housing stability and certain aspects of quality of life. However, a caveat is that data collection is ongoing, so these conclusions are preliminary. The cohort of participants varies from time period to time period, so direct comparisons and interpretations must be made with caution.

Introduction

Homelessness is a major social issue in North America. In Canada, homeless population estimates range from 150,000 to 300,000 (intraspec.ca, 2010; Laird, 2007). It is estimated that supporting a population of 150,000 homeless people costs the Government of Canada $4.5 to 6 billion each year in medical, legal, and social services (Laird, 2007). During Canada's decade of limited action (1993 to 2004), homelessness cost an estimated $49.5 billion (Laird, 2007). The issue of homelessness has had and will continue to have important political and social ramifications.

Homelessness in Canada is on the rise and is growing in complexity. The homeless population is not limited to adults; almost one-third of all homeless are youth (Laird, 2007) and the number of homeless seniors is rapidly increasing (Laird, 2007). Aboriginal people are overrepresented in homeless populations, with some estimates as high as 40% (Edmonton Committee to End Homelessness, 2009). The complexity of homelessness is further complicated by the fact that it is often associated with mental illness and substance use disorders (SUDs) (Tsemberis, Gulcur, & Nakae, 2004). Mental illness exacerbates the challenges homeless individuals experience (Gilmer, Stefancic, Ettner, Manning, & Tsemberis, 2010).

In the last decade, the rapid growth of homelessness in Alberta has been a concern. Between 1994 and 2006, the homeless count in Calgary increased sevenfold (Laird, 2007). The Edmonton homeless count peaked in 2008 at 3079, and if that rate continues, it is estimated that there will be over 6000 homeless people by 2019 (Edmonton Committee to End Homelessness, 2009). However, in the 2010 Edmonton homeless count, the number decreased for the first time since the count's inception, to 2421. This decrease has been attributed to the implementation of Housing First programs in Edmonton (Sorensen, 2010), however, there is a knowledge gap regarding effectiveness of the program for people with addiction and mental illnesses in Canada.

What is the Housing First approach?

The priority in Housing First approaches is to provide housing to individuals as a first step, then add needed supports (e.g., mental health or addiction resources). Implementation of Housing First approaches have been widespread across the United States and within the last few years have been implemented in some Canadian provinces. Early research indicates that this model has been successful in assisting people with housing stability and retention (thereby reducing homelessness) (Gulcur, Stefancic, Shinn, Tsemberis, & Fischer, 2003; Stefancic & Tsemberis, 2007) and decreasing hospitalization (Gulcur, Stefancic, Shinn, Tsemberis, & Fischer, 2003). However, it has been harder to determine the effectiveness of Housing First approaches in decreasing psychiatric symptoms (Greenwood, Schaefer-McDaniel, Winkel, & Tsemberis, 2005), and there has been limited investigation of the effect on quality of life and community integration (Kirsh, Gewurtz, & Bakewell, 2011), despite recognition that these factors influence the attainment of independent living (Tsai, Bond, Salyers, Godfrey, & Davis, 2010; Rog, 2004).

Most of the research evidence demonstrating the effectiveness of Housing First has been with populations and contexts in the United States (Schiff & Rook, 2012; Tsemberis & Eisenberg, 2000). In 2009, the Mental Health Commission of Canada launched the At Home/Chez Soi research project on homelessness in five Canadian cities. The program, which is funded by the Federal government, has adopted the Housing First approach and is using a mixed methods approach to evaluate program effectiveness. Early findings indicate that the program

has a positive impact on the lives of homeless individuals with mental illness (Mental Health Commission of Canada, 2012).

Pathways to Housing – Edmonton

Pathways to Housing - Edmonton was implemented in 2009, and is located in Edmonton, Alberta. The program provides treatment and housing support to persons who are chronically homeless, have severe mental illness, and are in need of housing. Chronically homeless persons are defined as individuals who have either been continuously homeless for a year or more, or have had at least four episodes of homelessness in the past three years. This Pathways to Housing (or Housing First) (Tsemberis, 2011) modeled program provides these individuals with housing and treats their mental and physical health problems and/or addiction issues, as well as providing comprehensive services.

This program is offered through the Boyle McCauley Health Centre (BMHC) which, for over 30 years, has provided medical and health services in Edmonton's inner city. The program employs a community-based multi-disciplinary Assertive Community Treatment (ACT) team to provide treatment and support to individuals participating in the program. Program participants are required to pay 30% of their income towards their rental costs and must have the ability to live (or learn to live) independently and be able to complete self-care. Program participants select market rental units located within Edmonton, in the area where they want to live. The focus of the program is to help participants to live safely and successfully in appropriate community environments by providing intensive wrap-around clinical treatment and housing supports.

Purpose

Pathways to Housing – Edmonton is a Housing First program located in Edmonton, Alberta. A four-phased research approach was proposed by BMHC to investigate the impact of the Pathways to Housing - Edmonton program. The current report is on Phase II of the project and uses data collected on participants who have been in the program for at least one year. The purpose of this report is to provide insight into the program and its impact on the lives of participants.

For Phase II, the following research questions are addressed in this report:

1. What are the characteristics of Pathways to Housing - Edmonton participants?
2. What is the participants' housing status at baseline?
3. To what extent has the housing program affected the health status and functioning among participants in their first year in the program?
4. What is the participants' health service utilization at baseline?

Method

Research Design

The study encompasses a longitudinal research design; the same group of participants are interviewed at different times. Data were collected at baseline (intake) and at 3-month intervals for service utilization, depending on when the participants entered the program. The measurement instruments covering broad domains, such as functioning and quality of life, were administered 6 months after the participants had been in the program, and repeated every 6 months for up to two years. This report draws upon up to one year of participants' data. The second year outcomes information is needed to track changes that took longer than a year to manifest and to measure the effect of time on domains such as housing, health and justice system utilization, community integration, and quality of life. Baseline data were used to provide a perspective of participants' health status and health system utilization during the year prior to their entry/admission into the housing program.

Current Report

Data Sources

The results presented in this report are based on participant self-reported and clinical program data. Interviews were conducted at baseline and then at either 3-month or 6-month intervals. The information collected at program intake was used as study baseline. This included information related to participants' demographic characteristics, mental and physical health, addiction diagnoses, and use of health services.

Data Analysis Strategy

The target population of the current research project is Pathways to Housing - Edmonton participants. At the time of this report 78 participants were enrolled in the program. Of those, 59 participants gave consent to be part of the study. Descriptive statistics, including means and frequency distributions, were used to examine the demographic characteristics of the housing program participants. However, due to missing data, the small sample size for the 3- or 6-month follow-ups reduced the capacity to statistically assess the effect of time on each domain. Therefore, only baseline data were reported, except for the Health of the Nation Outcome Scales (HoNOS) for which 6- and 12 month data were analyzed using paired t-tests to measure change in individual items and total score compared to baseline.

Ethics

Ethics approval was obtained from the University of Alberta's Health Research Ethics Board and Alberta Health Services. To ensure the confidentiality and anonymity of participants, all direct identifiers such as name, social insurance numbers, and personal health numbers were removed, and unique ID codes were created for each participant before providing data to the researchers. Participants' capacity to provide informed consent in the study was determined by the Pathways to Housing program staff, and those deemed capable were contacted by program staff to gain their consent to participate in the study. Permission to use program data, which is a part of the health record, was also acquired from program participants.

Results

Prepared in conjunction with BMHC who provided the data, this section of the report aims to answer the research questions for Phase II. Available data for 59 participants who have been in the program for up to a year have been used. Descriptive statistics are used to describe the participant population and to provide insight into the program and its impact on participants' lives.

Participant Profile

Demographic Characteristics (Baseline)

Table 1 presents demographic information of participants at baseline. At the time of intake the average age of the participants was 43.9 years (*SD* = 1.2).

Table 1. Demographic Characteristics (*N* = 59)		
	M (*SD*)	*n* (%)
Age (years) (range: 23 - 61)	43.9 (1.2)	
Gender (*n = 57)*		
Female		30 (52.6)
Male		27 (47.4)
Marital Status (*n = 55)*		
Single		33 (60.0)
Separated		7 (12.7)
Divorced		7 (12.7)
Widowed		3 (5.5)
Married		1 (1.8)
Common-law		2 (3.6)
Other		2 (3.6)

About half (52.6%) of the participants were female and 47.4% were male. The majority (90.9%) of the participants were single, separated, divorced, or widowed and 5.4% were married or common-law.

Table 2. Ethnicity and Language (*N* = 59)	
Ethnicity (*n = 46)*	*n* (%)
White/European	17 (37.0)
Aboriginal	9 (19.6)
Other	20 (23.4)
First Language (*n = 53)*	
English	51 (96.2)
Other	2 (3.8)

As noted in Table 2, over one third (37.0%) of the participants self-identified as White (Caucasian) or of European descent, followed by Aboriginal (19.6%) and other (e.g., Canadian, Black African) (23.4%). Furthermore, the majority indicated that English was their first language (96.2%).

Education and Employment (Baseline)

Table 3. Education and Employment	
Highest Educational Level (*n* = 55)	*n* (%)
Junior high and less	12 (21.8)
High school	28 (50.9)
Trade/vocational	8 (14.5)
College	4 (7.3)
Bachelor	2 (3.6)
Other	1 (1.8)
Employment Status (*n* = 56)	
Employed	4 (7.1)
Unemployed	52 (92.9)
Job Search Status (n = 21)	
Looking for paid work	1 (4.8)
Not looking for paid work	20 (95.2)

In terms of education, 72.7% of the participants' highest level of education was high school or a lower level, while 7.3% reported having attended college and 3.6% had a bachelor's degree. The majority (92.9%) of the participants were unemployed and the majority (95.2%) not looking for paid work (Table 3). Further analysis showed that over 60% had been unemployed for more than a year (ranging from 1 week to 29 years).

Table 4. Reason for Not Working (*n* = 35)	
	n (%)
Mental illness	14 (40.0)
Physical illness	6 (17.1)
Both a mental and physical illness	4 (11.4)
Other	11 (31.4)

As shown in Table 4, 40% of those participants who were not working reported mental illness as the main reason. Other reasons included episodic incarceration and lack of desirable jobs.

Income (Baseline)

Table 5. Income	
Current Income (*n* = 52)	*n* (%)
No income	4 (7.7)
SFI	18 (34.6)
AISH	20 (38.5)
Other	10 (19.2)

Table 5 presents income source at the time of intake. A third (38.5%) of the participants were receiving Assured Income for the Severely Handicapped (AISH) as their primary income source, followed by Supports for Independence (SFI) (34.6%).

Psychosocial Problems (Baseline)

Table 6. Psychosocial Problems	
Problem Area (*n = 52)*	*n* (%)
Primary support	21 (40.4)
Occupational	31 (59.6)
Economic	25 (48.1)
Social environment	14 (26.9)
Housing	40 (76.9)
Limited access to health care	4 (7.7)
Educational	12 (23.1)
Legal	9 (17.3)
Other	4 (7.7)

Table 6 shows that at intake, participants were experiencing a number of psychosocial difficulties. The most common problem was housing (76.9%), followed by occupational (59.6%). Multiple problems per participant were reported.

Housing

The participants' housing situation at the time of their entry into the program is presented below.

Housing History (Baseline)

At the time of intake, program participants had been homeless for an average of 73.9 months or about 6 years (SD = 79.4), with the length of homelessness ranging from 6 to 360 months (median = 36 months). The majority (91.2%) reported their homelessness to be 'chronic and absolute'. 'Chronic' is defined as homelessness for a year or more (including incarceration), or homeless for at least four episodes in the past three years; 'absolute' is defined as living on the street with no physical shelter of their own, including spending nights in emergency shelters. Nine percent of participants reported their homelessness as 'episodic and absolute', defined as being homeless for less than a year and fewer than four episodes of homelessness in the past three years, and living on the street with no physical shelter of their own, including nights in emergency shelters.

Discharge and Eviction History (Baseline)

Table 7. Discharge and Eviction History (*n* = 50)	
	n (%)
Mental health facility	16 (32.0)
Health facility	13 (26.0)
Residential addiction facility	6 (12.0)
Correctional facility	10 (20.0)
Evicted from residence	7 (14.0)

The participants in the Pathways to Housing Program had a history of a variety of living situations in the 12 months prior to the admission into the program. As shown in Table 7, about a third of the participants had previously spent time in either a mental health (32%) or health facility (26%). Some participants provided multiple responses.

Housing Status (Baseline)

Table 8. Current Housing	
Type of Residence (*n = 50)*	*n* (%)
Own home/rented	6 (12.0)
Facility living	5 (10.0)
Group home	1 (2.0)
Family/friends	14 (28.0)
Shelter	10 (20.0)
Other	14 (28.0)
Living Status (*n = 56)*	
Facing eviction	2 (3.6)
Substandard	4 (7.1)
Couch surfing	15 (26.8)
Hospitalized	12 (21.4)
Other	23 (41.1)

In terms of housing status at the time of intake, about a quarter (28%) of participants were living with family or friends, or in a shelter (20%) when accepted into the program (Table 8). A further 28% had other living arrangements such as group homes, living with children, and sleeping rough.

Health Status

Cognitive and mental health/substance use status of the participants was measured on four main areas, namely addiction and/or substance use, mental and physical health.

Cognitive Functioning

Cognitive ability was assessed to determine if participants were capable of living or learning to live in independent housing and what level of support and training would be required for skill development.

ACLS (Baseline)

The Allen Cognitive Levels Screen (ACLS) was used to assess cognitive function (Allen, Blue, & Earhart, 1995). The ACLS requires the person to perform three leather-stitching tasks of increasing difficulty and yields a single score to determine what type of environment or social support is required to facilitate the person's ability to function. The ACLS scores consist of a six-level cognitive scale ranging from severe disability (Level 1) to normal ability (Level 6). People functioning at Level 1 (automatic action) and Level 2 (postural actions) are focused primarily on internal self and need total care. People at Level 3 (manual actions) have unreliable episodic memory and generalized disorientation; their attention shifts from the internal self to the external environment but is restricted to tactile cues. For Level 4 (goal-directed actions) people rely on visual cues, though their motor actions are spontaneous and goal directed. At Level 5 (exploratory actions) people have the ability to attend to related cues and learn new tasks through inductive reasoning. Level 6 (planned actions) indicates the absence of disability.

The average ACLS score of 48 screened participants was 5.11 (SD = .39) with a score range of 1 – 6, thus indicating that an average participant had the ability to attend to related cues and learn new tasks through inductive reasoning.

Mental Health

Mental health status of the participants was based on current clinical diagnoses (as reported in Table 9) using the Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision (DSM-IV-TR) (American Psychiatric Association, 2000), as well as information gathered at intake based on their psychiatric medical history in the 12 months prior to entry into the program.

Mental Health Diagnosis – DSM-IV (Baseline)

Table 9 presents findings related to mental disorders among program participants. Mental disorders were classified into categories based on DSM-IV-TR, Axis I and II dimensions. Axis I was used to describe clinical symptoms that result in significant impairment. Axis II was used to assess personality disorders and intellectual disabilities. Axis I was further sub-divided into three categories, Axis 1a, 1b, and 1c, indicating primary, secondary and tertiary diagnoses, respectively. At baseline, mood disorder was the most common primary diagnosis (32.6%), followed by schizophrenia and other psychotic disorders (30.4%), and substance related disorders (26.1%).

Table 9. Mental Health Disorders				
DSM-IV Category	Axis Ia (*n* = 46)	Axis Ib (*n* = 36)	Axis Ic (*n* = 23)	Axis II (*n* = 20)
	n (%)	*n (%)*	*n (%)*	*n (%)*
Mental disorder due to general medical condition	1 (2.2)	--	--	--
Substance related disorder	12 (26.1)	27 (75.0)	15 (65.2)	--
Schizophrenia & other psychotic disorders	14 (30.4)	1 (2.8)	1 (4.3)	--
Mood disorders	15 (32.6)	3 (8.3)	2 (8.7)	--
Anxiety disorders	3 (6.5)	3 (8.3)	5 (21.7)	--
Adjustment disorders	1 (2.2)	--	--	--
Somatoform disorders	--	1 (2.8)	--	--
Eating disorders	--	1 (2.8)	--	--
Antisocial disorders	--	--	--	3 (15.0)
Borderline disorder	--	--	--	2 (10.0)
Cluster B traits	--	--	--	15 (75.0)

Psychiatric/Medical History (Baseline)

Table 10. Psychiatric/Medical History	
	n (%)
Psychiatric hospitalization (*n* = 42)	32 (76.2)
Suicide attempts (*n* = 36)	7 (19.4)
History of violence (*n* = 31)	4 (12.9)
History of aggression (*n* = 31)	4 (12.9)
History of substance use/abuse (*n* = 45)	38 (84.4)

As shown in Table 10, about three quarters of the participants (76.2%) had been hospitalized for a psychiatric disorder in the 12 months prior to their entry into the program, and 84.4% had a history of substance use/abuse. A smaller proportion of participants reported attempting suicide (19.4%), and a history of aggression (12.9%) or violence (12.9%).

Other Addictions (Baseline)

Table 11. Other Addictions	
Type of Addiction	Baseline
	n (%)
Food	2 (7.1)
Gambling	3 (10.7)
Internet	1 (3.7)
Sexual	2 (7.4)
Shopping	2 (7.4)
Other	19 (73.1)

Note: *n* = 28 for food, and gambling; *n* = 27 for internet, sexual, and shopping; *n* = 26 for other

About half of the participants reported having addiction issues such as food and gambling addiction (Table 11) at baseline. The highest percentage of addictions was reported under 'other' category (73.1%); this category included nicotine and work.

Physical Health

Physical health of the participants was measured by the Comorbid Conditions scale.

Comorbid Conditions

The Comorbid Conditions checklist was constructed by At Home/Chez Soi researchers (n.d). This is a 33-item list asking participants to respond either 'yes' or 'no' if they experience any of the listed health conditions (e.g., asthma, hepatitis C, foot problems, cancer, brain injury). All the items were summed and a higher total represented a higher number of comorbid conditions, with scores ranging between 0 and 13. Of the 16 participants who responded to this scale, the mean number of health conditions/illnesses was 5.38 (SD = 3.6).

Health of the Nation Outcomes Scales (HoNOS) (Baseline, 6-month and 12-month)

The HoNOS is a clinician-rated, internationally established health outcome measure, used in the assessment of individuals with addictions and mental illnesses (Wing, Curtis, & Beevor, 1996). It is a 12-item scale; each item specifies a problem area, indicated by various degrees of severity, and rated on a five-point scale ranging from "no problem" (0) to a "severe problem" (4).

HoNOS Item Rating at Baseline and 12-month follow-up

Figures 1 and 2 compare the percentage of cases with a rating of 2 ('mild') on each HoNOS item to the percentage of cases with a rating of 3 ('moderate') or 4 ('severe') at baseline and 12-month follow-up, respectively. The stacked bars for each item show the total percentage considered clinically significant. The remaining percentage of cases, which are not shown, had ratings of 0 ('no') or 1 ('minor') on each HoNOS item. Percentages were calculated excluding unknown or missing data. Figure 1 shows that at baseline, a large proportion of forms had a rating of 3 ('moderate') or 4 ('severe') on the following items: *living conditions* (82.7%), *social or supportive relationships* (67.2%), and *work and leisure activities* (58.6%). As seen in Figure 2, scores on all three items improved at the 12-month follow-up.

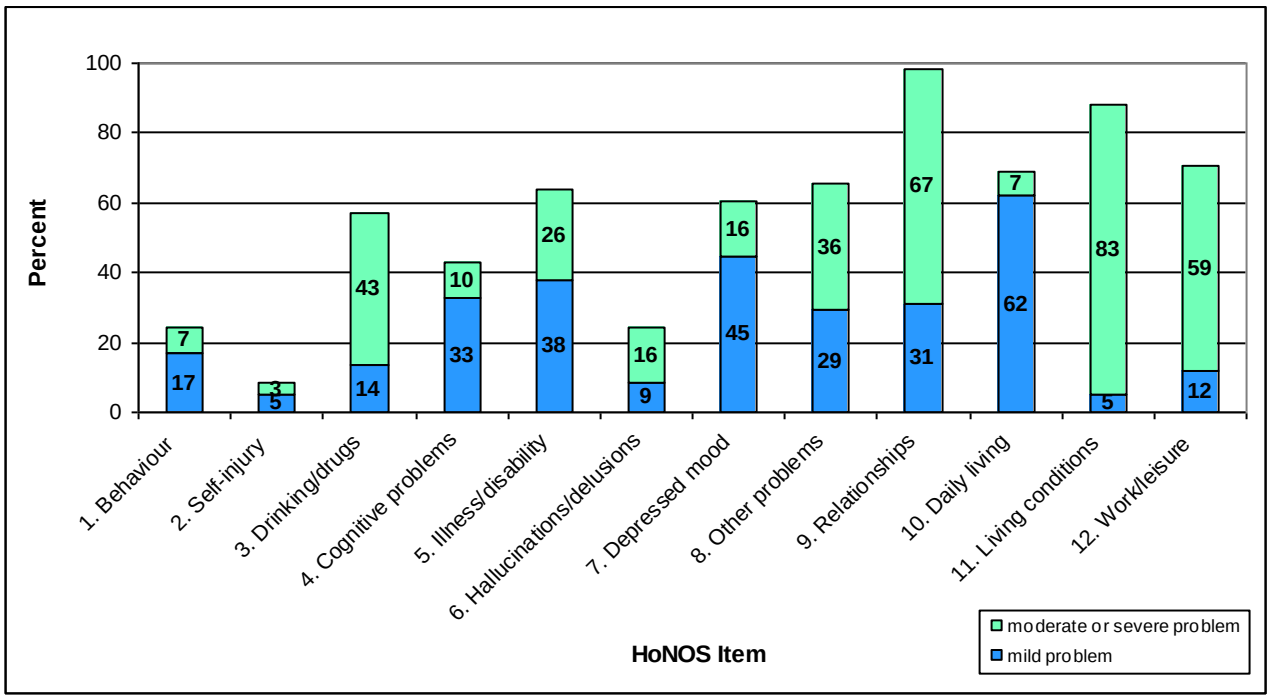

Figure 1: Percentage of mild and moderate/severe problems on each HoNOS item at baseline (*n* = 58)

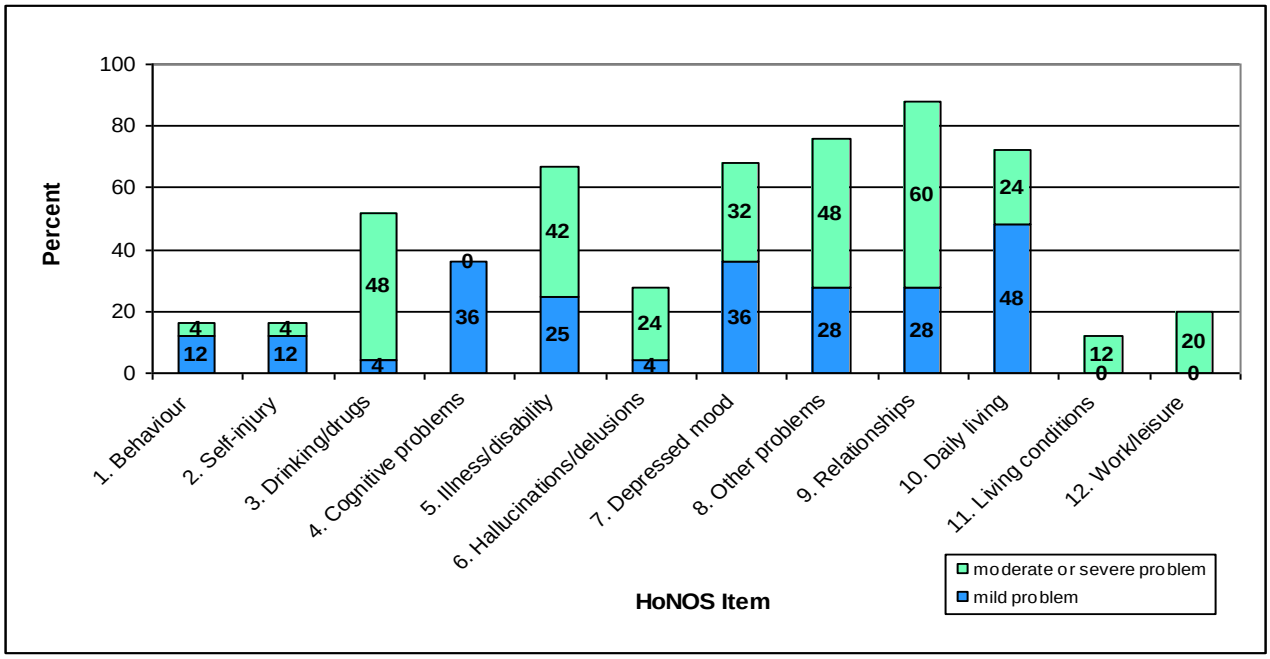

Figure 2: Percentage of mild and moderate/severe problems on each HoNOS item at 12-month follow-up

Notes: *n* = 25 for items 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12; *n* = 24 for item 5

Change Over Time: HoNOS at Baseline and 6- and 12-month follow-up

A total of 46 valid cases (those with no unknown or missing data), consisting of paired baseline and 6-month follow-up data, were compared. The number of valid pairs from baseline to 12-month follow-up was 23. In order to look at changes in problem severity over time, paired t-tests were used to analyze cases at baseline and 12-month follow-up for both individual items and total scores.

The change over time from baseline to 6 months and from baseline to 12 months is presented in Tables 12 and 13, respectively. Mean individual item scores can be rated between 0-4. As demonstrated in Tables 12 and 13, Living conditions and Work and leisure activities, as well as the total HoNOS score, improved significantly from baseline to both follow-ups; in addition, Social or supportive relationships improved at the 12-month follow-up. Living conditions and Work and leisure activities also had large effect sizes at both assessment times. The total HoNOS score had a moderate effect size (0.76) from baseline to 6 months, and a large effect size (0.82) from baseline to 12 months.

Table 12. Comparison of HoNOS mean individual item scores and total scores between baseline and 6-month follow-up (n = 46)

HoNOS items and total score	Baseline mean	6-month mean	Mean difference	% Change over time	Effect size[1]
1. Behaviour	0.85	0.87	0.02	2.4	0.02
2. Self-injury	0.39	0.48	0.09	23.1	0.10
3. Drinking/drugs	1.93	1.70	-0.23	11.9	0.14
4. Cognitive problems	1.33	1.20	-0.13	9.8	0.15
5. Illness/disability	1.63	1.67	0.04	2.5	0.03
6. Hallucinations/delusions	0.87	1.09	0.22	25.3	0.28
7. Depressed mood	1.57	1.93	0.36*	22.9	0.32
8. Other problems	1.83	2.11	0.28	15.3	0.20
9. Relationships	2.78	2.48	-0.30	10.8	0.26
10. Daily living	1.59	1.70	0.11	6.9	0.09
11. Living conditions	3.41	0.54	-2.87**	84.2	1.99
12. Work/leisure	2.80	0.80	-2.00**	71.4	1.06
HoNOS total score	20.98 (*SD*=5.14)	16.57 (*SD*=5.49)	-4.41**	21.0	0.76

Notes: * $p < .05$; ** $p < .001$; *SD* = Standard Deviation; [1] 'Effect size' (d) is a standardized difference between two means. Cohen's d effects are: small ≤ 0.20, medium ≥ 0.21 and ≤ 0.79 and large ≥ 0.80.

Table 13. Comparisons of HoNOS mean individual item scores and total scores between baseline and 12-month follow-up (*n* = 23)					
HoNOS items and total score	**Baseline mean**	**12-month mean**	**Mean difference**	**% Change over time**	**Effect size[1]**
1. Behaviour	0.70	0.61	-0.09	12.9	0.07
2. Self-injury	0.65	0.43	-0.22	33.8	0.21
3. Drinking/drugs	1.91	1.87	-0.04	2.1	0.04
4. Cognitive problems	1.48	1.00	-0.48*	32.4	0.48
5. Illness/disability	1.83	1.78	-0.05	2.7	0.04
6. Hallucinations/delusions	0.74	1.04	0.30*	40.5	0.54
7. Depressed mood	1.78	1.87	0.09	5.1	0.08
8. Other problems	2.00	2.09	0.09	4.5	0.06
9. Relationships	2.96	2.48	-0.48*	16.2	0.46
10. Daily living	1.78	1.70	-0.08	4.5	0.07
11. Living conditions	3.35	0.65	-2.70**	80.6	1.48
12. Work/leisure	3.22	0.74	-2.48**	77.0	1.16
HoNOS total score	22.39 (*SD*=4.50)	16.26 (*SD*=6.05)	-6.13**	27.4	0.82

Notes: * $p < .05$; ** $p < .001$; *SD* = Standard Deviation; [1] 'Effect size' (*d*) is a standardized difference between two means. Cohen's *d* effects are: small ≤ 0.20, medium ≥ 0.21 and ≤ 0.79 and large ≥ 0.8.

Health Service Utilization

Data presented below shows participants' health service utilization at baseline. Upon admission into the program, 83.1% of participants reported using emergency department, 40.7% being hospitalized for medical and 33.9% for psychiatric reasons. Further analysis revealed that approximately 66% or 39 participants had been hospitalized in the past year at least once, while 8.5% were hospitalized for both medical and psychiatric reasons (Table 14).

Health System Utilization (Baseline)

Table 14. Health System Utilization (*n* = 59)	
	n (%)
Hospitalization	39 (66.1)
For medical reasons	24 (40.7)
For psychiatric reasons	20 (33.9)
For both medical and psychiatric reasons	5 (8.5)
Emergency Department visited	49 (83.1)

Discussion and Conclusion

The current study provides insight into the Pathways to Housing - Edmonton program. Specifically, this report provides an overview of the characteristics of program participants, describes their housing status and health service utilization upon entry into the program, and examines the extent to which participation in the Pathways to Housing program affected their health status and functioning within the first year in the program.

An interesting finding in this study is that over half of the Pathways to Housing - Edmonton participants were female (53%). Previous research looking at Housing First programs have found a much lower percentage of females (ranging from 23% to 32% of the study population) (Gulcur, Stefancic, Shinn, Tsemberis, & Fischer, 2003; Greenwood, Schaefer-McDaniel, Winkel, & Tsemberis, 2005; Stefancic & Tsemberis, 2007).

In the 12 months prior to entry into Pathways to Housing, participants had spent time in mental health or health facilities, correctional facilities, and drug/alcohol residential treatment. Many were couch surfing with family/friends, or were in hospital or shelters. On average, they experienced chronic and absolute homelessness for six years (ranging from 6 months to 30 years, median of 3 years). These findings are in line with previous studies (Yanos, et. al., 2004) that have reported long histories of complex health service needs within the homeless population.

Program participants were rated on a number of functional dimensions using the HoNOS. At program entry the most severe problems were living conditions (83%), social or supportive relationships (67%), and work and leisure activities (59%). Paired t-test analyses were conducted to examine the effect of time on the health outcomes. The findings show that of all significant item scores, living conditions (1.48) and work and leisure activities (1.16) had the largest effect sizes. HoNOS total score indicated both a significant change over time (27.4%) and a large effect size of 0.82. However, hallucinations and delusions symptoms worsened in the course of 12 months, with a medium effect size of 0.54. This is an important finding that can help inform future service development and delivery.

Health service use, especially emergency department usage, among homeless individuals is higher than in the general population (Meschede, 2004). Program participants in the current study were no exception. Upon admission to the program, 90% reported utilization of a health service, one third indicated that they had been hospitalized, and 83% had visited an emergency department.

The main limitation in this study was the inconsistent data collection. This was partly due to the nature of the population, but also because of multiple pressures on the staff gathering the data. Due to the scarcity of data, except for HoNOS, it was not possible to analyze change over time. Further research on the effectiveness of Housing First is needed to determine the impact of housing stability on factors including health status, functioning, and long-term health service utilization.

Housing First programs show promise in effectively assisting people in finding homes of their own and enabling individuals to maintain those residences. This study found preliminary support for the improved functioning and increased housing stability of participants shortly after entry into the program. These findings will aid in the design of future service delivery to address both the immediate and long-term needs of this population.

References

Allen, C. K, Blue, T., & Earhart, C. (1995). Understanding cognitive performance modes. Ormond Beach FL: Allen Conferences, Inc.

American Psychiatric Association (2000). The Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision. Washington, DC: Author.

Edmonton Committee to End Homelessness (2009). A place to call home: Edmonton's 10 year plan to end homelessness. Retrieved June 9, 2012 from http://www.endedmontonhomelessness.com/docs/report_NoSpreads_ForWebDownload_jan26-2009.pdf

Gilmer, T. P., Stefancic, A., Ettner, S. L., Manning, W. G., & Tsemberis, S. (2010). Effect of full-service partnerships on homelessness, use and costs of mental health services, and quality of life among adults with serious mental illness. Archives of General Psychiatry, 67(6), 645-652.

Greenwood, R. M., Schaefer-McDaniel, N. J., Winkel, G., & Tsemberis,, S. J. (2005), Decreasing psychiatric symptoms by increasing choice in services for adults with histories of homelessness. American Journal of community Psychology, 36, 223-236.

Gulcur, L., Stefancic, A., Shinn, M., Tsemberis, S. & Fischer, S.N. (2003). Housing, hospitalization, and cost outcomes for homeless individuals with psychiatric disabilities participating in Continuum of Care and Housing First programmes. Journal of Community & Applied Social Psychology, 13(2), 171-186.

Intraspec.ca (2012). Homelessness in Canada. Retrieved from: http://intraspec.ca/homelessCanada.php#Ci

Kirsh, B., Gewurtz, R. & Bakewell, R.A. (2011). Critical characteristics of supported housing: Residents and service provider perspectives. Canadian Journal of Community Mental Health, 30(1), 15-30.

Laird, G. (2007) Shelter: Homelessness in a growth economy: Canada's 21st century paradox. Calgary: Sheldon Chumir Foundation for Ethics in Leadership.

Mental Health Commission of Canada (2012). At Home/Chez Soi Interim Report. Retrieved from http://www.mentalhealthcommission.ca/SiteCollectionDocuments/AtHome-ChezSoi/AtHome_InterimReport_ENG.pdf

Meschede, T. (2004). Bridges and barriers to housing for chronically homeless street dwellers: The effects of medical and substance abuse and services on housing attainment. Boston, MA: Centre for Social Policy, University of Massachusetts Boston.

Rog, D. J. (2004). The evidence on supported housing. Psychiatric Rehabilitation Journal, 27(4), 334-344.

Schiff, J. & Rook, J. (2012). Housing-first: Where is the evidence? Toronto: Homeless Hub.

Sorensen, M. (2010). Edmonton homeless counts: 1999 to 2010 trend analysis. Edmonton: Homeward Trust Edmonton.

Stefancic, A. & Tsemberis, S. (2007). Housing first for long-term shelter dwellers with psychiatric disabilities in a suburban county: a four year study of housing access and retention. Journal of Primary Prevention 28, 265-279.

Tsai, J., Bond, G. R., Salyers, M. P., Godfrey, J. L., & Davis, K. E. (2010). Housing preferences and choices among adults with mental illness and substance use disorders: A qualitative study. Community Mental Health Journal, 46(4), 381-388.

Tsemberis, S. & Eisenberg, R. F. (2000). Pathways to Housing: Supported housing for street-dwelling homeless individuals with psychiatric disabilities. Psychiatric Services, 51(4), 487-493.

Tsemberis, S., Gulcur, L., & Nakae, M. (2004). Housing first, consumer choice, and harm reduction for homeless individuals with a dual diagnosis. American Journal of Public Health, 94(4), 651-656.

Tsemberis, S. (2011). Retrieved March 22, 2011 from http://works.bepress.com/sam_tsemberis/

Wing, J.K., Curtis, R. H., & Beevor, A. S. (1996). HoNOS: Health of the Nation Outcome Scales: Report on research and development July 1993-December 1995. London: Royal College of Psychiatrists.

Yanos, P. T., Barrow, S. M. & Tsemberis, S. (2004). Community integration in the early phase of housing among homeless persons diagnosed with severe mental illness: successes and challenges. Community Mental Health Journal, 40(2), 133-150.