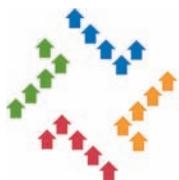


# Risks and Assets for Homelessness Prevention

## A Literature Review for The Calgary Homeless Foundation

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Calgary  
Homeless  
Foundation



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## Executive Summary

Homelessness has become an all-too pervasive and visible problem in Canada. It has spread from large urban centres to rural, northern and remote communities. While a number of programs have been developed to address the needs of the homeless in the hope of re-housing them, a large population of those at risk of homelessness receive little attention until their needs become dire. There are both societal and individual costs to be borne when this occurs.

Preventing homelessness has the potential to save countless individuals from the misery of life on the streets. However, with the major effort focusing on assisting those that become homeless, where does one start to prevent this significant social ill? The few authors who have written about prevention provide no clear answers, but raise the importance of prevention as a focus (Burt, Pearson & Montgomery, 2007, US; Moses, Kresky-Wolf, Bassuk & Broundstein, 2007, US; Wireman, 2007, US). One key question is how to define the population of those at risk of becoming homeless.

This literature review summarizes research, particularly published studies from the past decade or so, that focus on the risk factors, predictors and pathways in and out of homelessness. Unpublished research reports from reputable organization, especially Canadian ones, are also included. Our primary focus is on factors that differentiate those that have become absolutely homeless from those that are on the cusp of homelessness, either being relatively homeless, or living in hidden homelessness. As such, the analysis focuses particularly on studies that differentiate between these groups. Notably, in comparison to relatively vast numbers of articles that describe the characteristics of the homeless, relatively few differentiate factors between housed and non-housed individuals.

We also searched for articles on resilience and protective factors, again finding relatively few. A final focus of the literature review was studies on the pathways in and out of homelessness. Although the pathways into becoming homeless are clearly relevant, studies on the pathways out of homeless are, by definition, looking at individuals that are already homeless. While some identify characteristics of individuals that contribute to a short homeless experience, others focus on program attributes, a topic that, while interesting, is beyond the scope of this paper.

This analysis identifies the assets and resiliencies of those from vulnerable populations who do not become homeless, and highlights protective factors or strategies that could prevent a journey into homelessness. These assets and protective factors form the core of a screening tool that can be used to identify vulnerability to homelessness in at-risk populations, but those not yet experiencing homelessness, in the hope of providing early interventions. The document presents research first on structural factors that have been causally linked to homelessness and then on individual factors – protective and risk - that affect homeless individuals across the life-span.

## Draft Homelessness Asset and Risk Screening Tool (HART)

One of the major goals of this project was to develop a tool that would serve to assess individuals at risk of homelessness, but who had not yet been homeless. Several organizations have developed measures for assessing issues in individuals that are already homeless. These assessment tools tend to provide detailed information about a number of aspects of the lives of individuals who are homeless in the hope of providing the most appropriate interventions. A prime example is the Vulnerability Index™ or Assessment Tool (O’Connell) developed to guide housing placements and to identify homeless individuals at most risk of dying.

In contrast, risk assessment measures are often developed for broad populations, composed of individuals who are not seeking services and may not, in fact, identify as having the problem on which the scale focuses on. As such, they are typically short, from 20 to 30 items. The purpose is to identify factors that predict the development of problems in the future. If the individual has already developed or experienced the issue, a more in-depth assessment tool such as that previously mentioned is more appropriate. For example, a screening tool would rarely ask for specifics such as level of income. In contrast, in a screening tool, the issue is whether the income is sufficient to pay for adequate housing.

Further, however, because risk assessment measures are intended to predict the occurrence of a problem in future, they must establish predictive validity, the focus of the next phase of the project. The attached scale was based on the previously described in-depth literature review that examined studies that differentiated homeless from non-homeless individuals. It constitutes a compendium of issues that have been found to differentiate “at-risk but housed” from homeless groups. However, since the studies are from around the world, the relevance of each factor for Calgary/Alberta populations needs to be tested. In fact, the tool would need to be validated in each centre in which it is used to assess that the variables are valid for that location. These testings will provide construct validity for the tool for each locale.

This presentation of protective and risk factors that could be used to identify individuals at-risk for homelessness is unique. We found no other literature that had attempted to identify those with protective and risk factors of individuals who might become homeless in the future. It emerges from an in-depth literature review of research primarily from the past decade or so. As has been mentioned throughout, although there is a vast literature on homelessness, we found relatively few studies that compared populations at risk for homelessness to those who has lost their housing at some point.

Chapter 1: An Introduction to Homelessness

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## Chapter 1: An Introduction to Homelessness

Homelessness has become an all-too pervasive and visible problem in Canada. It has spread from large urban centres to rural, northern and remote communities. While a number of programs have been developed to address the needs of the homeless in the hope of re-housing them, a large population of those at risk of homelessness receive little attention until their needs become dire. There are both societal and individual costs to be borne when this occurs.

Preventing homelessness has the potential to save countless individuals from the misery of life on the streets. However, with the major effort focusing on assisting those that become homeless, where does one start to prevent this significant social ill? The few authors who have written about prevention provide no clear answers, but raise the importance of prevention as a focus (Burt, Pearson & Montgomery, 2007, US; Moses, Kresky-Wolf, Bassuk & Brounstein, 2007, US; Wireman, 2007, US). One key question is how to define the population of those at risk of becoming homeless.

The current discourse on homelessness prevention often centres on the costs of intervention versus the costs of preventing homelessness. That is, what is more cost effective – spending on shelters, addictions programs, prisons, psychiatric hospitals, and detox centres or programs for legal guidance, rent banks, subsidized housing, and housing programs?

Much of the literature analyzing the cost of homelessness is from the United States (Moses, Kresky-Wolff, Bassuk, & Brounstein, 2007, US; Quigley & Raphael, 2001, US; Rosenheck, Kaspro, Frisman, & Liu-Mares, 2003, US; United Way, 2003, US). For example, The United Way of Greater Richmond, Virginia (2003) compared a number of shelter and housing costs. The authors found that in the Greater Richmond area, emergency shelter averages about \$28 per person a night, a mother and two children in an emergency shelter would cost about \$2,530 per month. After the thirty days of emergency shelter, the family could move on to a transitional housing program that would cost approximately \$3,750 per month for a maximum of two years (totalling \$45,000 per year). Alternatively, the family could be housed for a full year in a two-bedroom apartment in Richmond for \$8,316 without additional supports, or \$10,983 with intensive home-based case management support services.

However, the American social policy context differs vastly from Canada's. In Canada, studies measuring the costs of homelessness have produced little meaningful data that could be used to affect change. The Ibi Group (2003, CAN) undertook an analysis of the societal costs of homelessness in Calgary, but was stymied by organizational barriers and a lack of cooperation among potential participants, limiting the response rate. The study estimated the annual spending on homelessness initiatives in Calgary in 2002 to be \$72.4 million. The authors intended to “develop a foundation of cost information to support ongoing analysis” but they found that many agencies did not have the capacity or desire to provide financial information that would allow for “ongoing analysis” (p. i).

Pomeroy (2005, CAN) examined the costs of homelessness in four Canadian cities to produce average costs of homelessness for Canada. He reported the annual costs for: institutional responses to homelessness (prison/detention centres and psychiatric hospitals), ranged from \$66,000 to \$120,000; emergency shelters (a cross-section of men's, women's, youth, family, and victims of violence), ranged from \$13,000 to \$42,000; supportive and transitional housing ranged from \$13,000 to \$18,000; and affordable housing without supports (singles and family), ranged from \$5,000 to \$8,000.

In summary, the costs of homelessness, while not yet well-established, certainly suggest the importance of prevention in interrupting the cycle of homelessness and the despair and the loss of agency that often develop in individuals who experience the loss of their homes.

This literature review summarizes research, particularly published studies from the past decade or so, that focus on the risk factors, predictors and pathways in and out of homelessness. Unpublished research reports from reputable organization, especially Canadian ones, are also included.

Our primary focus is on factors that differentiate those that have become absolutely homeless from those that are on the cusp of homelessness, either being relatively homeless, or living in hidden homelessness. As such, the analysis focuses particularly on studies that differentiate between these groups. Notably, in comparison to relatively vast numbers of articles that describe the characteristics of the homeless, relatively few differentiate factors between housed and non-housed individuals (see Table 1).

Table 1: Categorization of Documents Reviewed

	Documents Reviewed	Research Reports	Comparison Studies	Pathway Studies	
				#	Longitudinal
Youth	38	25	4	8	1
Adults with Severe Mental Health and/or Substance Abuse	27	27	5	7	2
Women	78	76	4	2	0
Mothers/Families	45	25	8	3	1
Aboriginal Populations	25	7	1	0	0
Immigrants and Refugees	22	10	0	0	0
Older Adults	30	8	2	2	0

We also searched for articles on resilience and protective factors, again finding relatively few. A final focus of the literature review was studies on the pathways in and out of homelessness. Although the pathways into becoming homeless are clearly relevant, studies on the pathways out of homeless are, by definition, looking at individuals that are already homeless. While some identify characteristics of individuals that contribute to a short homeless experience, others focus on program attributes, a topic that, while interesting, is beyond the scope of this paper.

This analysis identifies the assets and resiliencies of those who do not become homeless, and highlights protective factors or strategies that could prevent a journey into homelessness. These assets and protective factors will form the core of a screening tool that can be used to identify vulnerability to homelessness in at-risk populations, but those not yet experiencing homelessness, in the hope of providing early interventions.

## Defining Homelessness

Homelessness can include a range of housing conditions, and is commonly defined by broad categories: absolute, hidden, and relative (Echenberg & Jensen, 2008, CAN; Hulchanski, Campsie, Chau, Hwang & Paradis, 2009, CAN; Valentine, 2001, UK). The most common face of homelessness is that of **absolute homelessness** where people are living on the streets or in emergency shelters. The **hidden homeless** are people without a place of their own. They may live in a car or be temporarily housed with friends or relatives (couch surfing). The **relative homeless** are those who are housed but who reside in inadequate (substandard, overcrowded or unsafe) housing and/or insecure housing whereby they may be at risk of losing their shelter (e.g., under threat of eviction or violence). According to these definitions, the traditional counts that focus on absolute homelessness in Canada represent only the 'tip of the iceberg' (Echenberg & Jensen, 2008, CAN). Affordability, suitability and adequacy factors need to be taken into consideration when using the hidden and relative definitions of homelessness (European Federation of National Associations Working with the Homeless, 2007, EU).

The **chronically homeless** is another important subgroup. Of the group of individuals that become absolutely homeless at any point in their lives, an estimated 70 to 80% move out of homelessness (Burt, 2001a, US). Commonly adopted definitions of what it means to be chronically homeless include being continually homeless for a year or more, or at least four episodes of homelessness in the past three years (Caton, Wilkins & Anderson, 2007, US).

While the review in this document covers homelessness worldwide, Canadian publications are especially relevant because of the uniqueness of Canada's social policies and structures. As Hulchanski and colleagues (2009, CAN) describe, Canada's social safety net, including such programs as universal health care, old age pensions and unemployment insurance provide a unique safety net, even though these have been plagued with cutbacks, including cuts to social housing.

Canadian studies are also important because of the unique nature of Canadian citizens. When U.S. studies describe individuals from different races, they are typically referring to people from African American and Latino roots, as well as illegal immigrants. In Canada, we are more likely to be referring to Canadians of Aboriginal origin, although immigrant and visible minority populations are becoming increasingly prominent among homeless groups.

Considerable research has identified risk factors associated with becoming homeless in Canada. Several authors argue that such sociocultural factors as extreme poverty, interpersonal violence or conflict and an inability to find affordable housing are the main determinants of homelessness (Burt, 2001a, US; Gamache, 2001, US; Ji, 2006, US; Perissini, 2007, CAN). Other researchers have focused on groups at particular risk. These groups - youth, individuals with mental health diagnoses and substance abuse problems, families, immigrants and refugees, abused women and older adults - have often been the focus of special housing programs or interventions. In terms of observed population groups, Aboriginal peoples are over represented in the homeless populations of our cities compared to their proportional representation in Canadian society (Walker, 2008, CAN; Wentz, 2000, CAN). In order to identify the factors that differentiate those who do not, versus those who do, become homeless, we have taken a group-at-risk approach to synthesizing the existing research.

The other aspect of our approach to identifying the risks that lead to vulnerability and the assets or protective factors that may mitigate some of this vulnerability is the recognition that pathways to homelessness are multi-determinant. It is the complexity involved in these pathways that make it difficult to predict with any certainty which factors are both necessary and sufficient to lead to homelessness and what interaction between the factors adds to the vulnerability of any given individual or family. The multiple determinants model integrates the social, behavioural, biological, environmental and structural forces and the interrelationships between these factors that determine the degree of vulnerability and the differing pathways by which factors might influence homelessness.

## The Faces of Canadian Homelessness

As Perissini (2009, CAN) aptly argues, the homeless population is not homogeneous, but is made up of individuals across the life-span with various issues and unique dilemmas, from youth through older adults, from individuals with a mental health and/or substance abuse issue to woman abused by intimate partners, to homeless families. Research on homelessness has tended to focus on these sub-groups rather than the whole.

How many Canadians are homeless? Despite the difficulties entailed in the various definitions of homelessness, Laird (2007, CAN) suggests that as many as 300,000 Canadians are homeless. There has not yet been a Canadian national study, so research is often regional or focused on particular cities. Pointing out the characteristics of those that avoid becoming homeless compared to those that live in absolute homelessness is thus difficult.

In the absence of a Canadian national study, Hwang (2001, CAN) compared the demographics of the absolute homeless in one-night stays in shelters for various populations in nine Canadian cities (an underestimate, obviously, since many homeless individuals do not use shelters). In that report, about 70% of the homeless are men, and individuals of Aboriginal origins are overrepresented by a factor of about 10. However, with more accurate survey methodology, those 2001 estimates have changed dramatically, with, for example, more women represented among the homeless. More immigrants have also been noted. Since there has been no Canada-wide study, we have created a chart that compares major cities in Canada using different aspects of the homeless counts. Putting these numbers into Table 2 provides a rough picture of absolute homelessness in municipalities across Canada.

**Table 2: Recent Absolute Homeless Counts in Canadian Cities**

Metropolitan Area	Population <sup>1</sup>	Estimated Homeless Population	Categories as % of Homeless Population						Homeless Family Counts
			Gender		Life Stage			Aboriginal Population	
			F	M	Youth	Adults	Older adults		
Toronto	5,113,149	5,052 <sup>2</sup>	26%	73%	8%	73%	18%	16%	-
Vancouver	2,116,581	2,660 <sup>3</sup>	27%	72%	15%	48%	37%	32%	43
Ottawa*	1,130,761	1,059 <sup>4</sup>	-	-	-	-	-	-	-
Edmonton	1,034,945	3,079 <sup>5</sup>	23%	69%	19%	63%	10%	38%	133
Calgary	1,079,310	4,060 <sup>6</sup>	22%	78%	14%	43%	31%	15%	197
Hamilton	692,911	419 <sup>7</sup>	23% <sup>8</sup>	55%	14%	53%	19%	-	63

\* = Population is for Ottawa/Gatineau, homeless population only includes Ottawa.

It is critical to note that these statistics are not directly comparable. Each city uses different methods of gathering data: some rely on counting beds and others count people. Vancouver, Edmonton, Calgary, Toronto, and Hamilton all use a “point-in-time” approach, whereby they count the number of people on a given night. Hamilton counts the number of shelter users, while Vancouver, Edmonton, Calgary, and Toronto count the number of people using shelters and those on the street. Edmonton counts during the day, Calgary and Toronto count overnight, and Vancouver counts for a 24-hour period. In addition, each city counts at a different time of year: Vancouver counts in March, Toronto in April, Calgary in May, Edmonton in October, and Hamilton in November.

Ottawa uses the Homeless Individuals and Families Information System (HIFIS) to track the number of shelter users over the course of a year. Current reports from the Alliance to End Homelessness show no detailed information about shelter users such as their ages, genders, or ethnicity? HIFIS use alone contributes relatively little to understanding the depth of street homelessness. These differences constitute a problem when comparing homeless populations. Further, as Wright and Devine (1993, US) clarified, homeless individuals may spend relatively little time in areas in which they could be counted, among other methodological difficulties.

A further distinction of interest that was not commonly identified in the homeless counts was the observed racial backgrounds. If individuals from Aboriginal or other visible minorities experience such structural problems as racism that exacerbates their access to housing, this is an important factor. Table 3 noted the observed racial backgrounds in the 2008 homeless counts in the Alberta cities of Calgary and Edmonton.

**Table 3: Homelessness in Calgary and Edmonton by Observed Racial Background**

	Caucasian		Aboriginal		Other/Unknown	
	No.	%	No.	%	No.	%
Calgary <sup>9</sup>	2,183	63%	527	15%	781	22%
Edmonton <sup>10</sup>	1,096	36%	1,156	38%	827	27%

<sup>1</sup> Statistics Canada (2007)

<sup>2</sup> Brown, P. (2006).

<sup>3</sup> Greater Vancouver Regional Steering Committee on Homelessness (2008).

<sup>4</sup> The Alliance to End Homelessness (2008).

<sup>5</sup> Homeward Trust Edmonton (2008).

<sup>6</sup> Stroick, S., Hubac, L., & Richter-Salomons, S. (2008).

<sup>7</sup> City of Hamilton (2007).

<sup>8</sup> Counted by type of shelter rather than gender by individual.

<sup>9</sup> Stroick, S., Hubac, L., & Richter-Salomons, S. (2008). The City of Calgary.

<sup>10</sup> Homeward Trust Edmonton. (2008).

## Who is Vulnerable to Homelessness?

While the majority of studies of homelessness focus on individuals who are living in absolute homelessness, the focus of this document is individuals at risk of homelessness. This population is more difficult to address and to estimate numbers since they are not visible in the same way as those living absolutely homeless. Who is at risk? Hulchanski (2000, CAN) identifies a number of ways that individuals can become at risk of homelessness, including:

- People at risk of losing their housing.
- Those facing the risk of losing their shelter either by eviction or lease expiry, with no other shelter available.
- Prisoners, health or mental health clients or others living in other institutions facing release with no place to go.
- The many Canadians who are inadequately housed. While this is not the same as absolute homelessness, most homeless individuals were previously inadequately housed.

Another measure of who is at risk of homelessness is the 'affordability factor'. The Canadian Mortgage and Housing Corporation (2002, CAN) suggests the general rule that monthly shelter costs (i.e., rent, electricity, heat, water, and municipal services) should be less than 30% (before-tax household income). This general rule is supplemented by another that suggests one's "entire monthly debt load shouldn't be more than 40% of your gross monthly income, including housing costs and other debts such as car loans and credit card payments" (p. 13). Hulchanski (2005, CAN) critiques this type of affordability ratio as "at best a crude indicator of the number of households facing 'shelter poverty' – those who do not have enough money left in over in the budget, after paying for housing, to pay for other essentials" (p. 7). However, Hulchanski suggests that the ratio could be used to describe household expenditures, analyze household trends, compare different household types, and to define eligibility criteria and subsidy levels in rent-geared-to-income housing.

The '30% rule' has become the accepted wisdom for affordability across the country, but there is little documentation with respect to whether this housing expenditure-to-income ratio is practically useful. When the '30% rule' is breached, it is intended to show a "core housing need" (Pomeroy, 2007, CAN). In urban centres, home owners rather than renters are less likely to exceed the 30% rule according to Statistics Canada's Labour and Household Survey's Analysis Division (Luffman, 2006, CAN).

If the ratio is changed to spending 50% of monthly income on housing, a different picture emerges, which is the case for 17% of Calgary households (Statistics Canada, 2008, CAN). Luffman (2006, CAN) found that households in this situation have little room for discretionary spending and earn significantly less than households that spend less than half their monthly income on housing costs. Pomeroy (2007, CAN) used the '50%' ratio to identify a severe housing affordability problem that places individuals and families at high risk of homelessness.

As Main (1998, AUS) clarifies, the many studies focusing on pathways into homelessness tend to focus on two major sets of causes - structural and individual. Structural causes are societal and policy-based issues such as poverty, the housing market, and trends in unemployment. Individual factors include mental illness and health difficulties including substance abuse and the lack of a work ethic. Main reviewed 40 years of research on these two sets of causes published prior to 1998, concluding that authors tended to choose one or the other. Main argues the importance of both. Importantly though, Hulchanski and colleagues (2009, CAN) cite U.S. activist and researcher Cushing Dolbeare who makes the critical statement that:

The one thing all homeless people have in common is a lack of housing. Whatever other problems they face, adequate, stable, affordable housing is a prerequisite to solving them. Homelessness may not be only a housing problem, but it is always a housing problem; housing is necessary, although sometimes not sufficient, to solve the problem of homelessness (Dolbeare, 1996, p. 34, US).

# Chapter 2: Risk Factors for Homelessness/Assets to Prevent Homelessness

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## Chapter 2: Risk Factors for Homelessness/Assets to Prevent Homelessness

What do we know of the homeless population that could assist us in identifying those at risk? The following sections present research first on structural factors that have been causally linked to homelessness and then on individual factors – protective and risk - that affect homeless individuals across the life-span. Pathway studies that follow the routes in and often out of homelessness are included, although the factors that allow exit from homelessness are not necessarily the same as those that prevent a person from falling into homelessness in the first place. In each section, many more references were collected. These were narrowed to primarily those that provided a comparison of absolute or relative homelessness or longitudinal studies that examined the pathways in and out of absolute homelessness. Studies that compare housed individuals with homeless individuals are of particular importance and are bolded throughout the document.

## Homelessness as Related to Structural Issues

According to most authors, homelessness is first and foremost a housing and poverty issue. These factors “create the conditions within which individual characteristics can lead to homelessness” (Burt, 2001b, p. 3, US). Understanding the structural causes of homelessness is essential for targeting appropriate responses to this phenomenon and raising the issue beyond individual vulnerabilities and individual-focused interventions.

Any examination of the individual risk factors that lead to homelessness must be premised on the fact that they are associated with societal causes. According to Laird (2007, CAN), poverty is the leading cause of homelessness in Canada with a lack of income or high housing costs most often cited as contributing factors. Government neglect of poverty, social housing and urban development in the last two decades has led to an unacceptable rise in those who face housing loss. Homelessness exacerbates a number of social ills in those disposed including lack of income and employment, malnutrition, ill health, deteriorating mental health, and a rise in addictions. These factors are both caused by, and cause, major determinants in the overall well-being of persons who become homeless.

Burt (2001b, US) outlines four structural factors that significantly impact the problem of homelessness in the United States that are relevant to the Canadian context today. First, more and more people are being priced out of the housing market, especially low income individuals and families. Second, employment opportunities for those with a high school or less education are dwindling and contribute to low income levels for many families and individuals. Also, the reduction of institutional supports to persons with severe mental illness leaves these persons with very limited housing options. Finally, many people are excluded from the paucity of affordable housing that exists due to racial, ethnic and/or class discrimination.

For the last 20 years, social housing in Canada has been the neglected step-child of federal initiatives and many provincial efforts (Hulchanski & Network, 2002, CAN). As documented by Hulchanski and the National Housing and Homelessness Network, in the mid 1980s, the federal government cut back on social housing programs. By 1993, the annual growth of federal sponsorship had been reduced to zero. Local responsibility for housing has also been influenced by provincial supports, or lack thereof, with most cities reluctant to supply anything other than acutely needed emergency shelters, primarily for homeless individuals.

Quigley and Raphael (2001, US) completed a comprehensive analysis of all systematic information available on homelessness in US urban areas – including census counts, shelter bed counts, records of transfer payments, and administrative agency estimates. These authors found that there was an increasing demand for low-quality, low-cost housing, and as the price increased for those units, incidences of homelessness also increased.

Systematic discrimination is a structural barrier faced by Aboriginal peoples in Canada that leaves many vulnerable to homelessness and the discrimination experienced within the shelters has been found to deter Aboriginal people from seeking services (Greater Toronto Area Aboriginal Housing Consultation, 2008, CAN; Menzies, 2006, CAN; Social Data Research Ltd, 2005, CAN). This was also the case for many immigrants and refugees. Zine (2009, CAN) reported that 68% of the Latin American and Muslim immigrants in Toronto who were part of the study reported some form of housing related discrimination such as rejection from landlords based on a preconceived bias.

We recognize that the key structural precipitants to homelessness are poverty and lack of affordable, available, supported housing (Hulchanski, 2003, CAN); however, those impacted have specific vulnerabilities and resiliencies that are further explored in this literature review. While the growing body of knowledge about “who” becomes homeless is invaluable, considerably less is known about the characteristics of groups at risk for becoming part of the absolute homeless, who manage to avoid or prevent this occurrence: the focus of this project.

The key question is what differentiates those who fall into homelessness from those who do not - and what resources or personal assets do they utilize? In addition, what factors/assets are central in individuals who manage to permanently exit homelessness? Once we have a clear understanding of these risks and assets, programs or strategies can be developed to assist individuals to prevent their becoming homeless. Such programs and strategies may already exist in Canada (Forchuk et al., 2008, CAN) or internationally (Pawson, Netto & Jones, 2006, UK).

## Individual Factors Related to Homelessness

The risk factors that are associated with increases in the chances of becoming homeless (absolute, hidden and relative) are numerous and have been studied by many researchers. Risk factors may include any characteristic of a person (e.g., age or ethnicity), a situation (e.g., the severity of a traumatic event), or a person's environment (e.g., family life or social network) that increases the likelihood that that person will eventually become homeless. Many of the research studies concerned with identifying individual risk factors or vulnerabilities do so without taking into account the more structural factors associated with homelessness described above.

Some risk factors have been identified as potential triggering events for specific groups examined in this literature review. Researchers discuss how 'triggers' or stressful life events can push individuals and families from being at risk of becoming homeless into homelessness. These triggering events may be sudden such as an accident, illness or loss of employment or they can be characterized as 'tipping points' when a breaking point is reached after a cumulative build up of largely economic problems (Pomeroy, 2007, CAN). This is especially prevalent in the literature on older adults and homelessness (Cohen, 1999, US; Crane et al., 2005, UK; Crane & Warnes, 2001, UK; McDonald, Dergal, & Cleghorn, 2007, CAN; Shinn et al., 2007, US).

Triggers such as widowhood, loss of housing, job loss, or relationship breakdown destabilize a vulnerable person and "when combined with poverty, addiction problems, mental illness, or poor [coping] skills, the person... lacks the resources, skills, or support to prevent...homelessness" (Crane et al., 2005, p. 154, UK). Stressful life events, when experienced by individuals in housed comparison groups, tend to have higher levels of social supports or economic resources to help cope with the event (Shinn et al., 2007, US). When the literature mentions triggering events, they will be noted along with the risk factors identified.

## Pathways Into and Out of Homelessness

Also of interest are longitudinal studies or ones that capture the pathways in and out of homelessness. These often involve retrospective accounts of an individual's experiences of homelessness. A number of the pathway studies reviewed provided insight into factors associated with entering and exiting homelessness. For example, across studies, Perissini (2009, CAN) cites three common characteristics of homelessness: extreme poverty, lack of affordable housing and interpersonal conflict or violence (Burt et al., 2001, US; Ji, 2006, US; Rosenheck et al., 1999, US; Tessler Rosenheck & Gamache, 2001, US).

This section presents the results of pathway studies on homeless populations not defined by a particular subset, such as youth or those with mental health or addiction problems. Pathway studies on such sub-groups are presented in the next sections that specifically focus on the sub-populations.

When Perissini (2009, CAN) interviewed 268 homeless persons in Ontario in 2000 to 2001, the data analysis identified seven common pathways into homelessness: poverty, interpersonal violence/conflict, health (mental and physical), housing loss or lack of affordability, addictions, deinstitutionalization, and the failure of the social safety net (lack of public or social support). Perissini found that longer duration of homelessness was associated with interpersonal conflict, health problems and social safety net failure. However, none of the pathways was significant and the reasons tended to be linked with specific groups, such as adults, gender and ethnic background, suggesting that other unidentified variables were more important.

Another Canadian study, this time with 300 homeless individuals in Toronto, compared those who were first time homeless with those who had previously experienced homelessness (**Goering, Tolomiczenko, Sheldon, Boydell, & Wasylenki, 2002, CAN**). Goering and colleagues reported that both groups were predominantly male, had histories of poverty, high rates of abuse in childhood, and high rates of mental illness and addictions within their family history. These factors do not appear to be sufficient to predict long term housing instability. However, those with recurrent episodes of homelessness were more likely to have had an out-of-home placement and to have become homeless for the first time before the age of 18 years old.

The final Canadian pathways study reviewed examined exiting factors in a small sample (N=17) of homeless men and women aged 11 to 36 years old from British Columbia (**MacKnee & Mervyn, 2002, CAN**). MacKnee and Mervyn reported that establishing supportive relationships with family and friends not associated with the street culture, increasing self esteem, accepting a measure of personal responsibility, and accomplishing lifestyle goals associated with mainstream rather than street life such as achieving educational success or maintaining a job were associated with transition off the streets.

Although not Canadian, **Muñoz and Vázquez (2004, ESP)** compared three groups in Madrid, Spain: general population, a group of homeless persons, and a group of users of specialized services for the homeless but who remained housed. They found that both the homeless and at risk groups were economically disadvantaged with more men in the homeless group. When social isolation was explored, homeless persons were more socially isolated, although the 'at risk' group were also significantly more isolated than the general population.

**Smith, et al. (2008, UK)** interviewed 87 single adults at several points in time. The sample was three-quarters men, and about 1/3 were born overseas and many of this group did not speak English well. Those able to move out of homelessness were more likely to be British nationals (who had greater rights to access services or public funding), were more likely to have led capable/resilient lives prior to becoming homeless and to have accessed homeless services.

**Longitudinal studies** follow a cohort of individuals over a period of time, typically several years. Such studies provide strong evidence for pathways in and out of homelessness. In a review of Canadian and American longitudinal studies from the past decade, **Klodawsky, Aubry, Nemiroff, Bonetta and Willis (2009, CAN)** concluded that the provision of economic resources such as access to subsidized housing “was the best predictor for: (1) avoiding homelessness, (2) becoming re-housed, and, most importantly, (3) retaining stable housing after an episode of homelessness” (p. 4). **Klodawsky and colleagues** went on to conduct a Canadian two-phase longitudinal study of homelessness that examined factors that were perceived as facilitating or impeding the 412 homeless people in Ottawa who participated in the study from exiting homelessness. Interviews were conducted in English, French, Somali and 16 other languages in order to facilitate the participation of cultural groups within the homeless population.

At the time of the seven month follow-up interview, 76% of the sample was considered stably housed (**Klodawsky et al., 2009, CAN**). This included 97% of the families, 90% of the female youth, 73% of the single women, 67% of the male youth, and only 47% of the single men. Access to subsidized housing for families may account for the higher rate of families in stable housing at the second interview; whereas, access to this type of housing is more limited for single youth and adults. Community supports and services were recognized as playing a significant role helping individuals and families find housing. For many women, the type of housing and the quality of the neighbourhood were factors that aided them in remaining housed. Dealing with health and mental health aspects of one’s life made living with others (family or roommates) possible and, therefore, facilitated stable housing.

For some individuals in Klodawsky and colleague’s study, having a physical and/or mental health issue qualified them for certain housing programs and, therefore, facilitated finding stable housing, while others found these a barrier affecting their search for and retention of appropriate housing. Factors that were challenges to stable housing included retaining friendships with youth still on the street, substance abuse problems, as well as unresolved family conflicts and experiences of abuse.

**Caton et al. (2005, US)** looked at risk factors for long-term homelessness in an American study that examined 377 first-time homeless adults and reconnected with them at 6 month intervals until 18 months later. Notably, 80% of these individuals returned to conventional housing for at least some period during these 18 months. The factors connected with less time being homeless included youth, current or previous employment, earned income, more family support, better coping styles and no history of substance abuse treatment or arrests. Of these variables, older age and arrest history were the strongest predictors of extended homelessness.

Of factors commonly considered as risk factors for homelessness, Caton and colleagues’ New York study found no association between number of days of homelessness and gender, race/ethnicity, childhood out-of-home placement or family dysfunction or lifetime diagnoses of any Axis I disorders or substance abuse disorders.

Examining the transitions in and out of homelessness over three year period, **Orwin, Scott and Arreira (2005, US)** found that the most consistent factor for achieving and sustaining residential stability among initially homeless participants was having dependents relying on him/her for food/shelter. The most consistent predictor of continued homelessness was the use of crack cocaine.

Studying the pathways out of homelessness is intriguing but largely beyond the scope of this review because these studies focus on individuals who have already been homeless, a different group from those who remain at-risk of homelessness. However, several key studies are cited. Allgood and Warren (2003, US) used a US national survey to identify the characteristics of those who remained homeless for longer. These included older men and those with behavioural histories including substance abuse and previous incarceration.

Many of the pathways out of homelessness studies focus on the efficacy of housing or supportive programs and subsidies. Dworsky and Piliavin (2000, US) raise the question of whether the type of housing to which an exit occurs (i.e., to a private residence, homes of family or friends or a social service residence) influences maintaining housing. They concluded that being employed increases the likelihood of exiting to one’s own residence and maintaining this. A mental health problem mitigates against stable housing. Zlotnick, Robertson and Lahiff’s 1999 California study followed 397 homeless adults to 15 months. Subsidized housing and entitlement income were the most important variables connected to an exit into stable housing. Homeless adults with substance abuse issues were more likely to reside in unstable housing. Importantly a mental health disorder did not predict the stability of housing.

Finally, Sosin, Piliavin and Westerfeld’s 1990 Chicago study followed over 450 homeless individuals over a 6 month period. The study found that, rather than prolonged homelessness, many individuals experienced “residential instability”. The study notes that individuals who had been homeless in the past were no more unlikely to find housing.

## Subgroups of Individuals who are Vulnerable to Becoming Homeless

This section largely moves away from pathway studies, instead looking at differences between populations at-risk for homelessness and individuals who become homeless for periods of time: the major focus for the current literature review. As mentioned previously, this section describes what we know of the links between homelessness and these groups.

In each section, the group is defined and any overlaps with other groups are highlighted. When known, an estimate of the proportion that the group makes up of the total homeless population is provided. The characteristics of the group that leaves them vulnerable to homelessness are presented. Of particular importance are studies that contrast individuals who have become homeless for at least some time to those that are at risk of becoming homeless or have experienced relative homelessness yet have not become absolutely homeless.

## Severe Mental Health Problems and/or Substance Abuse Issues

There is considerable overlap between populations of those diagnosed with a mental illness and the use of substances, which from one perspective can be seen as self-medication. The following sections first present research on those with mental health issues, secondly those with substance abuse issues and thirdly those with concurrent mental health and substance abuse.

**Mental Health Issues:** With the near-total transformation of long-term psychiatric care from an institutional setting to the community, the importance of stable, affordable, and adequate housing to meet the needs of individuals with severe mental health problems and illnesses has grown. Stigma, defining what constitutes a mental health issue, focusing on current or lifetime prevalence and under-reporting can be challenges in estimating the number of homeless who live with a mental health problem (**Vista Evaluation and Research Services, 2003c, CAN**). However one makes the calculations, those who are absolutely and relatively homeless and have a disabling mental illness constitute a sizable proportion of the total homeless population. Some have estimated that the true size of the population of those with a mental illness is well in excess of the estimated 67% of homeless persons (Goering & Dunn, 2005, CAN; Waegemakers Schiff, Schneider, & Schiff, 2007, CAN). Others, such as the 2002 Calgary Homeless Study, identified 20% of the relatively homeless and 28% of the absolutely homeless samples as having a mental illness (**Vista Evaluation and Research Services, 2003c, CAN**), while a US study comparing homeless and housed reported homeless rates between 9% and 20% for those with serious mental health diagnoses such as schizophrenia or bipolar disorder (**Folsom et al., 2005, US**).

The Canadian Institute for Health Information (2007a, CAN) reviewed information provided by the Canadian Mental Health Association offices across Canada on the prevalence of reported mental illness among the homeless and found a great deal of variability in reported rates. For example, in 2003, 59% of an Edmonton homeless sample reported mental health problems and 67% of a 1997 Toronto sample reported a lifetime diagnosis of mental illness, whereas in Vancouver, in 2005, it was reported that 23% of the homeless self-reported having as mental illness and 13% of a Hamilton, Ontario sample of homeless and at risk of homelessness reported a diagnosed mental illness in 2004. The variability in definitions and data collection methods makes comparisons between city statistics and various studies difficult.

References to housing person with a severe and persistent mental illness first appeared in the literature in the late 1970's (Segal & Aviram, 1978, US) as the debate over deinstitutionalization focused on whether this was feasible and if so, what types of shelter would be most appropriate (Kruzich, 1985, US; Levine & Parrish, 1986, US; Nelson & Smith Fowler, 1987, CAN; Randolph, Lindenberg, & Zito Menn, 1985, CAN). In 1988, Torrey published a widely read book on the housing crisis that deinstitutionalization had created for those no longer housed in public asylums. This work eventuated in a momentum to examine the growing homeless problem in reference to the mentally ill and deinstitutionalization (Carling, 1990, US).

In the United States, the Mickinney-Vento Homeless Assistance Act prompted policy enactors as well as the research community to frame most housing initiatives for persons with mental illness in the context of addressing homelessness and prevention of homelessness and thus the research literature began to focus on providing housing within a homeless framework (Goering, Durbin, Trainor, & Paduchak, 1990, CAN; Levine & Rog, 1990, US; Wright & Rubin, 1991, US).

Subsequent work has focused on the type of accommodation (Goldstein, Dziobek, Clark, & Bassuk, 1990, US; Harp, 1990, US), consumer preferences (Keck, 1990, US), and various program configurations and their outcomes (Hurlburt, Wood, & Hough, 1996, US; Schutt & Goldfinger, 1996, US; Srebnik, Livingston, Gordon, & King, 1995, US). A rich and large body of research has emerged in the last 15 years that details various housing options. The underlying theme is one of searching for acceptable, stable housing since many mental health consumers have unstable housing patterns (LenMac Consulting Pty Ltd (LMCP), 2005, US; Tsemberis, Moran, Shinn, Asmussen, & Shern, 2003, US).

In addition to having a psychiatric disorder, those from a minority such as visible/cultural groups, sexual orientation or having a disability are at increased risk for poverty and homelessness according to at least one Canadian study (Forchuk et al., 2007, CAN).

In examining the pathways into and out of homelessness for those with mental health issues, the interplay of individual and structural factors is evident (Canadian Institute for Health Information, 2007a, CAN). Much of the research has focused on housing programs as key. Housing is a central tenet of successful community tenure (Killaspy, 2007, US; Newman, 2001, US). Individuals with severe mental health problems frequently identify income and housing as the most important factors in achieving and maintaining their health (Trainor et al., 1993, CAN). Beyond shelter, housing is a stabilizing force in everyday life, which forms the foundation on which a person can establish a daily routine and begin to address other life issues. However, due to low income as a result of part-time work or unemployment, stigma, difficulties in daily functioning inherent to severe mental health problems and fluctuations in symptoms, those impacted cannot compete for market rental housing or gain entry to scarce supportive housing units.

An example of the individual-structural interaction and homelessness can be seen in Calgary, where it has been estimated that approximately 15% of the total available housing is required by those with a disabling mental illness (Waegemakers Schiff, et al., 2007, CAN). Consequently, many live in substandard accommodations that are physically inadequate, crowded, noisy, and located in undesirable neighbourhoods (i.e., relative homelessness) (Jones, Chesters, & Fletcher, 2003, AUS; Timko, 1996, US).

Lack of choice in house type and location frequently leads to housing instability and loss of residence (Mojtabai, 2005, US; Tsemberis, Moran, Shinn, Asmussen, & Shern, 2003, US). The challenge of providing stable housing options is reflected in the frequent housing loss in this population, which is directly attributable to lack of consumer preference (Padgett, Gulcur, & Tsemberis, 2006, US; Tsemberis, Gulcur & Nakae, 2004, US), housing affordability (Mojtabai, 2005, US), support services (Wong et al., 2006, US) and the presence of a representative payee who assures rent is paid in a timely fashion.

There has been considerable interest in studying housing retention for those with a history of serious mental illness. Initial work focused on those previously institutionalized (Brown, Ridgway, Anthony, & Rogers, 1991, US; Wasylenki, Goering, Lancee, Lemire, & Lindsey, 1993, CAN) but more recent efforts have concentrated on those previously homeless (Bolton, 2005, US; Mares, Kasprow & Rosenheck, 2004, US).

Factors consistently identified with successful housing include support programs (Bolton, 2005, US; Nelson, Aubry, & Lafrance, 2007, CAN; Rosenheck, Kasprow, Frisman, & Liu-Mares, 2003, US; Shern et al., 2005, US; Susser, 1997, US) and contact with family (Pickett-Schenk, Cook, Grey & Butler, 2007, US). One study that looked at housing loss among persons with mental illness found few differences between those with a mental illness and others. When there is a **mental illness**, obtaining and retaining housing stability can be more problematic. Several longitudinal studies report on the need for both subsidized housing and some form of case management in maintaining housing. In the **Shinn (1997, US)** study, single homeless individuals with serious mental illness also benefited from subsidized housing along with the provision of some social services. **Pickett-Schenk, Cook, Grey and Butler (2007, US)** explored family contact and housing stability in a sample of almost 4800 homeless persons with mental illness. At 12 months after the initial interview where participants had received intensive outreach and case management services, increased family contact and satisfaction with familial relationships were associated with more nights in stable housing.

*Comparisons of Housed and Homeless Individuals with Mental Health Problems:* **Mojtabai** (2005, US) reported on a large US study that examined the reasons reported for homelessness between those with and without a diagnosed mental illness and found no differences in causes cited: insufficient income, lack of employment and lack of suitable housing. Rather than examine what factors keep persons with mental illness from being housed, the majority of work on housing has been on what works and for whom (Nelson, 2007, CAN; Wong, Filoromo, & Tennille, 2007, US). Thus, risk factors become those embedded within housing choice and preference as well as affordability and the presence of support services acceptable to the individual (Tsemberis, Gulcur, & Nakae, 2004, US).

**Commander and Odell (2001, UK)** conducted one of the few studies comparing homeless and never homeless individuals diagnosed with psychotic disorders, finding that those that were homeless had more symptoms and were more behaviourally disturbed, were significantly more likely to have a criminal history and to have been identified by their key worker as having a concurrent substance abuse problem.

*Substance Abuse and Homelessness:* Another population of considerable research focus has been homeless individuals with substance abuse issues (Booth, Sullivan, Koegel & Burnam, (2002, US; **Vista Evaluation and Research Services, 2003b, CAN**). The Canadian Institute for Health Information (2007b, CAN) reported prevalence rates of addictions between 49% and 60% among the homeless in Vancouver, Upper Fraser Valley (B.C.) and Calgary, whereas the 2002 sample of relative and absolute homeless in Calgary reported 55% and 73% respectively for self reported addiction and in 73% of the clinical interviews with homeless individuals an addiction problem was identified (**Vista Evaluation and Research Services, 2003b, CAN**). Johnson and Fendrich (2007, US) interestingly raise the question of whether the drug use preceded or was a consequence of homelessness, an issue also identified in research with women who were sexually exploited through prostitution as youth (Tutty & Nixon, 2003, CAN).

*Comparisons of Housed and Homeless Individuals with Addiction Problems:* Several studies that compared risk factor for homelessness of those with substance abuse issues have been conducted. In a study of substance abuse treatment seekers that compared those that were literally, marginally housed or impoverished, **Eyrich-Garg, Cacciola, Carise, Lynch and McLellan (2008, US)** found that the literally homeless had the most severe alcohol, mental health and social support problems. Interestingly, the literally and marginally housed groups had similar incomes, educations/skill levels and the most severe cocaine dependencies. Kingree, Stephens, Braithwaite and Griffin (1999, US) found that low levels of support from friends was associated with homelessness two-month post treatment program.

*Concurrent Mental Illness and Substance Abuse:* Further, individuals with co-occurring mental health and substance abuse problems represent the majority of those experiencing long term homelessness, at least according to Lincoln, Plachta-Elliott and Espejo (2009, US). Lincoln and colleagues interviewed 16 residents of a shelter serving chronically homeless people at 3 and 9 months after entry into the shelter. Reasons for entering the shelter included: loss of job and inability to pay the rent, landlord took issue with them and asked them to leave, kicked out of house by parents or siblings, having a long history of homelessness since childhood, recently left hospital after a long stay or left a group home.

Based on data collected in Gardiner and Cairn's 2002 Calgary Homeless Study, concurrent mental health and substance abuse diagnoses were reported by all sectors except for the youth who were relatively homeless (**Vista Evaluation and Research Services, 2003c, CAN**). Participants from the mental health sector indicated that 80% of those who were absolutely homeless (AH) and 71% of those who were relatively homeless (RH) had self-reported a dual diagnosis of mental health and addictions. The following comparisons of rates of self-reported concurrent diagnoses was noted for the different sectors: seniors 29% (AH) vs. 25% (RH); Aboriginal 22% (AH) vs. 17% (RH); families 20% (AH) vs. 12% (RH); women affected by domestic violence 19% (AH) vs. 13% (RH); and youth 16% (AH) vs. 0% (RH). This data suggests that having both mental health and addictions problems is strongly associated with being at risk of homelessness and being homeless.

With respect to pathways out of homelessness, considerable research has focused on programs for those with co-occurring substance abuse and mental illness, and the lack of subsidized housing with supports are major risk factors for this population (Tsemberis et al., 2004, US). Conversely, the relative paucity of targeted housing interventions have been focused on programs that integrate treatment and housing in sobriety-oriented or harm reduction models social data (Social Data Research, 2005, CAN). At this juncture, the data suggests that, apart from structural issues, active substance abuse is a prime precipitant to housing loss among adult populations and that housing programs for this population need to concentrate on combined treatment and shelter approaches.

**Kertesz, Larson, Horton, Winter, Saitz and Samet (2005, US)** compared three 'housing status' groups: the chronically homeless, the transitionally homeless and the housed on a number of demographic, health and social variables. This two year longitudinal study found that chronic homelessness was associated with poor mental health and social distress that tended to deteriorate over the two year period of the study, but not necessarily a poor physical health-related quality of life. Difficulty exiting homelessness was associated with such vulnerabilities as serious psychiatric illness, addiction severity, medical problems, and poor social support.

Thompson, Pollio, Eyrich, Bradbury and North (2004, US) examined factors that influenced pathways out of homelessness for *mentally ill* individuals. The importance of relationships was evident in exiting homelessness amongst participants – positive associations with various friends, family, and service providers. It was assumed that these relationships gave participants a feeling of “human worth” as they transitioned from homelessness. Participants thought that substance-abuse programs and employment and training services were critical to achieving stable housing.

## Health Issues

Wright (1990, US) and Schanzer, Dominguez, Shrout & Caton (2006, US) highlight that poor physical health is both a cause and a consequence of homelessness. Individuals who are homeless have been reported with dramatically higher rates of physical disorders both when newly homeless and later (Schanzer et al., 2006, US). Further, homelessness interferes in individuals accessing health care services. This section begins with research on physical health conditions, and then presents the much larger literature on mental health and substance abuse, whether considered separately or concurrently.

Several physical health problems may combine with other risk factors to increase a person or family's vulnerability to becoming homeless. The health issues identified in the literature are not limited to the sub-groups that we have highlighted in this report. For the 'general' adult population, the onset of a condition or disease may contribute to homelessness. For example, Hwang and colleagues (2008, CAN) identify brain injury as a risk factor for homelessness, and Culhane et al. (2001, US) identify HIV as a risk factor for homelessness. In their 2006 US study, **Smith, DeWeaver and Reece** reported that homeless HIV-positive individuals were more likely to access social services such as housing, transportation and treatment for substance abuse than their housed counterparts. Risk factors identified in the literature related to families, women affected by domestic violence and older adults include:

Several studies have investigated the correlation between homelessness and health issues. O'Toole, Conde-Martel, Gibbon, Hanusa, Freyder, and Fine (2007) suggest that "the longer a person is homeless, the more likely he or she is to experience poor health and be placed at higher risk for premature death" (p.446). The findings of a Spanish study by **Muñoz, Crespo and Pérez-Santos (2005, ESP)**, that investigated the health differences between a homeless people and those at risk for homelessness (i.e., used services for the homeless such as soup kitchens and public baths but maintained a home) would support O'Toole and colleague's suggestion. The data were analyzed independently for men and women. Overall, Muñoz and colleagues found that the homeless, when compared to the at risk group, had worse health status. For the homeless men, this meant significantly more substance use, mental health problems, and risk habits/behaviours. Homeless women were similar but also had significantly more general health illnesses. Almost no differences were found in drug use (especially alcohol use) or in mental health—except for depression, which was significant. These results shed light on new data regarding homelessness and health issues.

## Individual Factors: Homelessness across the Life-Span

In May 2008, 4060 individuals were counted as experiencing homelessness in Calgary (City of Calgary, 2008a, CAN). They ranged in age from younger than 5 years old to more than 65 years old. Homelessness is clearly a phenomenon that affects all age groups. Taking this fact into consideration, this section of the review of factors leading to homelessness takes a life-span approach. Such an approach recognizes that there are common factors impacting the pathways into homelessness for youth, children and their families, adults, and older adults. It also recognizes the uniqueness of different age groups in terms of their vulnerability and precipitants to homelessness.

Another rationale for this approach is simply that the researchers that examine homelessness often focus on these life-span populations rather than looking more broadly at generally homeless individuals. Nevertheless, many of the factors that affect one age-group also affect others. For example, mental health and substance abuse issues are not specific to youth or adults. One must remain cognizant that common as well as unique factors can affect the process of becoming homeless. In addition, to the life-span approach, special populations within adulthood are addressed including women, Aboriginal and immigrant groups.

### 2008 Count in Calgary

5 or younger	134
6 - 12 years	96
13 - 17 years	154
18 - 24 years	327
25 - 44 years	1511
45 - 64 years	1014
65+ years	68
Families	197

Source: City of Calgary, 2008a

## Youth

In Calgary, homeless youth currently represent about 14% of the entire homeless population (Stroick, Hubac, & Richter-Salomons, 2008, CAN). On May 14, 2008, 481 youth aged 13 to 24 were staying on Calgary's streets, in emergency or transitional facilities, or at other non-shelter service agencies like hospital emergency departments – a dramatic increase over the past 10 years (City of Calgary, 1996; 2008a, CAN).

However, this figure does not represent all street-involved youth in Calgary, including those who sleep in public areas, those who rely on friends for short-term accommodation (couch surfing), or those who engage in the street lifestyle only during the day. Conservative estimates of youth actively using street youth services are higher, ranging from 600 to 725 (Clarke & Cooper, 2000, CAN). Cross-sectional counts of those on the streets, in shelters, or other service agencies do not capture the fluidity or diversity of the street-involved youth population and the majority of street-involved youth report moving to large Canadian cities and spending time in different cities (Gaetz, O'Grady, & Vaillancourt, 1999, CAN).

Street-involved youth are generally defined as those young people 25 years of age or younger who are homeless or under-housed; have been forced to leave their families of origin; who have run away from their homes without the consent of their parent or guardian; or who left foster or group care placements (Hammer, Finkelhor & Sedlak, 2002, US; Kufeldt & Nimmo, 1987, CAN). These youth may be described as the most street-entrenched; however, additional youth who are beginning to become involved in street life are less recognized or understood, have significant and specific risks, and would benefit from prevention and support services.

**Chamberlain and MacKenzie** (2006, AUS) identified three pathways into homelessness for youth and adults in Australia (N=1220). The first pathway is described as 'youth homeless career' that involves moving from tentative movement in and out of home leading to a permanent leaving home. At this point, the young person usually drops out of school and is unemployed. Over time, the young person transitions into chronic homelessness. A second pathway is described as the 'housing crisis career' that is associated with poverty – accumulated debt cannot be covered by income. The debt load carried by the individual or family puts them at risk of eviction and the loss of their housing. The final pathway described by Chamberlain and MacKenzie is the 'family breakdown career' that is most often the result of family violence. With increasing conflict at home, there is often a stage where the individual or mother and children move in and out of home on a temporary basis. When reconciliation repeatedly does not work, there is often a permanent break and movement into homelessness.

In examining youth, drug use and family conflict, **Mallett, Rosenthal and Keys** (2005, US) used 60 of their sample of 302 young people aged 12 to 20 years to identify three pathways into homelessness involving personal or familial drug use. First, the young person's drug/alcohol use led to family conflict which in turn led to the youth's homelessness. A second pathway identified family conflict as the precipitating factor leading to the young person's drug/alcohol use and that leading to homelessness. The third pathway hypothesized was that the family member(s) drug/alcohol became the source of family conflict, and that conflict led to homelessness for the young person.

Also exploring pathways into homelessness for youth was a study by **Martijn and Sharpe** (2006, US). They interviewed 35 youth aged 14 to 25 years about what led to homelessness. Martijn and Sharpe identified five common pathways into homelessness for the youth participating in the study: (1) drug and alcohol use plus trauma (i.e., abusive situations/experiences) with or without additional psychological problems; (2) trauma and psychological problems but with an absence of drug and alcohol use; (3) drug and alcohol use plus family problems; (4) family problems; and (5) trauma.

Pathways out of homelessness for youth have also been studied. Recently **Karabanow** (2008, CAN) published a study involving 128 youth and 50 service workers from six Canadian cities that examined exit strategies and challenges. The factors identified included: becoming disenchanted with street life or experiencing a traumatic event on the street; having the support of family or friends; being motivated to change; and accessing available services including those for finding a job and a place to live. Making the transition from the streets to stable housing was associated with increases in self esteem, leaving the downtown core, finding a sympathetic landlord and/or employer, cutting ties with most aspects of street culture, and building networks of friends and engaging in activities not associated with street life. These factors are similar to those identified by **Raleigh-DuRoff** in a small American qualitative study (2004, US).

*Comparisons of Housed and Homeless Youth:* Identifying factors that contribute to homelessness for youth requires considering their developmental level. Several comparison studies conducted to differentiate youth who are housed from those who are homeless focus on those in early adolescence, beginning at the age of 12 (**Bearsley-Smith, Bond, Littlefield, & Thomas, 2008, AUS; Tyler & Bersani, 2008, US; Robert, Pauze, & Fournier, 2005, CAN**), while other studies include youth in young adulthood (between 18 and 28 years) (**Shelton, Taylor, Bonner & van den Bree, 2009, UK**). When taken collectively, this set of studies on the factors that predict homelessness among youth yield a number of distinguishing factors that are related to individual, familial and community systems.

Individual factors associated with homelessness for youth include experiences of depression, antisocial behaviour, presence of a behavioural disorder, school suspensions, delinquent behaviours, being abused by a parent violence, placement in foster home or residential care, and being of Aboriginal ethnicity (**Bearsley-Smith et al., 2008, AUS; Robert et al., 2005, CAN; Shelton et al., 2009, UK; Tyler & Bersani, 2008, US**). In **Commander, Davis, McCabe and Stayner's 2002** UK study, homeless youth were more likely to be younger, male, had foster-care histories, worse education and less employment than housed youth in the same city. They had greater involvement with police, more illicit substance use and worse physical and mental health.

Family factors related to youth homelessness include coming from a single-parent home, presence of family conflict or violence, drug use by family members, and the longer time a family received social assistance (**Bearsley-Smith et al., 2008, AUS; Robert et al., 2005, CAN; Shelton et al., 2009, UK; Tyler & Bersani, 2008, US**). Community factors related to youth homelessness include experiencing neighbourhood victimization, which may involve incidents such as witnessing a violent act, or having a home broken into (**Tyler & Bersani, 2008, US**).

**Molino (2007, US)** conducted a large US study of homeless and housed youth help-seekers. The factors that differentiated the two groups included justice system involvement, difficulties with family or youth services, neglect, family conflict and school problems. Housed youth were much more likely to report mental health issues, suicidal ideation, emotional or physical abuse and health issues. Interestingly, alcohol or drug use did not distinguish between the groups of youth.

## Women

The research on homeless women presented in this section, falls into several themes. First is research on homeless women and their characteristics, sometimes in comparison to homeless men. Second, researchers in the area of domestic violence, which is primarily experienced by women, have recently conducted studies on this sub-group. Third, much of the research on homeless families focuses on mother and children exclusively. Many abused women also have children so these over-lap as well. Each of these groups is described in the following section.

That women were among the homeless was rarely referred to in the early research on homelessness with an estimated 3% in the 1950s and 60s (Rossi, 1990, cited in Lehmann, Kass, Drake, & Nichols, 2007, US). Women now make up a much greater proportion of the homeless population, around one-quarter in the recent Canadian city's homeless counts (see Table 1). Tessler, Rosenheck and Gamache (2001, US) found that the genders differ in self-reported reasons for homelessness, with men more likely reporting a job loss, being discharged from an institution, mental health problems and substance abuse difficulties. On the other hand, women were more likely to perceive their homelessness as due to eviction, interpersonal conflict (including partner abuse as highlighted in the next section) and someone no longer willing or able to provide assistance.

*Comparisons of Homeless and Housed Women:* A US study that looked at homeless and low-income women found almost half of their sample (N=436) had two or more concurrent diagnosis with substance abuse disorder co-occurring with another psychiatric disorder in 89% of the women (**Bassuk, Buckner, Perloff & Bassuk, 1998, US**). There was no significant difference between the low-income housed women and the homeless women in this study in the rate of concurrent mental illness and substance abuse, but both groups had higher lifetime and current rates of substance abuse, posttraumatic stress disorder and major depression than did all women in a national survey.

In their US comparison study of about 330 low income women, some of whom were homeless for the first time while others had never been homeless, **Lehmann et al. (2007, US)** reported that higher education levels, Caucasian background, separating from a partner in the previous year, stopping work in the past year (which preceded their housing instability), moving to a different country the year prior, eviction and being marginally housed in the past year more likely described the non-housed group. Protective factors included having a relative in the same state. While both groups of women were likely to have children, the homeless women were more likely to no longer live with theirs. Interestingly, the income levels, domestic violence rates, drug use levels and employment histories were similar across the two groups. In looking at risk factors in combination, 78% of the homeless women had two or more of the risk factors of young age, recent relocation, ceasing work in the past year and overcrowded or marginal housing. Notably, the time between losing employment to homelessness was several months, whereas eviction to homelessness happened much more quickly, suggesting the importance of intervening after employment loss.

The interaction of substance abuse and mental health problems was also reported by **Tucker, Wenzel, Straus, Ryan & Golinelli (2005, US)** in a study of impoverished women in the US living in both temporary shelters and housed. They found that experiencing depressive symptoms was associated with increased frequency of substance use and may be related to self medication to relieve negative emotional states. Both groups experienced high rates of violence but from different perpetrators: the housed women from intimate partners and the homeless women from a range of perpetrators.

Another US study (**Ingram, Corning & Schmidt, 1996, US**) comparing low-income housed and homeless women. Homeless women had experienced significantly more types of aggressive sexual behaviour, a more dysfunctional family environment as children and more psychological distress than the low-income women.

*Women Affected by Domestic Violence:* Both groups experienced high rates of violence but from different perpetrators: the housed women from intimate partners and the homeless women from a range of perpetrators. Abused women are increasingly being counted among the homeless (Sev'er, 2002, CAN; Tutty, Ogden, & Weaver-Dunlop, 2007, CAN). Violence from intimate partners is often a precipitating factor for women becoming homeless. On leaving a shelter for violence against women, women are often faced with inadequate housing and financial support that leaves them with a choice between homelessness and returning to the abusive partner. Homeless women are commonly former shelter residents who failed to find adequate and/or safe housing (Breton & Bunston, 1992, CAN; Charles, 1994, CAN). Several international studies, one in the United Kingdom (Malos & Hague, 1997, UK) and one in the U.S. (Baker, Cook, & Norris, 2003, US), raised similar concerns. In Baker and colleagues' study of 110 women, 25 to 50% reported housing problems and 38% were homeless.

Increasingly it is becoming clear that a lack of affordable and safe housing has a significant impact on abused women's decision-making. Can she find adequate resources to live separately from an abusive partner? Housing has been identified as a significant concern, one that not uncommonly can force a return to an abusive relationship (Tutty, 2006, CAN; Melbin, Sullivan & Cain, 2003, US; Thurston et al., 2006, CAN). For some abused women, leaving an abusive partner becomes a path to homelessness.

*Comparisons of Homeless and Housed Abused Women:* The comparison studies reiterate that women who were a victim of intimate partner violence (**Pavao, Alvarez, Baumrind, Induni, & Kimerling, 2007, US**) or who had experienced sexual or physical violence across the lifespan (**Browne & Bassuk, 1997, US**) were more likely to experience difficulty with being housed. In their large study of over 300 Californian women, Pavao et al. (2007, US) found that severe spousal abuse in the past year was four times more likely to lead to housing instability than no abuse. African American or Hispanic status was also significant in this US study. Across a group of 435 homeless and poor housed women as young as 15, **Browne and Bassuk (1997, US)** found high levels of childhood physical abuse by a caretaker (63%), childhood sexual abuse (42%) and severe partner abuse (61%).

Low income levels also distinguish housed from non-housed women (**Browne & Bassuk, 1997, US; Pavao et al., 2007, US**). Further income-related factors such as completion of highschool and employment were significantly different between the two groups (**Pavao et al., 2007, US**), similar to the finding of **Wagner and Perrine (1994, US)**, who looked at women in general.

Family variables such as separation or divorce, and the presence of children under the age of 18 were more likely to characterize those experiencing housing instability (Pavao et al., 2007, US). Social networks are important, as women possessing better relationship skills were less likely to experience homelessness.

*Mothers/Families:* The commonly accepted definition of a homeless family is one or two adults caring for one or more children under the age of 18 (McChesney, 1995, US; Bassuk et al., 2001, US). However, the literature obtained for this review dealt primarily with women and their children. Of the 8 comparison (comparing housed versus non-housed) studies reviewed for this sub-group, all focused on female headed families, with three studies also including two parent families (**Bassuk, et al., 1997, US; Fertig & Reingold, 2008, US; LaVesser, Smith & Bradford, 1997, US; Letiecq, Anderson & Koblinsky, 1998, US; Shinn et al., 1998, US; Toohey, Shinn & Weitzman, 2004, US; Weitzman, Knickman & Shinn, 1992, US; Wood, Valdez, Hayashi & Shen, 1990, US**).

While large-scale studies estimate that homeless women and children together comprise 36.5% to 40% of the homeless population in the United States (Shinn & Weitzman, 1996, US; Weinreb & Bassuk, 1990, US), similar large-scale data is not available in Canada. Furthermore, these studies do not include intact families with two adult caregivers or those with adolescent children (Waegemakers Schiff, 2007, CAN). Nevertheless, in a major study of New York City homeless families, Shinn, Baumohl and Hopper (2001, US) strongly suggest that out of 10 identified risk factors (i.e., race, being pregnant or having a child under that age of one, being married, domestic violence or childhood living disruption such as foster care or removal from family because of child abuse, and living situation such as doubling up, lack of housing subsidy, frequent moves and overcrowding) were the primary risk factors to homelessness. Mental illness, substance abuse and imprisonment were relatively rare.

Homeless families may live on the streets, in cars or abandoned buildings, in temporary or emergency shelters, shelters for those fleeing domestic violence, in temporary or transitional housing, staying with family or friends, or living in motels rooms on a monthly basis. Some of these families have one life-time episode of homelessness while others have multiple spells. Episodes of homelessness also vary in duration, from brief (lasting a few days to weeks) to extended (multiple months). In addition to the absolute homeless families, a large group of families is identified as “near homeless” because of their high risk of losing housing because of income and housing market conditions (Mehta, 2000, US).

In a 1999 US study, Stojanovic, Weitzman, Shinn, Labay and Williams examined 233 homeless families in New York City. Eighty percent of the families that moved into subsidized housing were in their own apartments at 5 year follow-up, whereas nearly half of the families that left the shelter without subsidized housing had returned to a shelter. Nevertheless, a majority of these obtained subsidized housing after that.

Stainbrook and Hornik compared mothers in domestic violence and homeless shelters in a 2006 US study, finding numerous similarities including rates of mental health and substance abuse issues, lifetime rates of trauma and victimization and poverty concerns including difficulty paying rent and bills.

*Comparisons of Housed and Homeless Mothers:* A number of studies were found that compared housed and homeless mothers. Wagner and Perrine's 1994 US study compared homeless women to those at-risk. Good interpersonal skills were the only variable that distinguished the two groups, with homeless women having poorer skills for building and maintaining relationships.

**Toohy, Shinn and Weitzman (2004, US)** studied shelter residents and housed poor women, finding that the only distinguishing factor was that more women on the verge of homelessness have relatives, but these were not seen as housing resources. This difference disappeared after the homeless women were re-housed.

In a US longitudinal study by **Weitzman, Knickman & Shinn, 1992**, with a later report from **Shinn and colleagues in 1998** in New York City, of shelter requesters that became homeless, being of African American background, recent pregnancy or childbirth, crowding and frequent moves, with access to subsidized housing support being a protective factor. In terms of exit from homelessness, access to subsidized housing was virtually the sole predictor of housing stability (Shinn et al., 1998, US).

**Wood, et al. (1990, US)** compared homeless and housed mother-led families in Los Angeles, finding similarities in ages (an average of 29 years), numbers of children (two to three) and incomes below the poverty level. Differences included that the homeless mother were more often abused by partners, had a history of child abuse, drug use or mental health problems and less social support. The mother's parents more often abused substances or the women had been in foster care as children.

**Fertig and Reingold (2008, US)** looked at homelessness in at-risk families in 20 American cities. The study compared homeless or women doubled up in accommodation with family or friends (but not paying rent) to women who were living at or below 50% of the federal poverty level. The homeless mothers were less likely to be immigrants or living with children's father when interviewed. They were more likely to have drug problem, poor or fair health, to have been abused by their partner and to have a depression diagnosis. In addition their relatives could support them less with housing, finances etc. Homelessness was not associated with ethnicity, race, subsidized housing or financial support.

**Bassuk et al. (1997, US)** studied 220 homeless mother compared to 216 low-income housed women in the US. Protective factors included being the primary tenant, cash assistance and subsidized housing, being a highschool graduate and having a larger social network. Predictors of homelessness included childhood foster care, the respondent's mother's drug use, minority status, recent move to the city, recent eviction, interpersonal conflict, frequent alcohol or heroin use and recent psychiatric hospitalization.

**LaVesser, Smith and Bradford (1997, US)** studied 202 homeless women comparing them to 114 women from the same neighbourhoods in St. Louis, US. The majority of the women were African American. When the significant variables were entered into a multivariate model, the homeless women had more children, had "ever" used crack or cocaine, were less likely to be legally married, to have a PTSD diagnosis, or to have completed highschool. Having average cognitive skills was protective.

**Leticq, Anderson and Koblinsky (1998, US)** compared 92 homeless mothers (in emergency shelters, transitional housing or doubled-up) and 115 low-income housed mothers in the US. The majority were of African-American background. The major focus was social support. The homeless women in emergency shelters and transitional houses had smaller social support networks and received less support than the housed mothers.

## Men

**Caton and colleagues (2000, US)** conducted a unique study on housing of adult men in New York City who had no history of hospitalization for a mental illness or psychotic disorders. Both the variables that differentiated and did not differentiate the housed from the non-housed are of interest both within and across sexes. Of the homeless sample of both sexes, more lacked a highschool diploma, reported less income from all sources including family members in than the housed group recruited from public assistance centres. There were no differences on psychiatric illnesses, with about half on the individuals having an Axis I disorder at some point in their lives. Substance abuse was widespread with half of all men having had a lifetime diagnosis of drug use disorder.

In comparisons between matched homeless and not-homeless men, the housed men had higher psychiatric symptom severity, significantly higher education (had a highschool diploma), were more likely to have lived in the New York area for more than three years and were more likely to be Muslim or another non-Christian religion. They were more likely to have received income in the past month and to have received income support from family. However neither alcohol or drug abuse/dependency differentiated homeless from non-homeless men.

## Older Adults

According to the May 2008 Calgary homelessness count, 2% of those enumerated were aged 65 years and over (Stroick et al., 2008, CAN), similar to other Canadian studies (e.g., Stergiopoulos & Herrmann, 2003, CAN). While this number is substantially smaller than other age groups, it should be noted that this number does not take into consideration younger seniors (50 and over) who are included in the 29% of homeless individuals aged 45-64 (Stroick et al., 2008, CAN). The commonly accepted definition of “senior” or older adult, in the homelessness literature, is an adult over age 50 (Cohen, 1999, US; Crane et al., 2005, UK; Crane & Warnes, 2001, UK; Crane, Fu, & Warnes, 2004, UK; Lipmann, Mirabelli, & Bartelink, 2004, UK; McDonald, Dergal, & Cleghorn, 2007, CAN; Rota-Bartelink & Lipmann, 2007, UK). If this definition of seniors is used, the number of homeless seniors in Calgary would be much higher than 2%.

Non-comparison studies highlight a variety of circumstances that place seniors at heightened risk of becoming homeless. Hecht and Coyle (2001, US) compared the elderly homeless (aged 55 and older) to younger homeless adults in a sample of over 3000 Californians over a three year period. The older groups were characterized by higher incomes (albeit small by most standards), access to social security, being homeless for longer, and having become homeless because of substance abuse or illness.

The death of a relative or carer, rent arrears, harassment, relationship breakdowns, and disruptive behaviour leading to eviction contribute to a set of “triggering events” for seniors (Cohen, 1999, US; Crane, et al., 2004, UK; Lipmann, et al., 2004, UK). The Senior Sector report prepared for the City of Calgary (Vista Evaluation and Research Services Inc, 2003, CAN) identified financial concerns, health, family problems and participating in society as the leading barriers to seniors obtaining housing.

According to the Calgary Poverty Fact Sheet (City of Calgary, 2003, CAN), 16.4% of all seniors 65 and over were living below the low-income cut-off in 2000. This increases to 46.2% if the person is ‘unattached’. Older adults have an increased risk of poverty due to fewer opportunities for finding and sustaining employment, living on a fixed income, the loss of the sole earner when a spouse dies, and no income support for young seniors (Cohen, 1999, US; McDonald et al., 2007, CAN; McDonald, Donahue, Janes, & Cleghorn, 2006, CAN). In addition, seniors have significantly higher levels of physical illness and declining health associated with aging, making it harder to find and secure alternative housing (Crane & Warnes, 2001, UK). With increasing age comes a higher risk for social isolation and lack of community participation, which may result in reduced opportunities for older adults to rely on the support of others to meet their housing needs (Lipmann et al., 2004, UK). These challenges are compounded by rising costs to maintain a home, escalating rental costs, and the lack of assisted housing for older adults, particularly for those aged 50 to 64 (McDonald et al., 2006, CAN).

Crane, Fu and Warnes (2004, UK) and Crane, Warnes and Fu (2006, UK) examined pathways into homelessness for **older adults** (aged 50 years and over) in the UK. These pathways were based on interviews with 131 homeless men (n=114) and women (n=17). The four most common pathways identified were:

- death of a relative or ‘carer’ where bereavement led to distress and inability to pay the rent leading to eviction,
- physical or mental health problems leading to mobility and functioning difficulties,
- rent arrears due to social service housing benefit problems and
- relationship breakdown due to mental health and substance abuse problems.

*Comparisons of Housed and Non-Housed Seniors:* Few comparison studies of housed and homeless older adults have been conducted. The two comparison studies are highlighted here. In New York, **Shinn and colleagues** (2007, US) conducted a comparison study between residents of a low-income housing project and service users at a drop-in centre for older adults. The authors found that the key predictors of homelessness were: male gender, younger age, substantially higher levels of education, shorter tenure in longest job held, loss of job or housing, and lack of children or other ties who would provide housing. The authors also found that over half of the homeless group were adults who had lived “conventional lives” typically involving long periods of employment and stable housing before becoming homeless at an average age of 59. Shinn and colleagues found that physical disabilities, building problems, and disruptive events in youth were not predictors of homelessness. The authors note a limitation in the study using a housing project as a comparison group because it prevents an analysis of subsidized housing as a protective factor against homelessness.

**Gardiner and Cairns’ (2002, CAN)** study of the absolute homeless and relative homeless population in Calgary produced numerous comparisons (see **Vista Evaluation and Research Services Inc., 2003d**, CAN for the senior’s sector report). The authors compared absolutely and relatively homeless seniors, and both seniors groups with the rest of the homeless population in Calgary. For the purposes of this literature review, the comparison between the absolutely and relatively homeless are more useful and the results are similar to other studies comparing housed and homeless individuals.

Gardiner and Cairns discuss numerous differences between the characteristics of the senior absolutely and relatively homeless populations, descriptions of their current circumstances rather than how the populations became homeless. Overall, high levels of family violence, health problems, and high rent caused seniors to become homeless, but it is unclear when this group first experienced homelessness, although they have a history of homelessness. Relatively homeless seniors experienced health problems, family violence, and difficulties with landlords as the main factors contributing to their housing problems. While the comparison between absolutely and relatively homeless seniors offer some useful information about the situation of older homeless adults in Calgary, because the definition of relatively homeless used in this study includes older adults living in their cars and other inadequate housing options, the comparison between housed and homeless may differ from other comparison studies.

**Shinn et al. (2007, US)** compared a number of factors between individuals living in a housing project and older adults recruited from a drop-in centre. The authors compared stressful life events, economic capital, social capital, and human capital. Stressful life events included widowhood, marital breakdown, stopping work, evictions, and the onset or increase in severity of mental illness. Economic capital referred to title to one’s home and housing quality. Social capital could be understood as the social networks and organizational relationships that one could draw on for assistance. The authors suggest that many older homeless adults led “conventional” lives (similar to the housed comparison group), but as time went by, their lives looked less conventional. Several variables predicted homelessness: shorter tenure in longest job held, loss of an apartment or job while conventionally housed and lacked children who would provide housing. Eviction, job loss, and being asked to leave the home also predicted homelessness.

## Aboriginal Populations

Aboriginal people are disproportionately represented among the urban homeless (Social Data Research Ltd, 2005, CAN; Wente, 2000, CAN), especially in Western Canada (The City of Calgary, 2008a, CAN; Webster, 2007, CAN<sup>11</sup>). Statistics Canada reported in 1991 that 3.8% of the Canadian population was Aboriginal (cited in Beavis, Klos, Carter & Douchant, 1997, CAN), whereas the proportion of Aboriginal people included within the homelessness counts are many higher (in Calgary and Edmonton in 2008, 15% and 38% of those in the homeless count were of Aboriginal Origin respectively). The reasons for this are multiple, and include low educational levels that spawn high unemployment, domestic violence, substance abuse, poor housing conditions on reserves and lack of affordable urban alternatives (Beavis, et al., 1997, CAN; Distasio, Sylvestre & Mulligan, 2005, CAN; Hanselman, 2001, CAN). This vulnerability is significantly impacted by the effects of cultural dislocation, family disruption and abuse due to individual residential school experiences, or those of caregivers who embody historical trauma (Distasio, Sylvestre & Mulligan, 2005, CAN; Menzies, 2006, CAN; Sider, 2005, CAN; Social Data Research Ltd, 2005, CAN).

Aboriginal people both on and off reserve, often lack access to treatment and health services due to poverty (Greater Toronto Area Aboriginal Housing Consultation, 2008, CAN; Sider, 2005, CAN; Social Research Data Ltd, 2005, CAN) and/or do not use community mental and physical health services in urban areas (Vista Evaluation and Research Services Inc., 2003a, CAN). Access to outreach with culturally-appropriate programs and services for Aboriginal people has also been noted in the literature (Greater Toronto Area Aboriginal Housing Consultation, 2008, CAN; Menzies, 2006, CAN; Social Data Research Ltd, 2005, CAN).

With Aboriginal people, being kicked out of the house (i.e., age not identified) was identified as a trigger, as well as the loss of housing due the relocation of a roommate (Social Data Research Ltd, 2005, CAN). For adults – many of whom had high school education - living in inadequate housing can impact their educational performance including their ability to enrol in or complete training courses (Greater Toronto Area Aboriginal Housing Consultation, 2008, CAN).

Webster (2007, CAN) discusses structural factors that Aboriginal persons face including a lack of culturally relevant and culturally sensitive support factors, and the problem of shelters operating from a western perspective as opposed to an Aboriginal based program with adequate services and access to culturally relevant activities. Menzies (2009, CAN) notes that attention needs to go beyond poverty and lack of housing when considering systemic issues related to Aboriginal peoples. An examination of the “cumulative impact of government policies” centred on assimilation, segregation and integration have resulted in multi-level trauma – individual, familial, communal and national (p. 1).

The specific history of Aboriginal peoples within North America has contributed to a connection between risk and structural factors pertaining to homelessness that are unique to this group. For example, the history of removal of Aboriginal children from their homes and placement in off-reserve child protective care contributes to limited information about their family and communities (Native Women’s Association of Canada, 2004, CAN; Social Data Research Ltd, 2005, CAN). This cultural disconnect creates a vulnerability to homelessness.

Distasio and colleagues (2005, CAN) using a multi-phased research methodology conducted one of the few studies on the ‘hidden homeless’ in Canada with 179 Aboriginal persons living in Winnipeg, Regina and Saskatoon. In an early phase of the investigation, four risk factors were identified: lack of affordable housing; lack of support networks; lack of information for new arrivals to urban centres; and systemic discrimination. These findings were used as a foundation for the interviews conducted with the 179 participants who were identified as the ‘hidden homeless’; that is, they lacked permanency in their shelter situation.

Distasio, et al. (2005, CAN) present a telling tale of overwhelming poverty (75% of the sample with an income of less than \$10,000 annually and 20% of those with no income), poor educational achievement (more than 50% not achieved high school diploma), serious housing dislocation (40% having moved 3 or more times in the previous 6 months), and rampant systemic discrimination. All of the Aboriginal participants suffered from poverty and lack of adequate shelter. Those migrating from rural communities to urban areas experienced a complex dynamic between their inability to find appropriate accommodation in the city and their connections to their home reserve. Social support from family and friends was the protective factor identified that maintained these ‘hidden homeless’ individuals with a roof over their head and prevented them from joining the ranks of the absolute homeless.

In their 1997 review of the literature on Aboriginal peoples and homelessness in Canada, Beavis and colleagues reflect that “there is very little literature that addresses the issue of Aboriginal homelessness in Canada per se” (p. iii). It would seem that this situation has not changed a great deal in the past decade or so: most of the literature on Aboriginal homelessness in Canada is embedded in the more general literature on the issue.

<sup>11</sup> The research used in this literature review is limited to urban Aboriginal persons. Housing needs in First Nations communities is often presented in the media and focuses on housing shortages that result in inadequate, overcrowded and insecure housing (Clatworthy, 2009).

*Comparison of Housed and Homeless Individuals of Aboriginal Origin:* The 2002 Calgary Homeless Study (**Gardiner & Cairns, 2002, CAN**) compared persons living in absolute homelessness to those in relative homelessness (inadequately housed) with a separate analysis for Aboriginal people (see **Vista Evaluation and Research Services Inc., 2003a, CAN**). The profile of those Aboriginal people who were relatively and those who were absolutely homeless was very similar, as well as the factors that impacted the ability of individuals and families to obtain and retain housing. Active addiction problems, physical illness and not receiving treatment, disabilities and caring for dependents (children, family members and/or friends) were the most prominent factors cited in the study. These factors overlapped with other sectors and were not unique to the Aboriginal population. Also noted in the study was that approximately 25% in the Aboriginal sample were under the age of 30 years. The factors associated with being 'at risk' of becoming absolutely homeless for this sector were (1) lack of social or personal support; (2) inability to afford rent; (3) problems with landlord or threat of eviction; (4) health problems; (5) family problems including abuse; (6) lack of resources to find a job; (7) lack of a job or having lost a job; and (8) fleeing violence.

## Immigrants and Refugees

Persons identified as immigrants and refugees are those who relocate to Canada from another country either through choice, or due to compounding circumstances in their home country. While immigrants and refugees are disproportionately represented within homeless population (Hiebert, D'Addario, & Sherrell, 2009, CAN), those who are newly arrived to a country are especially vulnerable (O'Sullivan, 2008, EU; Wolch & Li, 1997, US).

The inability to secure affordable and adequate housing is a main factor in the homeless situations experienced by immigrants (Anucha, 2006, CAN). In the case of refugees, adults are provided with low levels of social assistance which greatly limits their housing options in urban areas (Anucha, 2006, CAN) creating housing insecurity.

Pruegger and Tanasescu (2007, CAN) provide an overview of housing issues faced by immigrants and refugees in Calgary. They cite Statistics Canada's 2001 census data that reports more recent immigrant households in Calgary spent over 30% of their income on housing compared to other Canadians, 25% and 20% respectively. Of the more than 21,000 immigrant households, almost 39% of these households spent more than 50% of their income on housing; thus, leaving these more than 8000 households at serious risk of becoming homeless. Pruegger and Tanasescu also point out that 15% of recent immigrant households live in crowded conditions compared to 2% of other Canadian households – a state that falls within the relative homeless definition.

When examining housing affordability more closely, major components contributing to this for immigrants are concerns surrounding employment and income (Anucha, 2006, CAN). In the case of immigrants difficulties obtaining employment often pertain to previous credential and experience not being recognized (Hiebert, et al., 2009, CAN).

One Canadian study recently conducted by Paradis, Novac, Sarty and Hulchanski (2008, CAN) was a pathway study with 91 homeless women-led families in Toronto. The women were either of immigrant and refugees background or Canadian-born. Importantly the study found few general differences between these two groups. However, the distinction between immigrant women who were permanent residents and those without such status identified issues of importance. The latter group, including some illegally living in the country, were especially vulnerable. They experience, “deep poverty, housing instability, danger, and exploitation. They have limited access to social assistance, health care and other social benefits, and they often rely on under-the-table employment or informal networks to secure housing” (p. iii).

This is similar to the previously-mentioned British study conducted by **Smith, et al. (2008, UK)** that concluded that the almost 1/3 who were born overseas and many who did not speak English well were less able to move out of homelessness than the British nationals who had greater rights to access services or public funding.

While there has been an acknowledgement of the risks for experiencing homelessness that immigrants and refugees face, the amount of research based in Canada is sparse. Notably, for the purposes of this research, no comparison studies were found. Of further concern is that few immigrants and refugees appear to use the shelter systems and rely more on alternative avenues (i.e. staying with family/friends, temporary housing) to deal with an unstable housing situation (Hiebert, et al., 2009, CAN). Fiedler, Schuurman and Hyndman (2006, CAN) examined the locations of immigrants who compromise the hidden homeless in Canadian urban areas; however, a discussion of the contributing factors to their current circumstances was not included. Differences between Canadian society and that of other countries requires that further research with immigrants and refugees in Canada be conducted.

Chapter 3: Differentiating the Housed from Homeless in Vulnerable Populations

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## Chapter 3: Differentiating the Housed from Homeless in Vulnerable Populations

As is clear from the preceding chapter, there is no one reason, no one pathway to homelessness. Homelessness, whether absolute, hidden or relative is the result of multiple factors (structural/systemic and individual). Sometimes there is an identifiable event that, when combined with risk factors, provides the trigger for moving into extreme vulnerability to absolute homelessness.

While in the previous chapter we highlighted factors specific to vulnerable groups, in this chapter we look across the vulnerable groups to identify common factors that can identify individuals at risk of being homeless. A difficulty with the analysis is simply that many issues are correlated. For example, poor social skills may be a result of a mental illness. Thus, many factors overlap.

The following sections examine the structural, risk and protective factors reviewed from the homelessness literature<sup>12</sup>. Primarily, we relied on the analysis of research studies that differentiated those at risk of becoming homeless (i.e., still housed though many may be among the relative homeless because they are living in overcrowded or inadequate housing) from those who were experiencing absolute homelessness. Some of these events and factors are common across the life-span; other factors are specific to a certain subgroup among the homeless or those at risk of becoming homeless. Table 4 at the end of the chapter provides a summary of the issues. The citations for comparison studies or longitudinal studies that provide comparative data for housed as compared to homeless individuals are bolded, as are the key differentiating factors.

<sup>12</sup> Appendix A contains the final distillation of the literature used to identify the structural and individual factors mentioned in this review. The literature pertaining to each of the subgroups was examined then inventoried for protective and risk factors, triggering events, as well as any identification of structural or systemic factors.

## Structural Factors

Housing, economic, social support, and health structural factors have been identified in the literature as critical structural issues to ameliorate homelessness. These provide the context into which individual and family characteristics must be placed. The following were the specific structural factors investigated as impacting a vulnerability to becoming homeless outside the personal or family realm.

Housing-related systemic conditions reported in the literature include the **availability of subsidized and affordable housing**, whether we are looking at the general homeless population (**Klodawsky et al., 2009, CAN**), or women fleeing abusive relationship (**MacKnee & Mervyn, 2002, CAN; Wagner & Perrine, 1994, US**). The housing also needs to be of good quality according to **Klodawsky et al. (2009, CAN)**.

Non-comparison studies that noted the availability of subsidized housing included studies for women fleeing abusive relationship (Baker et al., 2003, US; Four Worlds Centre for Development, 2007, CAN; Metraux & Culhane, 1999, US; Thurston et al., 2006, CAN), youth (Daalen-Smith, & Lamont, 2006, CAN; Toronto Youth Cabinet, 2005, CAN); persons with mental health problems (Susser, Moore & Link, 1993, US); families with limited income (Goodman, 1991, US; McChesney, 1995, US; Shinn et al., 2001, US; Waegemakers Schiff, 2007, CAN), immigrants and refugees (Anucha, Smylie, Mitchell, & Omorodion, 2007, CAN; Anucha, 2006, CAN; O'Sullivan, 2008, EU; Wolch & Li, 1997, US), and older adults (Cohen, 1999, US; Rota-Bartelink & Lipmann, 2007, UK; Lipmann et al., 2004, UK; Crane et al., 2005, UK).

The primary economic structural factor that impacts the vulnerability of becoming homeless include **difficulty in obtaining and maintaining access to financial assistance programs (Folsom et al., 2005, US; Klodawsky, Aubry, Nemiroff, Bonetta & Willis (2009, CAN); MacKnee & Mervyn, 2002, CAN; Smith et al., 2008, UK)**. This was also true for seniors (**Allen, et al., 2004, US; Shinn et al., 1998, US**), and women and families (Bassuk et al., 1997, US) and for those with health risks (**Smith, et al., 2006, US**).

This factor was identified as important in non-comparison studies as well (Anucha et al., 2007, CAN; Anucha, 2006, CAN; Crane & Warnes, 2001, UK; Lipmann et al., 2004, UK; Crane, et al., 2004, UK; Crane et al, 2005, UK; Crane et al., 2006, UK; Four Worlds Centre for Development Learning, 2007, CAN; Greater Toronto Area Aboriginal Housing Consultation, 2008, CAN; Luchins et al., 1997, US; McChesney, 1995, US; Thurston et al., 2006, CAN; Toronto Youth Cabinet, 2005, CAN; Wood et al., 1990, US).

A **combination of low income levels and high rents** was identified in a number of comparison studies especially for women and families (**Browne & Bassuk, 1997, US; Caton et al., 2000, US; Fertig et al., 2008, US; Pavao et al., 2007, US**), seniors (**Gardiner & Cairns, 2002, CAN; Shinn et al., 2007, US**), men (**Caton et al., 2000, US**), those with mental illness (Mojtabai, 2005, US) and individuals of Aboriginal origin (**Gardiner & Cairns, 2002, CAN**).

The intersection of increasing market rents (Cohen, 1999, US; Crane & Warnes, 2001, UK; Lipmann et al., 2004, UK; Quigley & Raphael, 2001, US), lack of affordable/subsidized housing (Crane et al., 2005, UK; McDonald, Donahue, Janes, & Cleghorn, 2006, CAN), discrimination against older adults entering/re-entering the workforce (**Shinn et al., 2007, US; Gardiner & Cairns, 2002, CAN; McDonald et al., 2006, CAN**), and age-restricted government-funded social assistance programs (**Gardiner & Cairns, 2002, CAN; McDonald et al., 2006, CAN; Stergiopoulos & Hermann, 2003, CAN**) contribute to 'the gap' in funding and services for adults age 50-64.

A further difficulty is **access to appropriate programs and support for issues besides housing and finances. Molino's 2007 US study** of youth identified those who came in conflict with a youth or family service agency as more likely to become homeless. Finding services and supports for everyday living that were specifically oriented to youth (Daalen-Smith, & Lamont, 2006) and outreach or adequate and appropriate treatment programs for individuals with mental health or addictions difficulties (**Bassuk et al., 1997, US; Folsom et al., 2005, US; Susser, et al., 1993, US**) is a systemic problem related to remaining housed. In addition, programming targeted towards 'seniors' does not adequately meet the increased needs of older adults at risk of homelessness. Programming for the general homeless population seems intimidating to older adults homeless for the first time (**Shinn et al., 2007, US**), also noted by non-comparison studies (Cohen, 1999, US; Crane, Warnes, & Fu, 2004, UK; McDonald et al., 2003, CAN; Stergiopoulos & Hermann, 2003, CAN).

Finally, **racial background or minority status** was identified as a risk factor in several studies. Aboriginal background for youth was cited by four studies (**Bearsley-Smith et al., 2008, AUS; Shelton et al., 2009, UK; Tyler & Bersani, 2008, US; Robert et al., 2005, CAN**), minority status in two studies of women/families (**Bassuk et al., 1997, US; Pavao et al., 2007, US**). Interestingly though, one study with women (**Lehmann et al. 2007, US**) found that Caucasian women were more likely and Fertig & Reingold (2008, US) found that women of minority status were also less likely to become homeless.

## Protective Factors

Considerable research has been dedicated to examining the risk factors associated with becoming homeless. However, only a small number of studies look at resilience or protective factors that prevent or reduce the vulnerability for becoming homeless. This section examines the positive conditions, personal and social resources that promote resiliency, protect and buffer the individual, and reduce the potential for becoming homeless. Most are not comparison studies, so do not reach the level of support that we had hoped to find. However they are interesting, in and of themselves, since they represent such a dramatic shift from looking at deficits to strengths.

Notably, many protective factors are the opposite of risk factors. The positive discourse involved when presenting issues as strengths rather than deficits is seen as an important strategy in approaching those who are vulnerable.

The bulk of studies on resilience focus on homeless youth (Bender, Thompson, McManus, Lantry & Flynn, 2007, US; Kidd, & Davidson, 2007, CAN/US; Lindsey, Kurtz, Jarvis, & Nackerud, 2000, US; Munro & LaBoucane-Benson, 2007, CAN; Williams, Lindsey, Kurtz, & Jarvis, 2001, US).

Munro and LaBoucane-Benson (2007, CAN) conducted a study in Alberta with 18 young women between the ages of 18 to 26, asking about their experiences of being homeless as adolescents. A unique aspect of the study was assessing the young women using the Minnesota-based Search Institute's 40 Developmental Asset model, which takes a positive approach to youth development. Of these 40, survival assets and transition assets comprised sets of skills necessary to cope as a homeless young woman.

The other studies identified such **coping skills** as developing street smarts (Bender et al., 2007, US), informal supports (Bender et al., 2007, US) and internal capacities such as self-esteem and self care (Bender et al., 2007, US; Kidd & Davidson, 2007, CAN/US; Williams et al., 2001, US), readiness to accept help (Williams et al., 2001, US) and spirituality (Lindsey et al., 2001, US). Strong interpersonal skills were identified as critical in one comparison study on the generally homeless population (Klodawsky et al., 2009, CAN) and another on women (Wagner & Perrine, 1994, US). Developing social supports beyond one's street friends was identified as important by MacKnee and Mervyn (2002, CAN).

In a review of longitudinal studies of homelessness, Klodawsky and colleagues (2009, CAN) conclude that the best predictor for avoiding homelessness was the **provision of economic resources**. This is confirmed by the finding that the ability to access and utilize social services such as social assistance or housing subsidies is a protective factor (Bassuk et al., 1997, US; Shinn et al., 1998, US). Other non-comparison studies that identified this factor were found (Allen, et al., 2004, US; Baker, et al., 2003, US; Social Data Research Ltd, 2005, CAN; Thurston et al., 2006, CAN). This includes being familiar with community supports and local resources (Bassuk et al., 1997, US).

**Being the primary tenant or owning property (Bassuk et al., 1997, US; Shinn et al., 1998, US)** as well as attaining at least a **high school education** can be buffers to becoming homeless for the general homeless population (Bassuk et al., 1997, US; Wood et al., 1990, US), women/mothers (Bradford, 1997; Caton et al., 2000, US; LaVesser, Smith & Bradford, 1997, US), youth (Commander, et al., 2002, UK), and men (Caton et al., 2000, US). Interestingly the relationship did not hold for seniors (Shinn et al., 2007, US) or individuals with addictions (Eyrich-Garg et al., 2008, US). A highschool education was supported by non-comparison studies (Bradford et al., 1997; Martijn & Sharpe, 2005, US; Slesnick, Bartle-Haring, Dashora, Kang, Aukward, 2008, US; Susser, et al., 1993, US).

Protective factors specific to youth included family-related dynamics such as **parental monitoring and involvement** with youth (Bearsley et al., 2008; Tyler & Bersani, 2008, US). Non-comparison study factors included family communication and problem solving abilities as well as family agreement on values (Orthner, Jones-Sanpei & Williamson, 2004, US; Vandergriff-Avery, Anderson & Braun, 2004, US).

**Current or previous employment** was identified as a protective factor in the general homeless population (Caton et al., 2005, US). Having **family members or relatives that will assist** with housing needs was highlighted for women and families in two studies (Fertig & Reingold, 2008, US; Toohey et al., 2004, US).

Two final protective factors identified in the research literature were **average cognitive skills** for women/mothers (LaVesser et al., 1997, US) and **having children or dependents (Orwin et al., 2005, US)**.

## Individual Risk Factors

Of the many populations reviewed in the previous chapter, a number of common factors that leave individuals vulnerable to becoming homeless have been identified. These will be addressed under the broad topics of current interpersonal and family factors, mental health and substance abuse issues, childhood factors, health problems and housing transitions.

### Childhood Factors

A foster care, group homes or juvenile detention placement as a minor was associated with homelessness in a number of studies with respect to the general homeless population (**Goering et al., 2002, CAN**); youth (**Bearsley-Smith et al., 2008, AUS; Commander et al., 2002, UK; Robert et al., 2005, CAN; Tyler & Bersani, 2008, US**); women/mothers (**Bassuk et al., 1997, US; Wood et al., 1990, US**), and individuals with mental health issues (**Shelton et al., 2009, UK**).

A childhood history of abuse, which is often related to foster care placement was connected to homelessness in youth (**Bearsley-Smith et al., 2008, AUS; Molino, 2007, US; Robert et al., 2005, CAN; Shelton et al., 2009, UK; Tyler & Bersani, 2008, US**), neglect but not other forms of abuse (**Molino, 2007, US**), and women/mothers (**Browne & Bassuk, 1997, US; Wood et al., 1990, US**). Interestingly, the relationship was not confirmed for seniors (**Shinn et al., 2007, US**). Closely related to being the victim of abuse is witnessing parental or family violence or severe conflict. Several studies identified this as a factor for youth (**Bearsley-Smith et al., 2008, AUS; Robert, et al., 2005, CAN; Shelton, et al., 2009, UK; Tyler & Bersani, 2008, US**), women (**Ingram, et al., US**) and individuals of Aboriginal origin (**Gardiner & Cairns, 2002, CAN**).

Interpersonal factors specific to youth include coming from a **single-parent headed** household (**Bearsley-Smith, et al., 2008, AUS; Shelton, et al., 2009, UK; Tyler & Bersani, 2008, US; Robert, et al., 2005, CAN**), substance abuse by a family member (**Bearsley-Smith et al., 2008, AUS; Shelton, et al., 2009, UK; Tyler & Bersani, 2008, US; Robert, et al., 2005, CAN**) and the family being on **long-time social assistance** (**Bearsley-Smith et al., 2008, AUS; Robert et al., 2005, CAN; Shelton et al., 2009, UK; Tyler & Bersani, 2008, US**). Youth also reported several types of victimization that may impact their vulnerability to become homeless: School victimization in the forms of bullying and/or being threatened (**Tyler & Bersani, 2008, US**) and neighbourhood victimization that may take the form of their house being broken into or witnessing violence in the area (**Tyler & Bersani, 2008, US**).

**Parental incarceration** (**Shelton et al., 2009, UK**) and **family of origin involvement with social services, primarily child welfare** (**Shelton et al., 2009, UK**) were specific childhood issues for adults with severe mental health problems and substance abuse. A **younger age of first homelessness** was a significant predictor according to **Goering et al. (2002, CAN)** who found that being homeless before age 18 differentiated those who were more likely to continue being homeless.

## Current Interpersonal and Family Factors

Under the broad category of interpersonal factors are risk factors associated with the individual's situation such as lack or loss of social support or relationship breakdown, and factors related to the person's environment especially victimization, which plays a significant role in the risk for absolute or hidden homelessness.

Poor social support was perhaps the most commonly identified factor across studies and sub-populations. It was identified for the general homeless population (**MacKnee & Mervyn, 2002, CAN; Muñoz & Vázquez, 2004, ESP**); women/families (**Wood et al., 1998, US; Bassuk et al., 1997, US; Letiecq, Anderson & Koblinsky, 1998, US** (for women in emergency shelter and transitional housing but not those doubled up); addictions (Eyrich-Garg et al, 2008, US); mental illness (**Kertesz, et al., 2005, US**), seniors (**Shinn et al., 2007, US**, regarding family that could provide housing) and those of Aboriginal background (**Gardiner & Cairns, 2002, CAN**). Another key factor for seniors was disputes with landlords or neighbours (**Shinn et al., 2007, US**).

**Lack of employment**, being precariously employed or having a recent job loss or short tenure in the longest job held is an individual risk factor that intersects with the structural issue of the economy. It also likely represents interpersonal issues since working with others is a key factor in employability. Employment issues were identified as factors connected to homelessness in studies on women/families (**Lehmann et al., 2007, US; Pavao et al., 2007, US**), Youth (**Commander et al., 2002, UK**), seniors (**Shinn et al., 2007, US**) and individuals of Aboriginal origin (**Gardiner & Cairns, 2002, CAN**).

Being the **victim of intimate partner violence** (or violence from other family members) was identified as significant in a number of studies of women and mothers (**Bassuk et al., 1997, US; Browne & Bassuk, 1997, US; Fertig & Reingold, 2008, US; Pavao et al., 2007, US; Wood et al., 1990, US**), Aboriginal women (Gardiner & Cairns, 2002, CAN) and seniors (Gardiner & Cairns, 2002, CAN). For women whose partners abuse them, an incidence of violence may be the trigger for an episode of absolute homelessness (**Shinn et al., 2007, US**), also mentioned in non-comparison studies (Baker et al., 2007, US; Crane, et al., 2004, UK; Crane et al, 2005, UK; Crane, et al., 2006, UK; Four Worlds Centre For Development, 2007, CAN; Lipmann, Mirabelli, & Rota-Bartelink, 2004, UK; Native Women's Association of Canada, 2004, CAN; Rota-Bartelink, & Lipmann, 2007, UK). Interestingly though, several studies found similar rates of intimate partner abuse among homeless and poor, housed women (**Ingram et al., 1996, US; LaVesser, Smith & Bradford, 1997, US; Lehmann et al., 2007, US; Tucker et al., 2005, US**), raising the question of whether another associated variable account for the vulnerability to homelessness.

Another risk factor for women was being **separated, divorced or single** (**Fertig & Reingold, 2008, US; LaVesser, et al., 1997, US; Lehmann, et al., 2007, US; Pavao et al., 2007, US**). Also specific to women, was being a recent victim of sexual aggression (**Ingram et al., 1996, US; Tucker et al., 2005, US**), being a young mother (**Shinn et al., 1998, US; Weitzman et al., 1992, US**) and having a child in foster care (**Lehmann et al., 2007, US**).

Involvement with the criminal justice system was linked to homelessness for youth (**Molino, 2007, US**) and those with mental health issues (**Commander & Odell, 2001, UK**).

Several interpersonal issues were specific to youth. The family-related variables that have been associated with an increased risk of homelessness for youth include **family conflict** (e.g., fighting, arguing) (**Bearsley-Smith et al., 2008, AUS; Klodawsky et al., 2009, CAN; Molino, 2007, US; Robert et al., 2005, CAN**).

## Mental Health and Addictions

One of the clearest risk factor for homelessness, and one that crosses all age groups is the presence of a significant mental health diagnosis or problem (**Bassuk et al., 1997, US; Fertig & Reingold, 2008, US; Shelton et al., 2009, UK; Wagner & Perrine, 1994, US; Weitzman et al., 1992, US**) and/or addictions (**Shinn et al., 1998, US; Weitzman et al., 1992, US; Wood et al., 1990, US**). Non-comparison studies also identified this as a factor for homelessness with respect to mental health symptoms (Bradford et al., 1997, US; Crane & Warnes, 2001, UK; Cohen, 1999, US; Crane et al., 2004, UK; Crane et al., 2005, UK; Crane, et al., 2006, UK; Lipmann, Mirabelli, & Rota-Bartelink; 2004, UK; Letkemann, 2004, CAN; Martijn, & Sharpe, 2005, US; Social Data Research Ltd, 2005, CAN; Waegemakers Schiff, 2007, CAN; and/or severe addictions (Anucha et al., 2007, CAN; Bassuk et al., 1997, US; Bradford et al., 1997, US; Cohen, 1999, US; Crane & Warnes, 2001, UK; Crane et al. 2004, UK; Crane et al., 2005, UK; Crane et al., 2006, UK; Fertig & Reingold, 2008, US; Letkemann, 2004, CAN; Lipmann, Mirabelli, & Rota-Bartelink; 2004, UK; McChesney, 1995, US; Menzies, 2006, CAN; Waegemakers Schiff, 2007, CAN; Sider, 2005, CAN; Social Data Research Ltd, 2005, CAN).

Mental health and/or addiction issues are often combined with other risk factors or triggering events (e.g., interpersonal conflict involving parents, landlords and others) leading to episodes of hidden or absolute homelessness.

The most common risk factor among those with mental health issues was the **severity of the symptoms, psychological distress and behaviour problems (Commander & Odell, 2001, UK; Eyrich-Garg, et al., 2008, US; Folsom et al., 2005, US; Shelton, et al., 2009, UK; Kertesz et al., 2005, US)**. Severe symptoms were also identified as risk factors for women/mothers (**Ingram et al., 1996, US; Wood et al., 1990, US**). This relationship did not hold for men in **Caton and colleague's 2000 US study**, where more severe symptoms were not linked to homelessness.

For youth, similar difficulties were labelled as **“acting out” problems** and included school suspensions and delinquent behaviours (**Bearsley-Smith et al., 2008, AUS; Molino, 2007, US; Robert et al., 2005, CAN; Shelton et al., 2009, UK; Tyler & Bersani, 2008, US**).

The specific psychiatric diagnosis was linked to homelessness in some research. **Depression** was cited most often, linked primarily to youth (**Bearsley-Smith et al., 2008, AUS; Robert, et al., 2005, CAN; Shelton, et al., 2009, UK; Tyler & Bersani, 2008, US**) and to women (**Fertig & Reingold, 2008, US**). Post Traumatic Stress Disorder was linked to women/mothers by **LaVesser, et al. (1997, US)**.

**Alcohol or substance abuse** broadly defined was linked to homelessness for women/mothers, (**Bassuk et al., 1997, US; Fertig & Reingold, 2008, US; Wood et al., 1990, US**) including heroin. Interestingly **Molino (2007, US)** did not find that substance use made a difference in becoming homeless for youth.

Severe addictions, including the use of crack and cocaine, were identified in individuals with addiction problems who became homeless (**Eyrich-Garg, et al., 2008, US, US; Orwin et al., 2005, US**). This issue was also identified in the general homeless populations (**Klodawsky et al., 2009, CAN**). Interestingly, especially given the stereotype that homelessness and addictions go hand in hand, two studies, one with women/families (**Lehmann et al., 2007, US**) and one with men (**Caton et al., 2000, US**) found that the presence of severe substance abuse did not predict homelessness.

Concurrent mental health and substance abuse was linked to homelessness for individuals with mental health issues (**Commander & Odell, 2001, UK; Eyrich-Garg et al., 2008, US; Kertesz et al., 2005, US**) and for women by (**Ingram et al., 1996, US; Wood et al., 1990, US**).

## Health Issues

In the 2002 Calgary Homeless study, participants with mental health problems overwhelmingly also had physical health conditions that required treatment – 91% of the absolutely homeless and 100% of the relatively homeless (**Vista Evaluation and Research Services, 2003c, CAN**). Both those with health and mental health difficulties faced a number of barriers accessing healthcare including lack of money, wait was too long, lack of trust, lack of transportation, no healthcare card, limited hours of service, fear and lack of knowledge.

Comparison studies noted the relationships between health problems and homelessness for those in the general homeless population (**Muñoz et al., 2005, Spain**), women/families (**Fertig & Reingold, 2008, US**), those with mental health problems (**Kertesz et al., 2005, US**), seniors (**Gardiner & Cairns, 2002, CAN**) and those of Aboriginal background (**Gardiner & Cairns, 2002, CAN**). Interestingly, having a **disability** was not linked to homelessness for seniors in the study conducted by **Shinn and colleagues (2007, US)**.

Women-specific health problems included an inability to manage daily living and household tasks whether associated with being pregnant or having recently given birth (**Shinn et al., 1998, US; Weitzman et al., 1992, US**).

## Housing Transitions

Transitions from one residence to the next, including release from institutions such as psychiatric hospitals and shelters, also are associated with housing difficulties. **Psychiatric hospitalization** (especially in the past 5 years) was identified as a predictor of homelessness with individuals with a mental health history (**Bassuk et al., 1997, US; Folsom et al., 2005, US; Shelton et al., 2009, UK; Wood et al., 1990, US**) and women/families (**Bassuk et al., 1997, US**). Non-comparison studies that highlighted this factor for those with mental health problems included Lipmann et al., (2004, UK) and Susser et al. (1993, US).

**Being evicted or marginally housed in the past year** is linked with homelessness for women/families (**Bassuk et al., 1997, US; Lehmann et al., 2007, US; Shinn et al., 1998, US**), individuals of Aboriginal origin (**Gardiner & Cairns, 2002, CAN**) and seniors (**Shinn et al., 1998, US**). Another home or home placement variables that indicate a woman/family is at greater risk of becoming homeless is a **history of staying with family or friends and housing instability** (**Bassuk et al., 1997, US; Goodman, 1991, US; Wood et al., 1990, US**). **Shinn et al. (1998, US)** found this to be true with respect to seniors. Two non-comparison studies also highlighted this variable (Marin & Vacha, 1994; McChesney, 1995, US). Another significant factor for seniors was housing being converted or needing significant repairs (**Shinn et al., 2007, US**).

Moving to a new country in the previous years was identified as a risk factor for homelessness form women/families (**Lehmann et al., 2007, US; Fertig & Reingold, 2008, US**).

A history of **being kicked out or running away** were considered risk factors for hidden or absolute homelessness for youth (**Shelton et al., 2009, UK**). Two non-comparison studies also mentioned this factor (Auerswald & Eyre, 2002, US; Miller et al., 2004, US). **Women moving away because of violence** was noted for this population by **Tucker et al. (2005, US)**.

## Draft Homelessness Asset and Risk Screening Tool (HART)

One of the major goals of this project was to develop a tool that would serve to assess individuals at risk of homelessness, but who had not yet been homeless. Several organizations have developed measures for assessing issues in individuals that are already homeless. These assessment tools tend to provide detailed information about a number of aspects of the lives of individuals who are homeless in the hope of providing the most appropriate interventions. A prime example is the Vulnerability Index™ or Assessment Tool (O'Connell) developed to guide housing placements and to identify homeless individuals at most risk of dying.

In contrast, risk assessment measures are often developed for broad populations, composed of individuals who are not seeking services and may not, in fact, identify as having the problem on which the scale focuses on. As such, they are typically short, from 20 to 30 items. The purpose is to identify factors that predict the development of problems in the future. If the individual has already developed or experienced the issue, a more in-depth assessment tool such as that previously mentioned is more appropriate. For example, a screening tool would rarely ask for specifics such as level of income. In contrast, in a screening tool, the issue is whether the income is sufficient to pay for adequate housing.

Further, however, because risk assessment measures are intended to predict the occurrence of a problem in future, they must establish predictive validity, the focus of the next phase of the project. The attached scale was based on an in-depth literature review that examined studies that differentiated homeless from non-homeless individuals. It constitutes a compendium of issues that have been found to differentiate “at-risk but housed” from homeless groups. However, since the studies are from around the world, the relevance of each factor for Calgary/Alberta populations needs to be tested. In fact, the tool would need to be validated in each centre in which it is used to assess that the variables are valid for that location. These testings will provide construct validity for the tool for each locale.

The following factors were considered guiding principles for the draft screening tool

1. Start with several broad questions about concerns about housing. This will identify those who will be invited to take the remainder of the questionnaire.
2. Ask about structural issues and those related to housing first. Since the focus is housing, where one is living and how one pays for one's accommodation create what is termed “face validity”.
3. Phrase issues as assets whenever possible. This makes the tool more positive in tone and perhaps more agreeable to respond to.
4. Be the least intrusive as possible. Only ask about issues that are critical.
5. Ask more sensitive questions later. Issues such as mental health status and substance use are deemed by most as intrusive. Therefore, they need to be approached later when the respondent is engaged in the task. A suitable rationale for asking such questions is necessary.
6. The final sets of questions are specific to various sub-groups and will ONLY be asked of that group. Note also that the current draft was developed to focus on content not formatting. Once the content is accepted, links to specific questions can be formatted more effectively. The current assumption is that the tool will be used as a telephone survey, with the person administering the tool, doing so on a computer screen. A self-report version can easily be developed for later, and once the tool's psychometric properties have been tested.

Finally, a scoring template for the HART tool has not yet been developed, but will be shortly. The Draft HART tool is in Appendix 2.

Table 4: Risk and Asset Factors that Differentiate Homeless from At Risk of Homeless Populations

Risk Factors	Population of Note	Supported	Contradicted
<b>Childhood Factors</b>			
Abuse in childhood	Women/families	Browne & Bassuk, US, 1997; Wood et al., 1990, US;	
	Youth	Bearsley-Smith et al., 2008, AUS; Shelton, et al., 2009, UK; Tyler & Bersani, 2008, US; Robert, et al., 2005, CAN; Molino, 2007, US (neglect)	Molino, 2007, US (not other abuse forms)
	Seniors		Shinn et al., 2007, US
Foster placement in childhood	General homeless	Goering, et al., 2002, CAN;	
	Youth	Bearsley-Smith et al., 2008, AUS; Shelton, et al., 2009, UK; Tyler & Bersani, 2008, US; Robert, et al., 2005, CAN; Commander, et al., 2002, UK	
	Families/Women	Bassuk et al., 1997, US; Wood et al., 1990, US	
	Mental health	Shelton, et al., 2009, UK	
Witness parental/family violence/family conflict	Youth	Bearsley-Smith et al., 2008, AUS; Shelton, et al., 2009, UK; Tyler & Bersani, 2008, US; Robert, et al., 2005, CAN	
	Aboriginal	Gardiner & Cairns, 2002, CAN	
	Women	Ingram, et al., 1996, US	
Coming from a single parent/step-family	Youth	Bearsley-Smith et al., 2008, AUS; Shelton, et al., 2009, UK; Tyler & Bersani, 2008, US; Robert, et al., 2005, CAN	
Drug/substance use by family member	Youth	Bearsley-Smith et al., 2008, AUS; Shelton, et al., 2009, UK; Tyler & Bersani, 2008, US; Robert, et al., 2005, CAN	
	Women/Families	Bassuk et al., 1997, US; Wood et al., 1990, US	
Long-time social assistance	Youth	Bearsley-Smith et al., 2008, AUS; Shelton, et al., 2009, UK; Tyler & Bersani, 2008, US; Robert, et al., 2005, CAN	

Risk Factors	Population of Note	Supported	Contradicted
<b>Current Interpersonal and Family Factors</b>			
Poor social support	General homeless	MacKnee & Mervyn, 2002, CAN; Muñoz & Vázquez, 2004, ESP	
	Addictions	Eyrich-Garg, et al., 2008, US	
	Aboriginal	Gardiner & Cairns, 2002, CAN	
	Mentally Ill	Kertesz, et al., 2005, US	
	Women/Families	Wood et al., 1990, US; Bassuk et al., 1997, US; Letiecq, et al., 1998, US (for women in emergency shelter & transitional housing but not those doubled up)	
Separated, divorced or single	Women/Families	Pavao et al., 2007, US; Lehmann, et al., 2007, US; Fertig & Reingold, 2008, US; LaVesser, et al., 1997, US	
Disputes: landlords or neighbours	Seniors	Shinn et al., 2007, US	
Bullying/neighbourhood violence	Youth	Tyler & Bersani, 2008, US	
Family or other interpersonal conflict	Youth	Bearsley-Smith, et al., 2008, AUS; Robert, et al., 2005, CAN; Klodawsky, et al., 2009, CAN; Molino, 2007, US	
Intimate partner or other family violence	Women/mothers	Pavao et al., 2007, US; Browne & Bassuk, 1997, US; Wood et al., US, 1990; Fertig & Reingold, 2008, US; Bassuk et al., 1997, US	Both experienced considerable violence: Lehmann, et al. 2007, US; Tucker et al., 2005, US; Ingram et al, 1996, US; LaVesser, et al., 1997, US
	Aboriginal	Gardiner & Cairns, 2002, CAN	
	Seniors	Gardiner & Cairns, 2002, CAN	
Lack of employment/ Precariously employed/ Job loss/shorter tenure in longest job held	Women	Pavao et al., 2007, US; Lehmann, et al., 2007, US	
	Aboriginal	Gardiner & Cairns, 2002; CAN	
	Seniors	Shinn et al., 2007, US	
	Youth	Commander, et al., 2002, UK	
Recent victim of sexual aggression	Women	Ingram, et al., 1996, US; Tucker, et al., 2005, US	
Young parenting	Women/families	Weitzman et al., 1992, US; Shinn et al., 1998, US	
Children in care	Women	Lehmann, et al., 2007, US	

Risk Factors	Population of Note	Supported	Contradicted
<b>Mental Health/Addictions</b>			
Depression	Youth	Bearsley-Smith et al., 2008, AUS; Shelton, et al., 2009, UK; Tyler & Bersani, 2008, US; Robert, et al., 2005, CAN	
	Women	Fertig & Reingold, 2008, US	
Antisocial behaviour i.e. school suspensions, delinquent behaviours	Youth	Bearsley-Smith et al., 2008, AUS; Shelton, et al., 2009, UK; Tyler & Bersani, 2008, US; Robert, et al., 2005, CAN; Molino, 2007, US	
Severe mental health symptoms/psychological distress	Mental Illness	Commander & Odell, 2001, UK; Eyrich-Garg, et al., 2008, US; Folsom et al., 2005, US; Shelton, et al., 2009, UK; Kertesz, et al., 2005, US	
	Men		Caton et al., 2000, US
	Women/Families	Ingram, et al., 1996, US; Wood et al., 1990, US	
PTSD Diagnosis	Women/Families	LaVesser, et al., 1997, US	
Alcohol or drug use	Youth		Molino, 2007, US
	Women/families	Wood et al., 1990, US; Fertig & Reingold, 2008, US; Bassuk et al., 1997, US (including heroin)	
Severe addictions (includes use of crack & cocaine)	Addictions	Eyrich-Garg, et al., 2008, US; Orwin, et al., 2005, US	
	Women/families		Lehmann, et al., 2007, US
	Men		Caton et al., 2000, US
	General homeless	Klodawsky, et al., 2009, CAN	
Concurrent mental health & substance abuse	Women/families	Ingram, et al., 1996, US; Wood et al., 1990, US	
	Mentally ill	Commander & Odell, 2001, UK; Eyrich-Garg et al., 2008, US; Kertesz, et al., 2005, US	

Risk Factors	Population of Note	Supported	Contradicted
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### Health Problems

	General homeless	Muñoz, et al., 2005, ESP	
	Aboriginal	Gardiner & Cairns, 2002, CAN	
	Seniors	Gardiner & Cairns, 2002, CAN	
	Mental Illness	Kertesz, et al., 2005, US	
	Women/Families	Fertig & Reingold, 2008, US	
Difficulties with pregnancy or recently childbirth	Women/families	Shinn et al., 1998, US; Weitzman et al., 1992, US	
Disability	Seniors		Shinn et al., 2007, US

### Housing Transitions

Recent move to new country in previous year	Women/Families	Lehmann, et al., 2007, US; Fertig & Reingold, 2008, US	
Eviction/Marginally housed in past year	Women/families	Lehmann, et al., 2007, US; Shinn et al., 1998, US; Bassuk et al., 1997, US	
	Aboriginal	Gardiner & Cairns, 2002, CAN	
	Seniors	Shinn et al., 2007, US	
Psychiatric Hospitalization (especially in past 5 yrs) or recently leaving hospital	Mental Health	Shelton et al., 2009, UK; Wood et al., 1990, US; Bassuk et al., 1997, US; Folsom et al., 2005, US	
	Women/Families	Bassuk et al., 1997, US	
History of staying with family or friends/ housing instability	Seniors	Shinn et al., 1998, US	
	Women/families	Bassuk et al., 1997, US; Goodman, 1991; Wood et al., 1990, US	
Housing being converted or needing significant repairs	Seniors	Shinn et al., 2007, US	
Moved because of violence	Women	Tucker et al., 2005, US	
Being kicked out of home	Youth	Shelton et al., 2009, UK	

Risk Factors	Population of Note	Supported	Contradicted
<b>Other Factors</b>			
Aboriginal ancestry	Youth	Bearsley-Smith et al., 2008, AUS; Shelton, et al., 2009, UK; Tyler & Bersani, 2008, US; Robert, et al., 2005, CAN	
Caucasian ancestry	Women	Lehmann, et al., 2007, US (Protective factor)	
Minority status	Women/Families	Bassuk et al., 1997, US; Pavao et al., 2007, US	Fertig & Reingold, 2008, US
Male gender	Seniors	Shinn et al., 2007, US	
	Youth	Commander, et al., 2002, UK	
	Generally homeless	Muñoz & Vázquez, 2004, ESP	
Neighbourhood victimization/being bullied	Youth	Tyler & Bersani, 2008, US	
Criminal justice involvement/history	Mental Illness	Commander & Odell, 2001, UK	
	Youth	Molino, 2007, US	
Protective Factors	Population of Note	Supported	Contradicted
Social support (beyond street-life)	General homeless	MackKnee & Mervyn, 2002, CAN	
Owning home or being primary tenant	General homeless	Bassuk et al., 1997, US; Shinn et al., 1998, US	
	Women	Shinn et al., 1998, US	
Having completed highschool	General homeless	Bassuk et al., 1997, US; Wood et al., 1990, US	
	Women/families	LaVesser, et al., 1997, US; Caton et al., 2000, US; Pavao et al., 2007, US	
	Men	Caton et al., 2000, US	
	Youth	Commander, et al., 2002, UK	
Good interpersonal skills	General homeless	Klodawsky, et al., 2009, CAN	
	Women	Wagner & Perrine, 1994, US	
Current or previous employment	General homeless	Caton et al., 2005, US	
Relatives that will help w. housing	Women/Families	Toohey et al., 2004, US; Fertig & Reingold, 2008, US	
	Seniors	Shinn et al., 2007, US (that could provide housing)	
Parental monitoring & supervision	Youth	Bearsley et al., 2008, AUS; Tyler & Bersani, 2008, US	
Average cognitive skills	Women/families	LaVesser, et al., 1997, US	
Having children/dependents	General homeless	Orwin, et al., 2005, US	

Structural Factors	Population of Note	Supported	Contradicted
Access to subsidized housing	General homeless	Klodawsky, et al., 2009, CAN; MacKnee & Mervyn, 2002, CAN	
	Women/Families	Bassuk et al., 1997, US; Shinn et al., 1998, US; Wagner & Perrine, 1994, US;	Fertig & Reingold, 2008, US
	Mental illness	Folsom et al., 2005, US	
Access to resources such as social assistance or housing supports	Generally homeless	Klodawsky, et al., 2009, CAN; MacKnee & Mervyn, 2002, CAN; Smith, et al., 2008, UK; Seniors Allen et al., 2004, US; Shinn et al., 1998, US	
	Women/Families	Bassuk et al., 1997, US	Fertig & Reingold, 2008, US
	At-risk Health	Smith, et al., 2006, US	
Low income levels/ high rent	Women/families	Pavao et al., 2007, US; Browne & Bassuk, 1997, US; Caton et al., 2000, US; Fertig et al., 2008, US	
	Men	Caton et al., 2000, US	
	Mental Illness	Mojtabai, 2005, US	
	Aboriginal	Gardiner & Cairns, 2002, CAN	
	Seniors	Gardiner & Cairns, 2002, CAN; Shinn et al., 2007, US	
Good quality housing	Women	Klodawsky, et al., 2009, CAN	
Appropriate programs & supports not available or problems develop	Mental health/addictions	Bassuk et al., 1997, US; Folsom et al., 2005, US	
	Seniors	Shinn et al., 2007, US	
	Youth	Molino, 2007, US	
<b>Racial background</b>			
Aboriginal ancestry	Youth	Bearsley-Smith et al., 2008, AUS; Shelton, et al., 2009, UK; Tyler & Bersani, 2008, US; Robert, et al., 2005, CAN	
Caucasian ancestry	Women	Lehmann, et al., 2007, US	
Minority status	Women/Families	Bassuk et al., 1997, US; Pavao et al., 2007, US	Fertig & Reingold, 2008, US

## Caveats and Conclusions

This presentation of protective and risk factors that could be used to identify individuals at-risk for homelessness is unique. We found no other literature that had attempted to identify those with protective and risk factors of individuals who might become homeless in the future. It emerges from an in-depth literature review of research primarily from the past decade or so. As has been mentioned throughout, although there is a vast literature on homelessness, we found relatively few studies that compared populations at risk for homelessness to those who has lost their housing at some point. Any analysis can only be based on what material is available: There was a paucity of research on several sub-groups, such as seniors, those of Aboriginal background and immigrants and refugees, a clear limitation.

Further, studies were included from around the world and many were from the United States, whose social policy structure differs from Canada in many ways, health being a prime example. Whether the differentiating factors are valid in the Canadian context is a question that should be answered by additional research.

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# Appendix 1: Research Inventories by Subgroups

## 1. Youth Comparison Studies

Factors	References: Y				
	1	2	3	4	5
<b>Protective Factors/Assets</b>					
Social support			X		X
Higher Socioeconomic Status	X				
Parental Monitoring/Involvement	X		X		
Employment					
Education					
<b>Predisposing/Risk Factors</b>					
Family Problems – conflict, not feeling safe			X	X	X
Family Structure – single parent, re-parented			X		X
Parental Abuse/Neglect				X	X
Placement in Child Protective Care		X		X	
Gender – female	X				
Previously kicked out or ran away		X			
Mental Health Diagnosis/Problems		X			
Substance Abuse		X			X
Parental/Family Substance Abuse					
Economic status/difficulty		X			
School suspension, low involvement, less commitment	X		X		X
School – lower grade when youth left school, dropped out		X			
Neighbourhood victimization – i.e. house broken into, witnessing a violent act	X				
Personal victimization – threatened in school and experienced repeated bullying	X				
Delinquency – stealing, property crimes, violence, selling drugs	X				X
Ethnicity – Aboriginal		X			
Experienced a traumatic event					
Psychiatric Hospitalization		X			
Years family received social assistance		X			
Peer drug use			X		
Behavioural Disorder				X	

### # References – Youth (Y)

- Y1 Tyler, K.A., & Bersani, E. (2008). A longitudinal study of early adolescent precursors to running away. *The Journal of Early Adolescence*, 28(2), 230-251.
- Y2 Shelton, K.H., Taylor, P.J., Bonner, A., van den Bree, M. (2009). Risk factors for homelessness: Evidence from a population-based study. *Psychiatric Services*, 60(4), 465-472.
- Y3 Bearsley-Smith, C.A., Bond, L.M., Littlefield, L., Thomas, L.R. (2008). The psychosocial profile of adolescent risk of homelessness. *European Child Adolescent Psychology*, 17 (4), p. 226-234.
- Y4 Robert, M., Pauze, R., & Fournier, L. (2005). Factors associated with homelessness of adolescents under supervision of youth protection system. *Journal of Adolescence*, 28, 215-230.
- Y5 Molino, A. C. (2007). Characteristics of help-seeking street youth and non-street youth. Paper developed for 2007 National Symposium on Homelessness Research, 1-40.

## 2. Women Comparison Studies

### Factors

References: W

	1	2	3	4	5	6	7	8	9	10	11	12	13
<b>Protective Factor/Assets</b>													
Renting own apartment or owning property		X			X								
Subsidized housing		X		X	X								
Receiving welfare				X									
Completion of high school				X	X	X	X			X			
Larger number of people (non professional) in social network/Higher number of people they feel they can count on					X		X	X			X		
Quality support from support network								X					X
Currently residing with father and children				X									
Being Married							X						
Emotional and tangible support from family				X									
Living within a neighbourhood for 5 years				X									
Positive family environment during childhood													X
<b>Predisposing/Contributing Risk Factors</b>													
Lack of employment						X					X		
Lack of Income									X	X	X		
Substance abuse			X		X	X					X	X	
Substance abuse within support network			X										
Conflict in support network					X								
History of substance abuse in family of origin	X												
Pregnant or recent birth		X	X		X			X					
Child welfare involvement with children	X												
Childhood victimization by parent (Physical, emotion and/or sexual)	X	X	X			X			X				X
History of housing instability/Frequent moves	X	X		X	X								
Crowding (higher # of people per bedroom)		X											
Young age of family head			X	X									
Parents family received welfare as a child						X							
Parent left home before age of 17 as a youth						X							
Parent lived in foster care, group homes, or juvenile detention as a child	X	X			X								
Mental illness or hospitalization for mental illness	X		X	X	X	X							
Higher Number of children						X							
Presence of children currently residing with or in care										X			
Children identified as primary support	X												
Domestic violence	X	X	X	X				X	X			X	
Sexual Assault												X	X
<b>Triggering/Precipitating Factor</b>													
Relationship breakdown/Family problems	X												
Experiencing violence within the home												X	

## # References – Women

- W1 Wood et al. (1990). Homeless and housed families in Los Angeles: A study comparing demographic, economic, and family function characteristics. *American Journal of Public Health*. 80(9), 1059-1052.
- W2 Shinn et al. (1998). Predictors of homelessness among families in New York City: From shelter request to housing stability. *American Journal of Public Health*. 88(11), 1651-1657.
- W3 Weitzman, B. C., Knickman, J. R., & Shinn, M. (1992). Predictors of shelter use among low-income families: Psychiatric history, substance abuse, and victimization. *American Journal of Public Health*. 82(11), 1547-1550.
- W4 Fertig et al. (2008). Homelessness among at-risk families with children in twenty American cities. *Social Service Review*. 82(3), 485-510.
- W5 Bassuk et al. (1997). Homelessness in female-headed families: Childhood and adult risk and protective factors. *American Journal of Public Health*. 87(2), 241-248.
- W6 LaVesser, P. D., Smith, E. M., & Bradford, S. (1997). Characteristics of homeless women with dependent children: A controlled study. *Journal of Prevention & Intervention in the Community*, 15(2), 37-52.
- W7 Letiecq, B. L., Anderson, E. A., & Koblinsky, S. A. (1998). Social support of homeless and housed mothers: A comparison of temporary and permanent housing arrangements. *Family Relations*, 47, 415-421
- W8 Toohey, S. M., Shinn, M., & Weitzman, B. C. (2004). Social networks and homelessness among women heads of household. *American Journal of Community Psychology*, 33(1/2), 7-20.
- W9 Browne, A. & Bassuk, S. (1997). Intimate violence in the lives of homeless and poor housed women: Prevalence and patterns in an ethnically diverse sample. *American Journal of Orthopsychiatry*, 67(2), 261-278.
- W10 Pavao, J., Alvarez, J., Baumrind, N., Induni, M., & Kimerling, R. (2007). Intimate partner violence and housing instability. *American Journal of Preventative Medicine*, 32(2), 143-146.
- W11 Wagner, J. K., & Perrine, R. M. (1994). Women at risk for homelessness: Comparison between housed and homeless women. *Psychological Reports*, 75, 1671 – 1678.
- W12 Tucker J. S., Wenzel, S.L., Straus, J.B., Ryan, G., & Golinelli, D. (2005). Experiencing interpersonal violence: Perspectives of sexually active, substance-abusing women living in shelters and low income housing. *Violence Against Women*, 11, 1319-1340.
- W13 Ingram, K., Corning, A. & Schmidt, L. (1996). The relationship of victimization experiences to psychological well-being among homeless women and low-income housed women. *Journal of Counseling Psychology*, 43(2) 218-227.

### 3. Adults with Mental Health Issues or Addictions Comparison Studies

Factors	MH				
	1	2	3	4	5
<b>Protective Factors</b>					
Contact with childhood carer in the past 6 months		X			
Employed	X		X	X	X
Married	X				X
Presence of social support			X	X	X
Tangible support from family/friends					X
<b>Predisposing/Contributing Risk Factors</b>					
Lack of Income				X	
Drug and alcohol use disorder	X	X		X	X
Spends large portion of existing income on substances					X
Higher frequency of moderate/severe symptoms		X			
Caring for a dependent (non-child)				X	
Serious mental health issues/diagnoses (schizophrenia, bi-polar and depression mentioned as presenting highest risk)	X				
Hospitalization for mental health issues	X				X
Presence of a disability			X	X	
Criminal history		X	X	X	
History of family abuse			X	X	
No housing/services for addiction problems			X	X	
Presence of health problems			X	X	
Landlord problems/eviction			X		
Gender (males more likely to be homeless)	X				
<b>Triggering Events</b>					
Discharge from hospital/institution with no home to return to	X				
<b>Structural Factors or Programmatic Causes</b>					
Difficulty accessing mental health care, addictions treatment and supported housing	X				
Difficulty obtaining and maintaining access to financial assistance programs ( to prevent housing loss or to stabilize after being homeless)	X				

#### # References – Adults with Mental Health and Addictions

- MH 1 Folsom, D. P., Hawthorne, W., Lindamer, L., Gilmer, T., Bailey, A., Golshan, S., et al. (2005). Prevalence and risk factors for homelessness and utilization of mental health services among 10,340 patients with serious mental illness in a large public mental health system. *American Journal of Psychiatry*, 162(2), 370-376
- MH 2 Commander, M. J. & Odell, S. M. (2001). A comparison of the needs of homeless and never homeless patients with psychotic disorders. *Journal of Mental Health*, 10(4), 449-456.
- MH 3 Vista Evaluation and Research Services, Inc. (2003). 2002 Calgary homeless study. Phase 2: Secondary data analysis.
- MH 4 *Phase 2: Secondary Data Analysis. Addictions Sector Report*. Calgary, AB: Calgary Homeless Foundation.
- MH 5 Eyrich-Garg, K.M., Cacciola, J.S., Carise, D., Lynch, K.G. & McLellan, A.T. (2008). Individual characteristics of the literally homeless, marginally housed, and impoverished in a US substance abuse treatment-seeking sample. *Social Psychiatry and Psychiatric Epidemiology*, 43, 831-842.

## 4. Aboriginal Population – Factors in the Literature

Factors	A 1
Predisposing/Contributing Risk Factors	
Substance Abuse	X
Physically ill and not receiving treatment	X
Presence of a disability	X
Caring for dependents (family, children and/or friends)	X
Lack of resources to find a job	X
Lack of employment/lost their job	X
Fleeing violence	X
Lack of social support	X

### # References – Aboriginal Population

- A1 Vista Evaluation and Research Services Inc. (September 2003a). *2002 Calgary Homeless Study Phase 2: Secondary Data Analysis. Aboriginals Sector Report*. Calgary, AB: Calgary Homeless Foundation.

## 5. Older Adults Comparison Studies

Factors	OA 1	2
<b>Predisposing/Contributing Risk Factors</b>		
Mental health (including depression, anxiety, schizophrenia)		X
Alcohol and drug use		X
Physical health problems		X
Financial problems (including poor money management skills, budgeting difficulties, debts, job loss, rent increases, issues with social security systems, housing subsidy payments)	X	X
Lack of social supports (including social isolation)		X
<b>Triggering Events</b>		
Housing sold, converted, needed repair	X	
Difficulty paying rent/mortgage (due to job loss, financial problems, debts, lack of income)	X	X
Dispute with landlord/neighbour/co-tenant (due to lack of income, rent arrears, disruptive behaviour, harassment of respondent, violence)	X	X

### # References – Older Adults

- OA1 Shinn, M. et al. (2007). Predictors of homelessness among older adults in New York City: Disability, economic, human, and social capital and stressful events. *Journal of Health Psychology*, 12(5), 696-708.
- OA2 Gardiner, H. & Cairns, K. (October 2002). *2002 Calgary Homeless Study: Final Report*. Calgary, AB: Calgary Homeless Foundation.

## Appendix 2: Annotated Draft Homelessness Asset and Risk Screening Tool (HART)

**Administration:** This measure is a screening tool to identify individuals at risk of homelessness and who may be in need of services to prevent this. As such, it gathers information only on variables that have been found by researchers (based on an in-depth literature review <sup>13</sup>) to distinguish whether a person may be “at-risk” of being homeless.

**Script:** The following questions are about your housing needs, assets and challenges. They are part of a project looking at preventing difficulties with housing. Would you be willing to answer the first few questions? These should take 5 minutes.

### Introductory Questions about Housing

1. Do you have a place to live in right now?  
 Yes       No
  - a. *If yes, to #1, are you the owner or primary tenant <sup>14</sup>? (Protective factor)*  
 Yes       No
  - b. *If yes, to #1, is this place: (check any of the following if yes):*  
 Adequate (i.e. in good repair; repairs done<sup>15</sup> if requested; no vermin)  
 Affordable (costs no more<sup>16</sup> than 50%<sup>17</sup> of your gross income)  
 Stable (you are not<sup>18</sup> at risk of eviction)  
 In a safe neighbourhood<sup>19</sup>

**If the individual's scores indicate current difficulties with housing, invite them to answer the remaining questions.**

**Script:** Your answers to the first few questions indicate that your current housing is not meeting all of your needs. I have additional questions about housing challenges. Would you be willing to answer these? It should take another about 15 minutes of your time. Some questions may seem personal. The reason they are included is that they are factors that differentiate individuals who became homeless from those who remained housed. You can refuse to answer any question and stop at any time. Stopping or declining to answer will not affect any of the services that you are receiving from our organization.

### Factors that Influence Housing Stability

2. How many times have you moved in the past 12 months (risk factor <sup>20</sup>)?  
 None or Once     2-3 times       4 or more times
3. Have you ever had to stay with friends and family for long time periods (over a month)?  
 Yes       No
4. If you needed it, is subsidized housing <sup>21</sup> readily available in your community?  
 Yes       No       Don't know
5. In the past 12 months did you have to move any time because of conflict with a room-mate/landlord or neighbour <sup>22</sup>?  
 Yes       No
6. Have you ever been homeless?  
 Yes       No
  - a. *If yes to #6, were you ever homeless when you were younger than 18 years of age <sup>23</sup>?*  
 Yes       No

<sup>13</sup> Tutty, L., Bradshaw, C., Waegemakers Schiff, J., Worthington, C., MacLaurin, B., Hewson, J., Dooley, D., Kean, S. & McLeod, H. (2009). Risks and assets for homelessness prevention: A literature review for the Calgary Homeless Foundation.

<sup>14</sup> Bassuk et al., 1997, US; Shinn et al., 1998, US; Shinn et al., 1998, US

<sup>15</sup> Klodawsky, et al., 2009, CAN

<sup>16</sup> Pavao et al., 2007, US; Browne & Bassuk, 1997, US; Caton et al., 2000, US; Fertig et al., 2008, US; Caton et al., 2000, US; Mojtabai, 2005, US; Gardiner & Cairns, 2002, CAN

<sup>17</sup> Pomeroy, 2007, CAN; Luffman, 2006, CAN; Statistics Canada, 2008

<sup>18</sup> Lehmann, et al., 2007, US; Shinn et al., 1998, US; Bassuk et al., 1997, US; Gardiner & Cairns, 2002, CAN; Shinn et al., 2007, US

<sup>19</sup> Tyler & Bersani, 2008, US

<sup>20</sup> Higher numbers are “Marginally housed” Lehmann, et al., 2007, US; Shinn et al., 1998, US; Bassuk et al., 1997, US; Gardiner & Cairns, 2002, CAN; Shinn et al., 2007, US

<sup>21</sup> Klodawsky, et al., 2009, CAN; MacKnee & Mervyn, 2002, CAN; Bassuk et al., 1997, US; Shinn et al., 1998, US; Wagner & Perrine, 1994, US; Folsom et al., 2005, US

<sup>22</sup> Shinn et al., 2007, US

<sup>23</sup> Goering, Tolomiczenko, Sheldon, Boydell, & Wasylenki, 2002. Those with previous homelessness before age 18 more likely to remain homeless.

## Housing Transitions

7. In the past 5 years, have you spent time in a mental health or addictions care facility <sup>24</sup>?  
If yes, did you have stable housing to move into upon your return to the community?  
 Yes  No
8. In the past 5 years, have you spent time in a correctional facility <sup>25</sup>?  
 Yes  No
- a. If yes to #8, did you have stable housing to move into upon your return to the community?  
 Yes  No
9. In the past five years, have you moved away from your home country<sup>26</sup>?  
 Yes  No

## Income/Education:

10. Are you currently or recently employed <sup>27</sup>?  
 Yes  No
- a. *If no to #10*, do you expect to have difficulty <sup>28</sup> finding employment?  
 Yes  
 No, I don't expect to have a hard time finding a job.  
 No, I won't be looking for a job in the next several months.
11. Until now, have you worked in relatively stable <sup>29</sup> and secure jobs?  
 Yes  No
12. Have you been able to pay your rent/mortgage without difficulty <sup>30</sup> in the past 12 months?  
 Yes, no difficulty.  
 No, I've had some difficulty.  
 No, I've had considerable difficulty.

## Social Supports

13. In the past 12 months, have there been any important changes or losses in your family/support system?  
 My family/friends are <sup>31</sup> very supportive.  
 My family/friends are not as supportive as before.  
 I live far away from family and friends.  
 I have lost support through interpersonal conflict or the death of a caregiver
14. I have family or friends that could help me with housing and/or finances <sup>32</sup> for a while if I needed. (Protective factor)  
 Yes  No
15. Do you currently have children <sup>33</sup>? (Protective factor)  
 Yes  No

24 Shelton et al., 2009, UK; Wood et al., 1990, US; Bassuk et al., 1997, US; Folsom et al., 2005, US; Bassuk et al., 1997, US

25 Commander & Odell, 2001, UK; Molino, 2007, US

26 Lehmann, et al., 2007, US; Fertig & Reingold, 2008, US

27 Caton et al., 2000, US

28 Commander, et al., 2002, UK; Pavao et al., 2007, US; Lehmann, et al., 2007, US; Gardiner & Cairns, 2002, CAN; Shinn et al., 2007, US

29 Commander, et al., 2002, UK; Pavao et al., 2007, US; Lehmann, et al., 2007, US; Gardiner & Cairns, 2002, CAN; Shinn et al., 2007, US

30 Pavao et al., 2007, US; Browne & Bassuk, 1997, US; Caton et al., 2000, US; Fertig et al., 2008, US; Caton et al., 2000, US; Mojtabai, 2005, US; Gardiner & Cairns, 2002, CAN

31 MacKnee & Mervyn, 2002, CAN; Muñoz & Vázquez, 2004, ESP; Eyrich-Garg, et al., 2008, US; Gardiner & Cairns, 2002, CAN; Wood et al., 1990, US; Bassuk et al., 1997, US; Letiecq, et al., 1998, US

32 Toohy et al., 2004, US; Fertig & Reingold, 2008, US for mothers. Shinn et al., 2007, US for seniors. Fit for others?

33 Orwin, et al., 2005, US

The next sets of questions are with respect to various groups of individuals that research suggests may have particular housing problems. Answering them would help us identify certain challenges or assets that you might face with respect to finding secure, appropriate housing.

What is your sex?

- Male <sup>34</sup>                       Female                       Transgendered

In which of the following age-groups are you?

- Under 15 to 24                       25 to 49                       50 and up

What is your cultural background?

- Caucasian/White <sup>35</sup>  
 I am from a visible minority group <sup>36</sup>

If so, are you a recent immigrant (past 5 years)?

- Yes                       No                       I am Aboriginal/First Nations <sup>37</sup> /Métis

16. In the past five years, have you been diagnosed <sup>38</sup> with any serious physical health problems or disability?

- Yes                       No

17. In the past five years, have you been diagnosed with any serious <sup>39</sup> mental health problem such as depression <sup>40</sup>, anxiety, PTSD <sup>41</sup>, bi-polar disorder or psychosis/schizophrenia?

- Yes <sup>42</sup>                       No

18. In the past five years, has any one close to you expressed concern about your use of alcohol, other substances or medical prescriptions <sup>43</sup>?

- Yes                       No

### Childhood/Youth Factors

19. Did you complete high school <sup>44</sup> ? (Protective factor)

- Yes                       No

20. As a child or youth was your family generally warm and supportive <sup>45</sup> (Protective factor)?

- Yes                       No

21. As a child or youth were you ever in the foster care system or other youth <sup>46</sup> facility?

- Yes                       No

<sup>34</sup> Shinn et al., 2007, US; Commander, et al., 2002, UK; Muñoz & Vázquez, 2004, ESP  
<sup>35</sup> Protective Lehmann et al., 2007.

<sup>36</sup> For women: Bassuk et al., 1997, US; Pavao et al., 2007, US

<sup>37</sup> For Youth: Bearsley-Smith et al., 2008, AUS; Shelton, et al., 2009, UK; Tyler & Bersani, 2008, US; Robert, et al., 2005, CAN

<sup>38</sup> Muñoz, et al., 2005, ESP; Gardiner & Cairns, 2002, CAN; Kertesz, et al., 2005, US; Fertig & Reingold, 2008, US

<sup>39</sup> Commander & Odell, 2001, UK; Eyrich-Garg, et al., 2008, US; Folsom et al., 2005, US; Shelton, et al., 2009, UK; Kertesz, et al., 2005, US; Ingram, et al., 1996, US; Wood et al., 1990, US

<sup>40</sup> Bearsley-Smith et al., 2008, AUS; Shelton, et al., 2009, UK; Tyler & Bersani, 2008, US; Robert, et al., 2005, CAN; Fertig & Reingold, 2008, US

<sup>41</sup> LaVesser, et al., 1997, US

<sup>42</sup> If yes to 27 and 28, give an extra point. Concurrent: Ingram, et al., 1996, US; Wood et al., 1990, US; Commander & Odell, 2001, UK; Eyrich-Garg et al., 2008, US; Kertesz, et al., 2005, US

<sup>43</sup> Klodawsky, et al., 2009, CAN ; Wood et al., 1990, US; Fertig & Reingold, 2008, US; Bassuk et al., 1997, US (including heroin); Eyrich-Garg, et al., 2008, US; Orwin, et al., 2005, US

<sup>44</sup> Bassuk et al., 1997, US; Wood et al., 1990, US; LaVesser, et al., 1997, US; Caton et al., 2000, US; Pavao et al., 2007, US; Caton et al., 2000, US; Commander, et al., 2002, UK

<sup>45</sup> Bearsley-Smith et al., 2008, AUS; Shelton, et al., 2009, UK; Tyler & Bersani, 2008, US; Robert, et al., 2005, CAN; Gardiner & Cairns, 2002, CAN; Ingram, et al., 1996, US

<sup>46</sup> Goering, et al., 2002, CAN; Bearsley-Smith et al., 2008, AUS; Shelton, et al., 2009, UK; Tyler & Bersani, 2008, US; Robert, et al., 2005, CAN; Commander, et al., 2002, UK; Bassuk et al., 1997, US; Wood et al., 1990, US; Shelton, et al., 2009, UK

## Questions for Specialized Groups and Risk Factors/Triggers

### Youth (age 25 and below)

- Do you come from a single parent or step-family <sup>47</sup> ?
- Were you ever suspended from school or have problems following rules <sup>48</sup> ?
- Have you been the victim of bullies <sup>49</sup> or of neighbourhood violence?
- When you were a child, was there significant conflict in your family <sup>50</sup> ?
- Have you ever been abused by a parent or caregiver <sup>51</sup> ?
- Have you been “kicked out of the house <sup>52</sup> ” in the past year? (trigger)
- Does one of your parents have addictions and/or mental health difficulties <sup>53</sup> ?
- Was your family of origin on social assistance for long <sup>54</sup> periods?
- Are you currently a single parent <sup>55</sup> ?

Do your parents take an interest in and supervise your activities <sup>56</sup> ? (Protective factor)

- Yes
- No

Have you recently utilized any youth-oriented <sup>57</sup> services to help you stay housed? (Protective factor)

- Yes
- No

### Adult women/mothers:

- Have you recently divorced or left your spouse or partner <sup>58</sup> ?
- Have you ever had to leave home because of an abusive partner <sup>59</sup> ?
- Have you recently moved because of violence in general <sup>60</sup> ?
- When you were a child, was there significant conflict in your family <sup>61</sup> ?
- Were you abused as a child by a parent or caregiver <sup>62</sup> ?
- When growing up, did one of your parents have addictions <sup>63</sup> and/or mental health difficulties?
- Have you recently been pregnant or given <sup>64</sup> birth? If yes, did these present any significant difficulty?
- Have you ever had your child/children taken into care by child welfare authorities <sup>65</sup>?
- Have you been the victim of a recent sexual assault <sup>66</sup>?

### Older adults:

- In the past 12 months, have you had a sudden <sup>67</sup> accident or rapid deterioration of physical or mental health?(trigger)
- Have you ever had to leave home because of an abusive partner <sup>68</sup>?
- Is your housing at risk of being converted <sup>69</sup> or needing significant repairs?
- Are there adequate supports and programs to help you stay in your home <sup>70</sup>?

### People of Aboriginal Origins

- When you were a child, was there significant conflict or in your family <sup>71</sup>?
- Have you ever had to leave home because of an abusive partner <sup>72</sup>?

- 47 Bearsley-Smith et al., 2008, AUS; Shelton, et al., 2009, UK; Tyler & Bersani, 2008, US; Robert, et al., 2005, CAN  
48 Bearsley-Smith et al., 2008, AUS; Shelton, et al., 2009, UK; Tyler & Bersani, 2008, US; Robert, et al., 2005, CAN; Molino, 2007, US  
49 Tyler & Bersani, 2008, US  
50 Bearsley-Smith et al., 2008, AUS; Shelton, et al., 2009, UK; Tyler & Bersani, 2008, US; Robert, et al., 2005, CAN  
51 Bearsley-Smith et al., 2008, AUS; Shelton, et al., 2009, UK; Tyler & Bersani, 2008, US; Robert, et al., 2005, CAN; Molino, 2007, US (neglect)  
52 Shelton et al., 2009, UK  
53 Bearsley-Smith et al., 2008, AUS; Shelton, et al., 2009, UK; Tyler & Bersani, 2008, US; Robert, et al., 2005, CAN  
54 Bearsley-Smith et al., 2008, AUS; Shelton, et al., 2009, UK; Tyler & Bersani, 2008, US; Robert, et al., 2005, CAN  
55 Weitzman et al., 1992, US; Shinn et al., 1998, US  
56 Bearsley et al., 2008, AUS; Tyler & Bersani, 2008, US  
57 Molino, 2007, US  
58 Pavao et al., 2007, US; Lehmann, et al., 2007, US; Fertig & Reingold, 2008, US; LaVesser, et al., 1997, US  
59 Browne & Bassuk, US, 1997; Wood et al., 1990, US  
60 Tucker et al., 2005, US  
61 Bearsley-Smith et al., 2008, AUS; Ingram, et al., 1996, US; Shelton, et al., 2009, UK; Tyler & Bersani, 2008, US; Robert, et al., 2005, CAN  
62 Browne & Bassuk, US, 1997; Wood et al., 1990, US  
63 Bassuk et al., 1997, US; Wood et al., 1990, US  
64 Shinn et al., 1998, US; Weitzman et al., 1992, US  
65 Lehman et al., 2007  
66 Ingram, et al., 1996, US; Tucker, et al., 2005, US  
67 Gardiner & Cairns, 2002, CAN  
68 Gardiner & Cairns, 2002, CAN  
69 Shinn et al., 2007, US  
70 Shinn et al., 2007, US  
71 Gardiner & Cairns, 2002, CAN  
72 Gardiner & Cairns, 2002, CAN

