Food Security and Housing in Vancouver's Downtown Eastside

Prepared by: Christiana Miewald, PhD
Centre for Sustainable Community Development, SFU

with research assistance from Katie Tweedie and John Hu

August 2009

Prepared for Vancouver Coastal Health, Population and Health Team

Contents

Executive Summary

The purpose of this report is to document the housing and food security needs of the hard to house population in Vancouver's Downtown Eastside and to provide population-specific suggestions for policies to address these needs. The intersection between food security and housing has seen an increasing amount of activity in terms of programming but little in the way of research or policy. The report provides three categories of evidence: 1) academic research findings regarding the relationship between food security and health among vulnerable populations, 2) interviews with residents of the DTES regarding the food security issues they face and 3) focus groups and interviews with food and housing providers in the DTES on what types of infrastructure, programming and building contexts are most critical for enhancing food security and housing in the neighbourhood.

Research findings on food security among vulnerable populations, such as the homeless, those with HIV/AIDS, drug users and people with mental and physical health issues, have found that these populations tend to suffer from micro and macronutrient deficiencies which contribute to higher rates of morbidity and mortality. In addition, some individuals may also suffer from the over-consumption of calories and fat, resulting in diseases such as diabetes and hypertension. Finally, the type and quantity of food consumed can also have an effect on mental status and behaviour. To date, interventions aimed at improving health and behaviour through food provision have focused on increasing the intake of specific nutrients such as omega-3 polyunsaturated fatty acids and folate, which have been found to improve mental health. Blood glucose may also play a role in self-control and therefore a low glycemic index diet may improve some behaviours.

Survey and interview results from residents of the DTES found that although access to food is generally not a barrier given the large number of food providers in the area, there are several conditions that contribute to food insecurity. These include problems accessing food on weekends, holidays and at night, when most food programs are closed. Other barriers are health problems that make accessing food difficult, such as mobility, mental health issues as well as drug addictions that reduce appetite and interest in food. Finally, housing or lack thereof can have an effect on food access. Those respondents who are homeless or marginally housed are the most dependent upon free or low cost food providers. Providing food in-house reduces the need to go outside of the building to access food and improves food security as well as mental and physical health.

Food and housing providers recommend that programs should be developed that provide nutritional support that is sensitive to an individual's needs and capabilities with the understanding that these will change over time. For those with severe addictions and/or mental health issues, this means on-site food provision. This can be accomplished through a cafeteria in the building or a food delivery program. It was also noted, however, that as people's physical and mental conditions improve, it is important to provide them with a range of options to access food, including in-room cooking facilities and/or community kitchens. Community kitchens can provide an important transition between reliance on food provision and cooking for oneself. They also provide opportunities to learn skills and socialize. Recommendations for in-room facilities are that there should be *at minimum* a bar fridge and a microwave. Having access to these items provides an opportunity for residents to store and heat meals. For individuals with greater interest in cooking for themselves, kitchenettes allow for greater autonomy. Finally, it is critical to pay attention to amenities available within the neighbourhood. Without easy access to free or inexpensive food in close proximity to their building, residents are likely to become more food insecure. A summary of the policy recommendations for housing and food security in the DTES are:

- All contracts for new or refurbished housing should include a plan for ensuring food security for residents. This plan should take into account the physical and mental health issues of the resident population as well as the available resources within close proximity of the site. Food programs within the building should be evaluated regularly to assess 1) whether they are meeting the nutritional needs of the residents, 2) whether the food is acceptable to the residents, and 3) if residents are obtaining new skills and knowledge through food programs (e.g., cooking skills through a community kitchen).

- Support food programs that deliver meals or provide meals in-house to improve access for those who have active addictions and/or physical or mental health issues that make accessing food providers or cooking difficult. Where appropriate and feasible, utilize a community development model that involves residents in meal planning and cooking.

- Make cooking facilities a part of basic housing infrastructure. At minimum, provide a refrigerator and microwave.

- In situations where in-room cooking facilities are not feasible, provide staffed communal kitchens where residents can plan meals and cook together on a regular basis.

- Make healthy food available with no barriers and where people are (e.g., the street) because the hard to house are often not housed.

- Promote greater linkages between harm-reduction and nutrition, as addiction is a prime contributor to homelessness *and* food insecurity.

- For housing outside the DTES, ensure that a range of free and low-cost food is easily accessible.

In addition, research should be conducted in the following areas to better refine these recommendations.

- What is the current nutritional status of residents of the DTES in terms of macro and micronutrient intake and how does nutritional status vary according to housing situation and drug use?

- What is the nutritional value of meals provided in the DTES in terms of macro and micronutrients? What types of foods might be beneficial for residents of the DTES given the current research on nutrition, health and behaviour?

- How can healthy food be provided at a cost that agencies can afford? There are a number of food programs that could be assessed regarding the potential cost-benefits of meal provision.

- What are the best models for food provision for those with addictions? The drug-induced anorexia is likely to have significant effects on the long-term health of these people. Finding a food provision model that works for them could result in significant savings of health care and other costs.

In order to assist researchers with examining the current literature on the relationship between housing, health and food security for vulnerable populations, an annotated bibliography on this topic has been created. For a copy, please contact

Claire Gram
Regional Coordinator, Healthy Communities & Community Food Security
Vancouver Coastal Health
604 875-5600 local 67636
Email: Claire.Gram@vch.ca

Introduction and Background

The purpose of this report is to 1) demonstrate the relationship between food security and housing for vulnerable populations, 2) present an overview of the current state of food security among residents of Vancouver's Downtown Eastside (DTES), 3) provide models of food provision for those living in the DTES and 4) to present recommendations on the infrastructure, programming and building context for new or renovated housing for the individuals that are hard to house. The intersection between food security and housing has become an increasing concern, especially for those working with vulnerable populations, yet there remains little research or policy focus on the issue. In this report, the focus is on individuals who are hard to house, a population that have difficulty maintaining stable housing and therefore may be marginally housed or homeless. While this report focuses on a specific population, the research framework lends itself to other populations, such as seniors or low-income families.

Methodology

The methodology used in this report includes 1) article and document review on issues related to food security among individuals who are hard to house, particularly in terms of health, 2) focus groups and interviews with food and housing providers in the DTES and 3) structured interviews with residents of the DTES who are currently or have previously been homeless or marginally housed. The purpose of these interviews was to document the specific factors that contribute to food security within this population. This information was organized using a research framework (see Appendix A) that organizes the research into 1) framing, 2) context and 3) policy. The framing data, which focuses on the relationship between nutrition and health, helps to build the case that food is an important component of health for people with multiple barriers and that food provision is a cost-effective way to health promotion. The context data provides support for the argument that the "hard to house" population in the DTES is food insecure in very particular ways that can best be addressed by population-specific strategy. Finally, the policy-level information provides specific recommendations on how best to support food security through housing.

Background on Nutrition, Housing and Health

The following literature review outlines some of the nutritional and health issues that are of particular concern to individuals who are "hard to house". The term "hard to house" should be understood as a description of an individual's situation at a specific time and place and not a personal attribute. People who are hard to house in one situation may not in another. People considered hard to house often have "multiple challenges such as a severe mental illness or mental disability combined with a substance

addiction and a physical disability or illness such as Hepatitis C and HIV/AIDS. The combination of issues makes these people virtually ineligible for most social housing."[1] These conditions also mean that people are often "hard to feed"; paradoxically they often require *high quality* nutrition but often suffer from malnutrition.

Homelessness, the Marginally Housed and Nutrition

Homelessness is a major contributor to poor health outcomes. In general, the homeless tend to suffer higher than average rates of nutritionally-related disease, such as diabetes, anaemia, obesity, and hypertension.[2] This is in part due to their lack of regular access to nutritious food which leads to malnutrition and micronutrient deficiencies. For example, homeless youth in Ontario were found to have inadequate intakes of folate, vitamin A, vitamin C, magnesium, and zinc and, and females were also lacking vitamin B-12 and iron.[3,4] Other studies have found that, for the majority of homeless people, the issue is often not a lack of food, but a lack of access to nutritious food. One study found that 29% of the homeless were malnourished, 22.7% of the homeless were obese and almost one-third suffered from a nutrition-related disorder.[5] In a study comparing chronically homeless (homeless more than one year) to transitionally homeless (homeless less than one year), chronically homeless people exhibited a greater prevalence of eating infrequent meals, fasting, inadequate food, subsistence eating, and unaffordable food.[6] This suggests that the longer someone is homeless, the more likely they are to be food insecure. When comparing housed and homeless youth Tarasuk, Dachner and Li found that homeless males had lower intakes of energy and all nutrients, and homeless females had lower intakes of most nutrients. In addition, homeless females obtained a greater proportion of their energy from alcohol while homeless males consumed less energy as carbohydrate or protein, but more as alcohol, compared with housed males.[7]

There are a number of studies that have found that individuals relying on charitable food (e.g., food banks and free meals), whether homeless, living in shelters or in temporary housing are often not adequately nourished. Tarasuk et al. found that for street youth, 87% of males and 89% of females had made at least some use of charitable meal programs, with drop-in centres the most common source of meals.[8] Another study found that the dietary intake of female shelter residents did not meet USDA requirements. In particular, their percent energy gained from fat and their total daily fat intake exceeded the USDA recommendations, while consumption of fiber and fruits/vegetables fell below recommendations.[9] Another study from Ontario found that on average, charitable meals provided to

homeless people are below the average daily requirements in energy and nutritional content. Milk and fruits and vegetables are often lacking from these meals.[10] A study of homeless men who utilized soup kitchens found that 94 per cent suffered from lack of nutrients, resulting in weakness, fatigue, depression and other emotional problems.[11] Finally, a New York study of the marginally housed found that although most participants said that they could find enough to eat, their diets showed a high intake of sodium, saturated fat and cholesterol. According to the authors, these poor dietary conditions likely contribute to healthy and behavior problems.[12]

Mental Illness and Nutrition

Mental illness, including depression, schizophrenia, and bipolar disorder, is a prevalent problem for people who are hard to house. Mental health issues can give rise to behavioural problems, including antisocial behaviour, particularly for those with dual or concurrent diagnoses (e.g., also having a drug addiction). These behavioural issues may make it more difficult for this population to find stable housing and food, thereby increasing their vulnerability to additional health and social problems. There is growing evidence that, in particular, homeless people with mental illness suffer from more physical health problems, both acute and chronic. Sullivan et al. found that almost one in five people with mental illness reported problems finding adequate food. In particular, homeless people with mental illness were more likely to get their food from garbage cans or dumpsters. Moreover, when homeless persons experience difficulties accessing food or shelter, these needs generally demand their full attention and hinder them from seeking mental health treatment.[13]

Persons with serious mental illness are more likely to have other medical conditions than persons in the general population. The odds of diabetes, lung diseases, and liver problems are particularly elevated.[14] This may be in part due to metabolic disorders which include symptoms associated with obesity, dyslipidaemia, insulin insensitivity, and hypertension often found in people with psychiatric disorders. In addition, antipsychotic drugs have been associated to the development of obesity and metabolic disturbances such as diabetes mellitus, dyslipidaemia and increased coronary risk.[15] Finally, there is a relationship between bipolar disorder and eating disorders, in particular bulimia nervosa and bipolar II disorder, which may result in under-nutrition for this population.[16] Thus, nutrition is of particular concern for those with mental illness. However, people with mental illness are often unable to manage their nutrition due to a relative lack of shopping, cooking and budgeting skills and/or opportunities, and due to the substance abuse issues that are prominent in this population. These issues are compounded by underuse of services and food access problems among this population.[17]

Drug Addiction and Nutrition

Drug users are among the populations most vulnerable to malnutrition because of drug-induced anorexia, changes in dietary patterns associated with drug dependency and the related lifestyle, poverty and infectious disease.[18,19] In addition, one of the dangers of malnutrition among injection drug users (IDUs) is the increased risk of infection, including HIV.[20] One study found that among injection drug users, all anthropometric measurements, except height, were significantly lower, suggesting calorie and protein malnutrition as well as possible micronutrient deficiencies.[21] Malnutrition among drug users has been found to be more prevalent among the females and increases with more frequent drug use.[22,23,24] For example, Tarasuk, Dachner and Li found that among females, heavy drug use was associated with significantly lower intakes of vitamin B-6, folate, thiamin, niacin, magnesium, and zinc, and lower mean BMI.[25] The prevalence of malnutrition can be due to a number of factors. One survey of IDUs found that 52% reported that they did not have enough to eat because of a lack of money, 60% reported that they did not eat the quality or quantity of food they wanted because of a lack of money, and 65% reported not eating or drinking enough because of an extended drug 'run'.[26]

Drug use can also affect the quality or types of food consumed. Use of opiates tends to result in individuals replacing foods that are rich in fat and proteins with foods rich in sucrose and relatively poor in vitamins and minerals.[27,28] Heroin users have been found to have low intakes of vitamin A, iron, thiamin, ascorbic acid and calcium; low body mass index (BMI); protein-energy malnutrition; higher and delayed insulin response; and altered glucose tolerance and metabolism.[29] Nakha et al. found that among heroin users 45% were deficient in vitamin B6, 37% were folate deficit and between 13 and 19% were had thiamine, vitamin B12, riboflavin deficiencies.[30] Several studies have examined the nutritional intake of methadone users and found that there is a greater consumption of low-nutrition sweets and a lower intake of complex carbohydrates, fish and vegetable fats.[31] Those on methadone also had a significantly higher body mass than controls and had a high prevalence of a dental caries and chronic constipation. Finally, cocaine use has been associated with anorexia and eating disorders and may have influence energy intake, energy requirements or immunity that differ from the effect of opiates.[32,33]

HIV and Nutrition

Nutritional status is an important predictor of progression to AIDS and survival of HIV-infected patients.[34] The WHO recommends that a person with HIV must consume 10% more calories in the asymptomatic phase, 20 to 30 % more in the symptomatic phase, and 50 to 100% more in the symptomatic phase where there is accompanying weight loss.[35] There are a number of ways in which food insecurity affects the health of those infected with HIV, including malnutrition, reduced drug effectiveness and adherence, a compromised immune system and increased mortality. Food insecurity can result in malnutrition, which can increase susceptibility to and exacerbating the effects of HIV/AIDS.[36] In addition, several protease inhibitors require food for maximal absorption, and the absence of food may negatively influence the effectiveness of these drugs. However, studies have found that HIV-positive individuals who were severely food insecure are less likely to adhere to their medication, which increases their risk of secondary infections.[37] Finally, individuals who were food insecure and underweight (BMI <18.5) were almost twice as likely to die as those who were neither food insecure nor underweight.[38] Even a 5% weight loss over a 6 month period has been shown to increase mortality. Tang et al. conclude that "attention to weight loss in the current HIV climate, where patients are maintaining more normal clinical status, remains important."[39]

The rate of food insecurity among those with HIV/AIDS in North America varies. Studies in BC have found between 52% and 70% of HIV positive individuals to be food insecure. In these studies food insecurity was associated with low-income, a history of injection drug and/or alcohol abuse, and living in *an unstable housing situation* and having a lower CD4 cell count.[40,41] One Ontario study found that 57% of people with HIV experienced difficulty in buying enough food over the previous year and 57% received food bank services in the previous 3 months.[42] Finally, another Vancouver-based study found that food security and stable housing are linked to better clinical outcomes among individuals receiving highly active antiretroviral therapy (HAART). The authors conclude that "This suggests that food security and stable housing may be important neighbourhood-level risk factors for poor treatment outcomes for people living with HIV/AIDS and should be considered in the implementation of drug treatment programs."[43]

HIV, Drug Use and Nutrition

Because injection drug use is a risk factor for HIV infection, the co-occurrence of HIV and drug addiction is high. The B.C. Centre for Disease Control estimates that approximately 30 to 40% of IDUs in the DTES

have HIV. The combined issues of drug use and HIV infection can further exacerbate nutritional deficiencies and weight loss. HIV-related wasting continues to occur among HIV- infected drug users, even among HAART recipients.[44] For example, involuntary weight loss of more than ten pounds in the previous six months was self-reported in 5% of HIV negative drug users and 16% of HIV positive drug users, suggesting that drug use compounds nutritional problems in persons infected with HIV.[45] One study found that BMI was lower among HIV positive drug users than for HIV positive non-drug users, and was lowest in cocaine users.[46]

BMI has also directly associated with CD4 count, which can indicate lowered ability to resist infection. Quach et al. conclude that "HIV-infected cocaine users may be at higher risk of developing malnutrition, suggesting the need for anticipatory nutritional support."[47] Another study of HIV-infected drug users found that food insecurity and viral load were the only independent predictors of wasting.[48] The danger is that drug users with HIV may have difficulty maintaining or regaining weight following bouts of illness, putting them at risk of mortality. There is also evidence that IDUs with HIV may suffer from nutritional deficiencies. This is a concern because micronutrients such as vitamin B-12, zinc, and selenium have been associated with mortality risk in HIV-positive populations.[49] The diets of both HIV positive and negative IDUs have shown low plasma levels of vitamins A, E, and Bs and zinc. In particular, vitamin A was consumed below the RDA levels. The low intake may be of special concern for HIV positive individuals, because low levels of serum vitamin A have been associated with more rapid HIV disease progression and decreased survival.[50,51]

Other Nutritionally-Related Chronic and Infectious Diseases

There are also a number of chronic and infectious diseases which are directly and indirectly affected by diet. Within Vancouver, the Downtown Eastside (CHA2) has the highest rates of nutritionally-related disease including colorectal cancer, diabetes, and diseases of the circulatory system.[52] These conditions may be in part a result of the diet. Homeless people who eat shelter-provided meals have been found to have high rates of hypertension and obesity and diets containing high amounts of saturated fats and cholesterol.[53] Being overweight is a contributing factor to Type 2 Diabetes, which is associated with complications that include coronary heart disease and kidney, nerve, and retinal damage. Aboriginal people are particularly vulnerable to food-related disease because of their socioeconomic status, typically poorer access to health care, and their predisposition to diabetes. Another disease closely linked to diet and/or nutritional deficiencies is cancer. Studies have linked the consumption of fresh

fruits and vegetables to a decrease in cancers of the lung, esophagus, mouth, stomach, colon, and pancreas.[54] Finally, tuberculosis has been associated with malnutrition and nutritional deficiencies, especially among those with HIV/AIDS.[55] In 2006, the rate of tuberculosis infection was 36 per 100,000 in the DTES, which was double that of any other area of the city.[56] Improved nutrition may help alleviate these conditions, improve the quality of life for residents and ultimately reduce health care costs.

Nutritional Interventions

Nutritional interventions—providing or promoting enhanced nutrition in order to improve health status—have been used in a variety of research and applied settings. There are numerous suggestions for addressing the nutritional issues described above. In general terms, Davis et al. makes the following recommendations about the quality of food served at charitable programs, such as shelters and soup kitchens: 1) Serve a variety of nutritious, tasty foods low in fat, high in fiber, and skillfully prepared, seasoned, and presented; 2) Encourage collaboration among clients, chefs, administrators, and food bank managers to acquire more nutritious donations and emphasize nutrition improvement as a fundraising priority; 3) Develop a chef training program to teach cooking and catering as a job skill and to operate a catering business with profits designated to improve shelter meal quality; 4) Create a community garden to grow fresh fruits, vegetables, and herbs for food preparation and resident participation in food production; 5) Establish a community kitchen with storage space for personal groceries, thus encouraging greater resident autonomy in food preparation and choices and meal in times/locations; 6) Distribute meal vouchers and bus tokens for occasional visits to nutritious restaurants.[57] There are also recommendations for nutritional interventions among specific populations. For those with HIV/AIDS, Godfry notes that, "Ensuring that patients have adequate meals during an extended course of treatment in the outpatient clinic or that dieticians have meals available in group settings or through home-delivery services may be the most appropriate nutrition intervention in these high-risk patients."[58] Additional recommendations for addressing these issues include increasing the intake of fruits, vegetables, and milk or milk products to ensure diet adequacy for this population and the creation of culturally appropriate nutrition interventions incorporated into drug treatment, HIV/AIDS prevention, street health outreach, syringe exchange, homeless shelters, drop-in centres, and other programs that provide services to IDUs.[59]

Nutritional interventions can also include targeting specific nutrients. There is growing evidence that nutritional intake can have a significant effect on mental health status. For example, the consumption

of omega-3 fatty acids, as well as some vitamins and minerals have been found to be related to improved mental health and behaviour. While none of the nutritional interventions can be recommended as the only treatment, they may play an important role in improving mental health status, particularly for people who are malnourished or are not willing to take other medications.

One promising area of research has focused on fish consumption, and specifically on the intake of omega-3 polyunsaturated fatty acids often found in oily fish and some vegetable oils. Several studies conclude that fish consumption is significantly associated with higher self-reported mental health status and fish oil.[60,61,62] Fish oils have also been shown to reduce aggression.[63] Buydens-Branchey suggests that low levels of some polyunsaturated fatty acids contribute to aggressive disorders. For example, a comparison of the levels of aggressive and non-aggressive cocaine users found that aggressive patients had significantly lower levels polyunsaturated fatty acids in their bodies.[64]

Vitamin and mineral deficiencies may also have a negative effect on mood and behavior. Deficiencies of folate, vitamin B12, iron, zinc, and selenium tend to be more common among depressed than nondepressed persons.[65] In particular, folate deficiencies may lead to an increased risk of depression and poorer antidepressant treatment outcomes, as well as an increased risk of dementia and folic acid supplements each have been used to successfully treat depression and self harming behaviours.[66,67] Furthermore, low selenium (an essential micronutrient found in nuts, cereals, meat, fish, and eggs) is associated with depressed mood, anxiety, and cognitive decline.[68] Selenium therapy has been found to decrease anxiety in HIV+ drug users who exhibit a high prevalence of psychological burden.[69] In addition, multi-vitamin and mineral supplementation can decrease the incidence of violent and non-violent anti-social behaviour.[70] Bodnar and Wisner conclude that, "Greater attention to nutritional factors in mental health is warranted given that nutrition interventions can be inexpensive, safe, easy to administer, and generally acceptable to patients."[71]

Finally, researchers have found a link between glucose levels and self-control behaviours including stress, impulsive actions and criminal and aggressive behaviour. According to Gailliot and Baumeister, "It is possible that part of the well-established link between poor self-control and criminality may be exacerbated by poor dietary habits."[72] Problems with self-control are more likely when glucose levels are low from either a lack of food or eating food with a high glycemic index. Foods with a high glycemic index, such as white bread, potatoes, and processed cereals, quickly raise blood glucose prompting an

insulin response to reduce the level of glucose. The result of eating high glycemic index food can be low blood glucose levels. In addition, alcohol reduces glucose and impairs self-control. Therefore, a poor diet combined with alcohol consumption can result in low glucose levels and problems with self-control. Furthermore, problems with self-control are most likely later in the day when blood glucose levels are lowest. Restoring glucose to a sufficient level typically improves self-control. Many of the foods currently being served in the DTES, such as white bread and donuts, have a high glycemic index. Increasing the availability of low glycemic index foods, such as fruit, vegetables, whole grain bread and low-fat dairy, may help with behavior control.

Housing and Food Security for the in the DTES

Food security can be defined as: "when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food which meets their dietary needs and food preferences for an active and healthy life."[73] There is currently little known about the relationship between food security and housing among individuals who are hard to house. While there has been research on the food security status of homeless populations, less has been written about those who are marginally house, for example, living in SROs or similar conditions. Nor has there been much research on the relationship between housing and food security. There is abundant research, however, to suggest that housing positively influences health status and a few studies have found a correlation between food insecurity and unstable housing.[74,75] Yet, there are a number of questions that have not been addressed in the literature. For example, are people who are adequately housed more food secure? What kinds of food programs work best for populations in who are hard to house and how can providing food and housing together improve health? While the literature on providing housing mentions food as an important "hook" for attracting and engaging with clients, there are typically no specific recommendations about how this food should be provided.[76]

There are approximately 16,000 residents of the DTES, many of whom are homeless or living in unsupported SROs. Approximately 13% of this population is "in crisis" meaning that they have no permanent home, have behavioral and health problems and are not well connected to services.[77] The *Downtown Eastside Demographic Study of SRO and Social Housing Tenants* provides an even more detailed socio-demographic and economic profile of residents living in DTES SROs. Its findings conclude that residents of SROs tend to be male, Caucasian and live in single person households. Approximately half (52%) had previously been homeless, approximately one-fourth (28%) assessed their health as poor or terrible; and the majority (79%) reported health concerns. In terms of health status, 22% of SRO residents indicated that they suffered from HIV/AIDS and/or Hep C and/or TB and 30% had a mental illness.[78] A survey of residents of the Portland Hotel found that 34% have a diagnosed mental illness, 33% are HIV positive, 88% have a drug or alcohol addiction and 73% are injection drug users.[79]

Among the homeless population, men also make up the majority, they are also predominantly single.[*] The majority of the homeless population has at least one health problem; 33% percent of homeless had

[*] These statistics are for the homeless population throughout the entire Metro Vancouver region, not only the DTES.

a mental illness, 46% had a physical health conditions and 61% reported a drug addiction.[80] Public health personnel interviewed for this report noted high rates of cancer and uncontrolled diabetes among the DTES population. In short, these statistics suggest that both the marginally housed and the homeless in the DTES suffer from a number of conditions that affect their food security status

Within the DTES, there are several types of housing and shelter. This includes seasonal and all year shelters that provide at minimum a place to sleep and one to two meals for those that stay there. There are also a number of Single Room Occupancy Hotels (SROs). SROs typically consist of one room about 10 x 10 feet, with shared bathrooms and cooking facilities. SROs that are managed by non-profit societies often provide better maintained facilities than those of unregulated providers.[81] While some privately-run hotels are in poor condition and lack services or amenities, those run by non-profits often provide services or links to services within the community. These units also tend to be better maintained. For example, when PHS renovates a hotel, they make every effort to include a bathroom and kitchen in the rooms.[82] Many SROs managed by a non-profit society have adopted a "housing first approach", which is focused on providing housing before other services and is low-barrier. Some of the SROs in the DTES also serve as supported housing, in which services are made available for individuals who have serious, persistent issues that may make them vulnerable to homelessness including drug addiction, mental and physical illness or disability (see Appendix B for a list of supportive/low-barrier housing mentioned in this report). . There are also residential treatment facilities that provide both housing and a meal program. These programs are typically time-limited and residents must find other accommodations once their treatment is finished.

Interview Results with DTES Residents

The following section provides the results of structured interviews conducted with 47 individuals who participate in the Lifeskills Centre or who reside in one of PHS Community Services' hotels.[†] The Lifeskills Centre is a low-barrier resource centre providing job training, community kitchen groups, free laundry, showers, internet and phones. The purpose of the interviews was to gather information on the food security issues that affect this population, many of which are or have been homeless or marginally housed. The findings suggest that housing plays a key role in overall food security. Those without housing or were marginally housed without access to an in-house meal program or cooking facilities were most reliant on charitable food providers. This reliance means that they are not necessarily able to access the food when they needed it. This is particularly true for individuals addicted to drugs who may not be able to stand in line-ups or attend meal programs at particular times. Having access to food where they live can improve overall nutrition, behaviour and well-being.

Interview questions included basic demographics (gender and age), chronic health conditions, history of drug use, current and previous housing situation, where individuals access food, ease of access, and their opinions regarding the quality of food provided in the DTES. If those interviewed had a history of drug use and/or homelessness, they were asked to talk about food access during these times and if they differed from when they were housed and/or not using drugs. Interviews took between 10 and 40 minutes and were recorded, transcribed and categorized into themes. The names or any other identifiers are not included in this report to protect the confidentiality of respondents.

Demographics

The majority of those interviewed were Caucasian men, although efforts were made to include women and representatives from other ethnicities (see Figure 1). The average age of the participants is 42. A number of respondents reported having a health problem, including Hep C, mental illness, arthritis or other mobility issues, HIV/AIDS, and digestive disorders. In addition, 89% reported current or former drug use. The most commonly used drugs were cocaine/crack, heroin, crystal meth, alcohol and marijuana.

[†] This sample is not intended to be representative of all residents of the DTES or the hard to house. For example, those with severe mental illness were not included in this survey. Rather, the intention is to reflect *some* of the realities for *some* residents of the neighbourhood.

Figure 1

Gender	**Number**	**Percent**
Male	31	66%
Female	16	34%
Total	47	100%
Ethnicity		
Caucasian	24	51%
Aboriginal/Metis	16	34%
African/African Decent	4	9%
Latino	3	6%
	47	100%

In terms of their current housing situation, 55% are living in an SRO, 23% have no fixed address (either they are living on the street, in a shelter or 'couch surfing'), 15% are in a supported SRO or treatment facility and 6% are in an apartment. Overall, this sample reflects the diversity of housing situations that are experienced in the DTES. While those living in apartments or treatment facilities may no longer be defined as "hard to house", all had been homeless in the past and were included in this study because they represent a population that has moved from being very housing insecure to relative stability. Housing instability is one of the defining features of the "hard to house" population. In this sample, 85% of respondents had experienced at least one period of homelessness and, for many; their time in the DTES is typified by a series of SRO rooms interspersed with homelessness and/or time in a treatment facility. For example, of those currently living in an SRO, 73% had been there for less than 1 year.

Where Food is Accessed

Food security is comprised of a number of different factors, including how available and accessible food is within a given community. In terms of food availability, the DTES can be viewed as a "high resource" food environment, with some 50 different organizations offering free or reduced-cost meals. At the same time, there are high rates of food insecurity within the DTES, creating a contradiction between

food availability and food security. This section describes the various ways that respondents said that they accessed food.

When asked where they eat most of their meals, the majority of respondents (59%) reported using the free or low-cost food providers in the neighborhood. One respondent described their typical day,

> "I start the morning at eight thirty at United Church. They serve you vegetables and soup. And then somehow I end up here (Lifeskills) at ten o'clock and eat here. The food here is good and it's filling. Then I go next door to the Lookout, and then I go to the United Church or Union Gospel [Mission]. It's the "Hasting Shuffle," there's a lot of places to eat and some of them aren't that healthy but most of them are."

Another 13% said that they utilized food programs and their own cooking facilities equally, while another 13% reported that they primarily cooked in their residence. Those living in a supported SRO or treatment facility had three meals provided for them and therefore ate exclusively at that location (15%). Almost all respondents used free or low-cost meal providers at least some of the time with the exception of those in a treatment facility. Among the most commonly cited locations to access food are the United Gospel Mission (UGM), Lifeskills Centre, First United Church, the Sisters of Atonement, and the Evelyn Saller Centre ("the 44"). Respondents particularly liked the Evelyn Saller Centre because they were able to choose what they wanted from a selection of items rather than simply being given what was available. This issue of choice is a critical one to creating a food program that meets the needs of different populations within the DTES.

When asked about other sources of food, 19% said that they used a food bank. Food bank use was usually infrequent because in 2008 the Vancouver Food Bank closed its DTES depot, yet some programs still provide food bags for their clients or in exchange for volunteering. 53% had attended a community kitchen. Finally, 83% reported shopping at least occasionally for food. Purchasing food may be a strategy preferred by some groups. For example, Gaetz et al. note that among homeless street youth in Toronto "food purchasing was preferable [to charitable meals] because it gave them a choice over when, where, and what they ate…"[83] In the DTES, low-cost food is available from a number of stores such as Quest, the Washington Community Market and Sunrise, all of which respondents who shop for

groceries reported using. In addition, food can also be purchased on the street for relatively little money.

Restaurants in the DTES are also an important place for accessing food. 63% said that they occasionally ate at restaurants when they had the money. Most commonly cited were Flowers Café, pizza shops and McDonalds. Flowers Café was chosen because it serves large portions at an inexpensive price. Residents report that they prefer to go to a restaurant if they have money because they get better food and can order what they want. Restaurants also serve as an option for those who have money from working in the informal or underground economy, but for whatever reason do not want to stand in the line-ups.

> "A lot of the working girls eat restaurant food. They get their payoffs on a daily basis and they don't have the time or the patience [to stand in line]. A lot of the working girls, they have issues with standing in line where everyone can look at them and judge them. That's why a lot of them eat at restaurants…'cause they can afford it."

Being able to go to a restaurant is also a form of empowerment. According to one community advocate in the DTES, "There is the dignity of being a real customer and that someone is there to cater to you. It's an issue of power relations. Being able to afford a meal is good for people's self esteem." In addition, restaurants are part of the economic vitality of the neighborhood and they are places where various populations within the community can interact. While they serve a diversity of people, many try to cater to those who have limited funds.

There are also a number of alternative ways that respondents said they accessed food, including trading, sharing, stealing and getting food from bins.

> "If you don't have any food and you have the drugs, people will trade. See, like I had the drugs and they had the food or it was the other way around, they had the drugs and I had the food. So they were hungry and I needed my fix for the day, so I traded with them and it turned out good. He got full and I got what I wanted. And if we didn't have anything like that here, we would probably starve and die from all the drugs."

> "Like the week before welfare, we go through our fridge and cupboards and stuff that we've collected from food banks or Loving Spoonful [and if we won't eat it]…we give it away."

> "I've been doing dumpster diving for years. Well, [a fast food chain] and stuff like that, they throw out stuff every night and they usually put it beside the garbage too for you and they usually have it all wrapped up for you too. Mainly downtown here, and [a coffee chain] they do the same thing sometimes they'll wrap up stuff and put it near the bins for you."

In the next section, the report provides information on the various factors that can affect food security in the DTES. These include 1) how food is provided, 2) health and other conditions that influence if and how food is accessed, 3) food quality—is it acceptable and healthy? and 4) housing conditions.

Food Provision and Barriers to Food Security

When asked if it was easy or difficult to get enough to eat on a typical day, 83% of the interview respondents said it was easy. Respondents frequently said that there is generally enough food in the area, "you can't starve in the DTES", especially when compared to other cities in BC. At the same time, there are gaps and restrictions within the current system. Saturdays, Sundays, long weekends, the week before welfare Wednesday (especially in a long month) and night-time were noted as being difficult times to find food. For example, while there are meals provided on the weekends, there are fewer available, which increases the demand on those providers who do offer food on those days.

> "Yesterday it was difficult for being a holiday, long weekend. There were four places that hand out food were shut down because of the holiday. It was hard to get some decent food because that means all the other food line-ups are doubled up and they run out."

> "Near, close to welfare. Like all this week, when it's a 5-weeker [it's hard] because the welfare is only geared for 4 weeks. So a 5-weeker is when the line-ups are long, long, long. [I think] 'Well I'll just go home and have bread.'"

Those with physical or mental limitations may find it difficult to stand in line. There is also the threat of violence and harassment within the line-up, which is particularly difficult for women.

> "I don't go to [free food provider] because it's too rough in the food-lines. At 3 in the afternoon, they're burned out, they're tired, they're angry."

> "You spend so much time in line, it's awful. Places that are open all day [are better] cause when people stand line, there are fights in the line, it's horrible."

Some food providers have restrictions on behaviour and will either ban individuals from using the service or will stop serving food.

> "At [free food provider], if there's an incident 20 people ahead of you, one person's acting up, the whole line gets shut down. Nobody gets nothing, they just close the door."

Another deterrent to food access are restrictions that some food providers place on individuals that are under the influence of drugs or alcohol.

> "The problem is that if you're hungry, you're hungry. If you happen to be fucked up at the time, at least they're trying to get something to eat but [low-cost meal provider] is really bad for [barring people on drugs]. My partner went there on prescription medication and they're like, "you're drunk" and she's like "I don't drink". They're like "no, you're drunk, get out"."

> "Everyone is in a vulnerable position to begin with then you add on no sleep and drugs and whatever and you have created the most vulnerable person and you're denying them service. That's just fucked up".

When asked why they chose certain places to eat over others, most respondents said that it was because they were comfortable in that location and/or it was a place where they could access other services such as laundry or a shower. For individuals who are hard to house, that is most often places with a "no barrier" approach to food provision. In addition, women were inclined to prefer "women only" food providers as they protected them from harassment and generally had a calmer environment than places open to men. At the same time, being treated badly or being judged was a reason not to use a particular service.

> "If you go there [women only service provider] as transgender you have to be identified as a woman. You have to look like a woman. You can't go there with a shadow showing. A few times I went with my shadow showing and they told me that I could not eat there. You have to be dressed up to be going out, you can't just go in there and say, 'I work as a transgender.'"

Respondents also noted that the practice of "red zoning" constrains their ability to access food. "Red zoning" involves restrictions put on people by the police after they have been arrested. The intent is to keep them away from "triggering" (typically areas where there is a high degree of drug trafficking or prostitution) areas of the city but these restrictions often exclude them from areas where food and other services are available.

> "Even if you're in a food line-up across the street getting a sandwich and a coffee and that's your red-zone, they'll pull you out of the line."

Health-related Conditions that Affect Food Security

There are also a number of health-related conditions common in the DTES that affect diet. These include dental problems, which make eating hard food difficult, digestive diseases such as colitis and inflammatory bowel disease that can restrict diet, and mental health issues that make it difficult for people to eat around others.

> "We get a lot of apples down here but a lot of people don't have teeth or they have partial plates or whatever and a lot of them can't eat apples so they need a lot more softer fruit."

Being HIV positive also influences diet. Some respondents said they need a full stomach in order to take their medications while others noted that they need more energy and their metabolism seems to have "sped up" because of either their medications or the disease itself.

Finally, addictions to drugs often resulted in severe and profound food insecurity. This was particularly true for those using cocaine. All respondents who reported using cocaine said that their diet was significantly worse and they ate fewer meals when they were using than when they were not using. Respondents noted that when they were using drugs, their appetite decreased markedly and they were less concerned with eating and drinking; often missing opportunities to access food from providers.

Those with addictions also said that they were often too busy trying to get money for drugs to stand in the food lines. This resulted in weight loss, anorexia, malnutrition and dehydration.

> "Sometimes I'd go 7, 8, 9 days without a meal. I'd eat candy, dope and booze and that would be it, for days and days. 'Cause with the dope, you don't need anything. Your body doesn't want for anything."

> "Honestly, I'd be lucky if I ate an actual meal every three days. Yeah, I'd steal little bits, a chocolate bar, very unhealthy but actual cooked food very seldom. Even though there's lots here, I wouldn't have the time 'cause I'd always have to be making money for heroin. You can't take a day off, it's a full-time job."

When individuals stopped using drugs, they reported that their diet improved and their weight increased.

> "I've come off powder [cocaine], I've come off rock [crack cocaine]. So my diet has changed 'cause I eat now and before I didn't eat. I would eat maybe one [meal] every couple of days. It's crazy, with addictions you totally forget about eating and you totally forget about drinking something. I went down to 98 pounds…"

In addition, those using drugs are also less likely to purchase food. Food line-ups, community kitchens and fast food become a critical source of food for this population.

> "People are drug addicts down here. They don't want to spend their money on groceries. They spend their money on a 10 dollar toot and get a piece of pizza afterward."

> "I spend all of my money on drugs. Whenever I get money, I spend it on drugs. I need to have meals like this [community kitchen] and the line-ups just so I eat. I never have money to buy groceries and I hate cooking."

A few respondents said that they were aware of the problems of severe weight loss and dehydration while using drugs and had developed strategies to try to avoid the worst effects. This could include

drinking Gatorade or Ensure to avoid dehydration or buying food to ensure that they had something to eat if they weren't able to access food providers.

> "Once I touch it, the food doesn't matter. That's why I try every month I go and do my groceries first off for stuff for the month like powered milk and canned stuff and peanut butter so that I have enough through the month."

> "I take a lot of vitamins myself too and drink a lot of Gatorade if I'm on a long jag smoking crack. You've got to keep your body hydrated. You gotta make sure, even if you're losing the weight, that you're getting essential vitamins and stuff you need 'cause that's what will cause more long term damage or problems with mental breaks."

> "I would try to eat once a day and I was drinking a lot of Ensure. I would go to the 44 and order a double but I could never finish it all because I was too impatient to get back to work. But it was really difficult to make myself eat because I was never really hungry. In the past, I would binge for a day or two and then afterwards I would eat non-stop as much as I could for a few days to replenish what I'd lost, but the [last] binge never ended."

In addition, many of the food providers serve extra meals prior to welfare Wednesday in order to ensure that people are nourished.

> "Day before welfare day [is good] because they know that everybody gets their welfare cheque tomorrow. So for 3, 4, 5 days nobody will eat because they have money for dope. So all these places they know that so they try to fill them up today so that they have food and vitamins in their stomach."

However, the cycle of drug induced anorexia and eating large quantities of food before and after the drug binge, can result in disordered eating.

Food Quality

When asked about the quality of food they received, the majority of respondents said that it was "good" both in terms of taste and healthiness. At the same time, respondents commented that their diet was often monotonous, being heavy on sandwiches, pastries and bread.

> "Their hearts are in it but the food is not the best…We get a lot of peanut butter. Most of us are sick of peanut butter. But like I said, their hearts are in it and if you get hungry, you eat. "

> "You get a lot of bread. I eat a lot of bread. It's better than nothing but it gets monotonous and I'm not sure how healthy it is to just fill up on bread."

> "I could do without sandwiches for a while. Maybe if they could serve something else. But it's low-cost and it's easy on people's budgets so you can't complain. Beggars can't be choosers."

One respondent noted that constipation is a perennial problem for those who use drugs and additional fibre in the diet may be of benefit.

> "The diet that I was eating primarily at [low-cost food provider] is not really a high fiber diet. It's a little bit greasy, it's a lot of processed, overcooked food…They don't need to have such a high fat, high protein diet for every meal. There's bacon and eggs and these big pancakes. A lot of bleached flour, there's no real fiber in any of it. You can ask for brown toast but I'm pretty sure it's wonder bread. It not really the healthiest diet but it's better than no diet."

Some also felt that the food they received lacked high enough proportions of meat, as well as of fruits and vegetables, although a number commented that the quality of food had improved over the past few years.

> "For free food and donated food, wow it's a far cry from the old days. There's a lot more fruit and vegetables coming out."

Among those that received the highest marks for good food were UGM, Lifeskills and the Evelyn Saller Centre. Women also reported that the food was better and healthier at "women only" places.

> "Just about all the women's places give fruit and vegetables with their meals, that's why it's good to eat at those places because they don't really care about doing it at the men's places because a lot of the men will throw the vegetables away and throw the fruit away. They only want the meat and potatoes."

When asked about fruit and vegetable consumption, most respondents said they ate these nutritious foods between once and twice a day. These items would either come through meal programs (e.g., vegetables in soup or salad) or occasionally from purchasing fruit from the local stands (e.g., Sunrise market). While it is beyond the scope of this research to evaluate whether or not this population is meeting the recommended intake of 7 to 10 servings of fruits and vegetables per day, it is likely that a significant proportion are not. This is particularly true for those who had reduced dietary intake due to their addictions.

Finally, access to water is another issue faced by the homeless and marginally housed.

> "I find a lack of water down here. I've heard that from a few people. Your body is like a motor and if you don't give it water it seizes up, eh. And my body is seizing up 'cause I don't drink enough water. "

Food providers noted that residents would typically drink coffee or tea, which are dehydrating and that access to water is limited. Similar findings of chronic dehydration have been made in Toronto among street involved youth.[84]

Housing and Food Security

Finally, housing conditions can have a significant effect on an individual's food security. Factors such as cooking and food storage facilities, as well as the building's safety and cleanliness, can all contribute to a person's ability to access food. In this study, 77% of respondents reported that they had some access to cooking facilities, either in their room/apartment or shared kitchen in their building. 11% had a full kitchen, although these were primarily respondents who were living in an apartment. Of those that had access to cooking facilities, 72% of respondents said that they used them at least once a week. Commonly prepared foods were rice, potatoes, pasta and hamburger. Even in situations where people

only had a fridge and a microwave, they were used to store and heat meals obtained from food providers, which is a benefit when food providers were closed.

Homelessness

Homelessness can have a number of detrimental effects on food security. Lack of access to cooking and food storage means that homeless individuals are more dependent upon food providers. During bouts of homelessness, some individuals reported that their drug use increased in order to deal with the discomforts of living on the street or in shelters. This, in turn, which further decreased their food intake.

> "When I was homeless, the problem was because I was homeless I was getting high and drinking a lot and I missed the meals because I didn't show up at the right time or whatever so I'd go without food a lot longer."

Having access to housing allows people greater flexibility in their ability to manage their own diets.

> "Having a home, a place to stay and be healthy and to store food [is important]. Like before I weigh 190 lbs now and before when I was homeless I weighed 135. I was very, very skinny. Very not healthy. Yeah, there's a big difference. Basically getting rest. Being able to wake up in the morning and eat. If we're sick, we're able to stay home and take care of ourselves. Prior to having a place, it was very bad."

Compared to those with stable housing, access to cooking facilities is quite different for homeless people. Only 2 homeless respondents reported having access to cooking facilities; one individual had a camp stove and the other had a shared kitchen at the shelter where they were staying. Storing food is also impossible on the street or in a shelter. In shelters food and other personal items may be stolen so residents rarely bring in more than snacks.

> "I buy munchies for myself and take it to the shelters but it's really bad because people take things that aren't theirs."

While those residing in shelters may have better access to food than those on the street, they are still more vulnerable to food insecurity than most who are living in an SRO or other housing.

SROs

For those living in SROs, there are considerable challenges, including the lack of cooking and storage facilities and pests. A 2005 survey of SROs in the DTES found that only a small percentage had contained housekeeping rooms (although the facilities varied), or communal kitchens. The majority allowed some type of cooking in their rooms, yet it was often up to the resident to supply a hotplate or other cooking device (microwave, toaster or rice cooker).[85] The lack of cooking and other facilities in many privately run SROs forces people into streets, which in turn, contributes to drug use and social disorder.[86]

For the population surveyed for this report, there was a range in the quality of living conditions within their SRO. In those SROs that are managed by non-profits, facilities are generally well-maintained and there may be some services provided. Unregulated SROs, those which are privately run, typically offer no services or building maintenance. In terms of access to cooking facilities, 92% of those living in an SRO said that they had access to cooking facilities and 92% had a fridge in their room (often a small bar fridge), 50% had access to a microwave, 38% had a hotplate, and 23% had a shared kitchen in their building. Access to cooking facilities was often dependent upon the type of SRO; newer buildings (e.g., the Lux and the Pennsylvania) may come equipped with a kitchenette within the room but in most instances residents have to purchase their own equipment. One resident of the Pennsylvania Hotel described how he uses the cooking facilities there:

> "I cook for myself about 4 days a week, something simple or I'll heat up something…I make spaghetti and sauce, Kraft dinner or I'll get some ground beef and make hamburger helper."

Housing that is of poor quality, infested with vermin, and unsafe could have a negative effect on residents' ability to store and cook food. One study found that 39.6% of SRO residents reported that pests were a significant problem where they lived.[87] Another found that 77% of SROs had rodents and/or cockroaches.[88] Among those who participated in this study, food storage was also a problem, especially for those who lived in older, poorly maintained buildings.

> "At the [SRO], there's no way to eat at home there. There's too many rodents and cockroaches in the room to even think about storing food in my room. I didn't have a fridge. So food in my room was not an option. My room was so insecure that people were breaking in all the time. It was a nightmare there."

Often, residents with infestation problems kept food in their refrigerator or in sealed containers or only kept cans. For many, having enough space to store food was also an issue as rooms can be extremely small. At the same time, those living in the newer building reported having sufficient storage space and no problems with vermin, thereby increasing their ability to store food.

Finally, the cost for a room in an SRO can affect an individual's ability to purchase food. A study by the Carnegie Community Action Project found that 40% of the SROs they surveyed changed $425 a month for rent, which is $50 more than the shelter allowance provided to people on social assistance.[89] This forces residents to use a portion of their subsistence payment to cover their rent, resulting in less money for food and other essentials.

Supported SROs and Treatment Facilities

For this study, 6 people who are currently in a treatment facility for addictions or in a supported SRO were interviewed. Five of these individuals received 3 meals a day, plus snacks, at their residence, while one, who was living in the supported SRO, received one daily meal. For those going through recovery, meals that are provided can be an important factor in restoring their health.

> "I'm maintaining, with minimal effort, 190 to 195 pounds. I went on a 3 year bender and I went down to 155, 160 and came in at 158. My appetite has stabilized a bit. I get three squares where I'm at now and if I want more, there's more to eat. The kitchen is always open and there's all this food in the fridge so food is not a problem for me now. In the beginning, when I came into stabilization, into detox, I just ate as much food as I could put into myself. I put on 10 pounds a week, boom, boom, boom. Actually, I put on my first 20 pounds in 10 days, 2 pounds a day."

In addition, meal provision allows people to have the time to work on other issues in their lives and focus on their future.

> "I'm kind of liking the time, the extra free time I get not having to cook my own food. I'm thinking I might do another treatment centre next or I might go to a supported living type place or even a shelter for a month or two where I can continue to be fed, like a little child (laughs). I

like to have the time to do the things that I need to work on myself. Eventually, I'm going to have to join reality but I'm in no rush."

"Coming down here [supported SRO], it's quite a plus. Healthy body, healthy mind. The road to recovery was a lot easier here. I'm situated now that I might look for a part-time job. Being in a clean environment, having good meals all the time, going back to work is a possibility in my future. It's going to be a little easier on the government if a lot of people are able to go back to work, even work part-time."

In short, food provided as part of a detox program can be a critical component of the recovery process.

Housing Outside of the DTES

While most of the respondents of this survey lived in the DTES, a few had moved out of the area to live in apartments. While living outside of the neighborhood was helpful for some as it enabled them to escape old habits, it could also create a problem if they weren't adequately supported. Since the DTES provides the majority of free/low-cost food and other services, former residents are motivated to make occasional visits to the area.

"I finally got subsidized housing so I had to move out of the area, which really screws me in the sense that now I'm away from all the services. But at least I have a decent place to live…If we come downtown, it's a chore, right, it costs me money to take the bus down here."

"Everybody always wants us out of the area but all the resources are here. It doesn't make much sense to live a couple hours away and then we don't have the resources. I get a fair amount now on support but it's still not a lot when you spread it over the course of the month. I need the free laundry. There's still a lot of costs, so we pretty much have to stay down here."

It is critical that providers of new housing outside of the DTES take into account access to food services, such as free and low-cost meals and inexpensive grocery stores.

Focus Group and Interview Results with Food and Housing Providers

The rest of this document provides specific recommendations for newly built supported housing or remodelled SROs based upon responses from both housing and food providers in the DTES. These recommendations focus on the areas of 1) building infrastructure, 2) service provision and 3) the building context. These recommendations were derived from focus groups and interviews.

There are few specific recommendations about food provision in supported housing within the current literature. Recommendations regarding appropriate infrastructure vary according to the needs of the individuals. Patterson et al. suggest that meal programs for low barrier housing residents may differ depending up on the level of support they require. Those requiring minimal support, including those with less problematic behavior but with significant health issues, active yet moderate addictions, and untreated or marginally effectively treated mental illness, may not require a meal program. Instead, Patterson et al. suggest "an off-site, low-cost meal program available nearby, or via delivery". Those requiring high levels of support – those with complex health issues including active and severe addictions and untreated or marginally effectively treated mental illness – they suggest that because this population will likely not access regular meals because they are barred from meal services or likely will not pay for a meal, "an on-site meal service is the best option for ensuring people are getting proper nutrition, though it is also expensive."[90]

In order to develop specific recommendations for Vancouver's DTES, food and housing providers in the neighborhood were asked to participate in either a focus group or one-on-one interview. In total 18 individuals participated in this part of the research representing a wide range of expertise (see Appendix C). Participants were asked to comment on the current state of food and housing provision in the DTES and which models appear to work best for individuals who are hard to house. In interviews and focus groups, respondents noted that, for individuals with the most severe health and behavioral issues, a meal program ensures that nutritional needs are being met.

> "Some people just need food. They are unable to take part in anything other than eating. Those who are more stable can access other opportunities. It's inappropriate to send an active, low-functioning addict to a community kitchen or garden. "

> "A certain percentage of people living in the DTES are living in a very self destructive state and are unlikely to take advantage of an opportunity to prepare healthy food and will depend on the service providers. "

Anecdotal evidence from program and housing staff in the DTES suggests that when healthy meals are provided, there are a number of benefits. For example, when the food provided at the Lifeskills Centre was improved from pastries to full meals (breakfast and lunch), staff reported an improvement in behaviour, including increased attention span and reduced aggression, which in turn, has reduced the amount of time staff has to devote to intervening in conflicts. Staff at the PHS Hotels, where one meal a day is delivered, have noticed that there is reduced anxiety about accessing food, health and weights have improved and that residents look forward to these meals.[91,92,93] It is also possible that meal provision has contributed to the decline in critical incidence reports to some of the hotels where meals are provided.[94] On-site food provision may be especially important for women as going out for food can be dangerous if they get caught up in street activities and if they are fed in-house, they are less likely to give their food to their partner.[95]

At the same time, it is important to give people options, including communal and individual kitchens.

> "There are some people who would [cook] if they have skills. You need to give people an opportunity to do all 3 things; cook for themselves, learn and just be fed."

> We don't want to create dependence. Sometimes people need food provided for them but we shouldn't do that *carte blanche*. If you provide the infrastructure for people to cook for themselves, good things can happen."

Finally, there is the reality that there is no one model that will work for all members of this population.

> "The idea of moving up the continuum is based on an assumption that there is a preferable place in it—this may not be accurate. It may be that people enjoy eating breakfast alone, lunch with a friend and supper with community … Independence is held as an important value but in a situation where most people are single and live alone, in terms of cooking, does this mean that

each person would need a stove and fridge and cooking skills in order for the highest value to be achieved?"

While there must be an awareness that one type of program will not work for all residents of the DTES, it is recommended that new or refurbished housing should *include a plan for ensuring food security for residents*. This plan should be based on the physical and mental health issues of the resident population (e.g., HIV/AIDS, drug addiction, PTSD) as well as the available resources within close proximity of the site. For example, what other food resources exist that can be easily accessed and are they appropriate for that population. Food programs within the building should be evaluated regularly to assess 1) whether they are meeting the nutritional needs of the residents, 2) whether the food is acceptable to the residents, and 3) if residents are obtaining new skills and knowledge through food programs (e.g., cooking skills through a community kitchen).

The following sections provide more specific recommendations regarding building infrastructure, program and services and building context.

Building Infrastructure

Building infrastructure refers to the physical resources that may be used to prepare and provide food. This can include individual, communal or commercial kitchens as well as space for eating and growing food.In a scan of housing providers in Vancouver's Downtown Eastside, there were 5 different models of food provision. The type of model utilized often depends upon the type of residents housed and the facilities and funding available for food provision. These models also differ in their approach. Some utilize a service delivery model in which food is provided by employees of agency managing the residents. Others have adopted a community development model that involves residents in various aspects of food provision. These models are:

1. **No meal service or cooking facilities provided**. This model is often found in unsupported, privately-owned SROs. In this type of housing, people access meals on their own. Cooking facilities may or may not be allowed in the room and if they are allowed, residents must provide these on their own. In this situation, residents often rely on charitable and other low-cost food in the neighbourhood. Problems with this situation include lack of ability to store perishable food safely, if there is no refrigerator, and a lack of choice regarding what and when to eat. The risk of malnutrition is high.

2. **Communal cooking facilities provided**. In a communal kitchen, cooking facilities—refrigerator, stove, sink, microwave—are available for communal use. Communal kitchens can either be

unstaffed and simply open to anyone to use or organized by staff members with resident participation. For example, the Hampton, run by MPA, has a communal kitchen that is open to residents to use but it is not organized. In some SROs, weekly community kitchens are organized by the Downtown Eastside Community Kitchen (DECK). In these cases, food and cooking utensils are provided by DECK while participants do the meal planning. Food is typically made in large quantities so that other residents of the hotel can also share in the meal.

3. **In-room cooking facilities provided**. In this model, each room is equipped with personal cooking facilities which vary in terms of size and type of cooking equipment. Refrigerators can be bar-sized or full. Cooking equipment may be a full-sized oven, a 2 burner stove or hotplate or a microwave. While some private SROs allow cooking facilities in their rooms, often it is the responsibility of the resident to purchase these items. Some of the newer SROs (e.g., the Pennsylvania and the Lux) come equipped with kitchenettes which reduce the burden on residents to provide this equipment themselves.

4. **In-house cafeteria.** In some supportive housing, meals are provided through an in-house cafeteria. In this model, residents have reliable access to at least one meal a day, sometimes more. At the Portland Hotel (PHS Community Services Society), one meal per day is provided by the Potluck Café, which can either be eaten in the cafe or in the resident's room. These meals are provided free of cost to residents. This program will be enhanced with smoothies on a 7 month trial. At the Windchimes Apartments (Raincity Housing) residents are provided 3 meals a day for a cost of $150 a month which is taken out of their public assistance cheques. At the Hazelton Residence (Lookout Emergency Aid Society) meals are available for purchase at on-site dining room for $125 per month for 3 meals and 3 snacks per day. There is also an option to purchase one or two meals per day.

5. **Delivered meal program.** Similar to the in-house cafeteria, some supportive housing provide meals through a delivered meal program. In other instances, agencies such as A Loving Spoonful, provide frozen meals to hotel residents. Residents typically have to store and heat these meals in their rooms. This can be problematic if meals are delivered weekly since residents may have difficulty storing this amount of food. Since July, 2007, the Portland Hotel Society has been providing a meal delivery system for the residents in the hotels it manages, several of which do not have cooking facilities. These meals are cooked at the Smith-Yuen Building and then delivered by bike to

residents of 6 PHS-run hotels in the DTES (the Washington, the Sunrise, the Roosevelt, the Stanley, the Pennsylvania and the Rainer). Currently, only one meal a day is provided to around 305 residents. The meals are around 12 oz in size and consist of dishes such as butter chicken, macaroni and cheese or shepherd's pie. In some instances, there is a combination of delivered food and food prepared on-site. For example, Potluck catering provides residents the Rainer recovery program with two meals a day, lunch and dinner. However, simple breakfasts are prepared on-site by staff.

On-site Cafeteria or Meal Delivery Program

Those who are in need of the greatest support or who require stabilization, can be provided with prepared meals; ideally with the option of engaging in communal meals or eating alone in their room. This can be done through an on-site cafeteria or delivered meal program. Having a delivered meal program reduces the need for each residence to have its own commercial kitchen however it also requires additional costs in terms of transporting the food to various locations.

In focus groups with food and housing providers, they noted the importance of providing meals for individuals who are hard to house is because they are the least likely to access food on their own. Providing food ensures that they are receiving appropriate nutrition. One respondent recommended that there be,

> "At least three full meals per day, prepared and consumed on site in the residences or shelters, and high protein, high nutrition snacks, such as good sandwiches, available 24 hours per day. If on-site preparation is impossible, on-site consumption should still be the goal."

Other housing and food providers also promoted the idea of on-site food provision for those with addictions or mental health issues in order to ensure they can access food.

> "The hard to house should also have access to an on-site cafeteria. Those who are addicted or with several mental health problems will eat whatever is available and that's usually not healthy."

> "People struggling with all of these issues come in and out of competence around managing their food. For example, those with mental illness, especially schizophrenia, often cycle through

periods when they are very capable, and others when they aren't. If food is available on-site, or some kindly person brings it to them, they eat. If not, they don't."

On-site food provision is especially important for women as going out for food can be dangerous if they get caught up in street activities. Furthermore, if women are fed in-house, they are less likely to give away their food to their partner.[96]

On-site Communal Kitchens

Another model is to provide communal kitchens that can be accessed by residents. Typically, there is one kitchen per floor. While providing a communal kitchen does enhance access to cooking facilities for those without in-room facilities, there are several drawbacks with this model. Many SROs have communal kitchens but they are often not utilized because they are in poor condition or residents worry that their food will be stolen.[97] Furthermore, residents may not be motivated to cook on their own and may lack the needed utensils and ingredients. For individuals who are hard to house, a communal kitchen may be best used as a community kitchen with outside support that can provide some of the organizational and material support.

Individual Kitchens

The *Housing Plan for the Downtown Eastside* recommends "that SRO replacement housing units should contain … cooking facilities. A small kitchen allows the resident to prepare snacks and basic meals."[98] The Carnegie Community Action Project also recommends that all new housing in the DTES contain kitchens. Among focus group and interview respondents, it was largely agreed among food and housing providers that, at minimum, rooms should have a refrigerator and a microwave or hotplate. This would allow residents to purchase, store and prepare some food. In some situations, microwaves may be preferable because they reduce the fire danger from stoves and hotplates and are less costly than stoves. According to one housing provider,

"For the hard to house, under 20% regularly use stoves. Refrigerators are more useful. The best would be some kind of fridge and a microwave; they're easy to use and easily replaced if they're damaged. "

As people become more stable, providing a full kitchen would allow them to prepare meals themselves. However, it was noted in the interviews that simply providing cooking facilities was often not enough. Providing in-room cooking facilities also requires appropriate food storage infrastructure in order to avoid contamination by insects and rodents. Buildings should be free of vermin and residents need somewhere to store food that is safe from cockroaches. This includes shelving that is rat/mice proof and well-sealed refrigerators. Also important is a sink for food washing and hygiene. Furthermore, in order to cook, people need access to pots, pans, bowls, knives and other cooking implements as well as basic ingredients, spices and recipes. The Pennsylvania Hotel has rooms with cooking facilities and residents are given some basic implements such as a frying pan and a cooking pot. In addition, the Lifeskills Program has developed a cookbook that is designed for individuals with a minimum of cooking facilities (e.g., a hotplate). A planned evaluation of cookbook on cooking and dietary habits is planned for September 2009. Finally, it is critical to have access to free or low-cost, healthy food from a grocery store or food bank (see below).

Programming

In conjunction with physical infrastructure, there is a need to provide the personnel and programming to utilize the facilities. These can range from cooks and kitchen managers in a commercial-grade kitchen/cafeteria set-up to support staff who help run a community kitchen or other cooking programs.

For a commercial kitchen where meals are provided to residents, it is important to have a system of meal planning that takes into account both nutritional needs and resident preferences. For example, at Cordova House, the residents' council meets once a month at to review the menu and suggest changes. These suggestions are addressed as long as they meet recommendations in the Canada food guide. It is also vital to have a kitchen manager who has experience with meal planning. According to one food provider,

> "Poor food quality is the result of a lack of organization and a poor use of dollars. A good infrastructure prevents loss of money due to disorganized buying, buying fast foods due to lack of time, food loss due to poor portioning and leftovers or poor storage etc."

Having a trained and knowledgeable kitchen staff will ensure that meals are both healthy and appealing to residents.

One alternative to the traditional supportive services model, in which support staff manage and implement programs, is a community development approach. This approach involves residents in food preparation and delivery and provides the additional benefit of training and employment opportunities for residents. Using a community development model also helps with addressing power inequalities between service providers and recipients by providing opportunities for people to become directly involved with food provision. The Carnegie Cafeteria is one example of this model. Volunteers who work in the kitchen are provided free meals in exchange for their work. The PHS' DTES Lunch Delivery also utilizes several volunteers for food preparation and delivery.

In instances where there is no direct meal provision but there is access to communal cooking facilities, staff may work with residents in communal kitchens. There are also a number of hotels that have weekly community kitchens run by DECK. However, community kitchens may not work for all populations, particularly those with multiple issues and they typically require close supervision and conflict resolution by staff and volunteers. In addition, because they are typically only offered once a week, they do not contribute substantially to the overall diet of those involved. Due to poor storage facilities in their rooms, participants often cannot take additional food with them.

Despite these difficulties, community kitchens have a number of benefits. A recent survey of DECK participants found that the majority said that the program increased their access to food and cooking skills and facilities.[99] One advantage of a residence-based community kitchen is that it provides an opportunity for residents to interact with one another and with support staff. According to on community kitchen facilitator,

> "The purpose of a kitchen is to give people social opportunities, to be with other people. Many people already know how to cook but don't like to do that for themselves – they aren't motivated. This gives them a chance to use their skills."

One community kitchen participant also said that even though he takes part in a community kitchen, he does not cook for himself.

> "I never cook at home. I go to the food lines, the soup lines. It's too much work to cook. I have a stove and fridge but I don't use them. I never feel like cooking [for myself]."

In situations like this, community kitchens provide an opportunity for individuals to engage in cooking when they otherwise would rely solely on food providers.

The DECK-run community kitchens not only provide food for the participants, but typically meals are made for all residents of a hotel. However, for this quantity to be prepared, it is necessary to have adequate cooking facilities (e.g., two ovens). One benefit of this system is that DECK provides the cooking utensils and food (supplied by the Vancouver Food Bank or purchased), which reduces the costs on the facility. While a weekly community kitchen cannot address the nutritional needs of residents, it does provide an opportunity for participants to learn menu planning and food preparation skills that can be utilized in other contexts.

An unconventional twist to the traditional community kitchen model is the Roving Community Kitchen that the DTES Neighborhood House has started. This program visits various sites throughout the DTES to provide smoothies and teach people how to make them. The smoothies are created in order to be healthy by using a variety of fresh fruit and are easy for people to ingest if they are sick due to drug use or lack teeth. Because the timeframe is short and does not require extensive participation or food preparation, it works as a good model for individuals who are hard to house.

Building Context

The building context refers to the surrounding amenities that residents can easily access. This is a critical issue for buildings serving individuals who are hard to house as this population is unlikely to go far to access resources, due to their lack of transportation and other barriers. Increasingly, residential buildings have commercial space on the first floor, which provides a number of food-related opportunities.

The resources needed in the surrounding area are somewhat dependent upon the facilities within the building. For example, for buildings that lack a cafeteria, it is critical that some type of free or low-cost cafeteria be easily accessible. Even for residents who have cooking facilities, the ability or interest to cook may be low and having a cafeteria within easy access provides another option. In addition to

providing healthy meals, it is advisable that the cafeteria provide the option for people who prefer privacy to take their meals back to their rooms.

Other amenities include easy access to low-cost grocery stores or a food bank, especially if the building provides cooking facilities. Other options are to have a “food store” integrated within the building or to involve residents in a buying club or good food box program. Buying clubs and good food boxes provide low-cost groceries to residents with the added benefit that they are often delivered. In addition, there are other food-related programs that residents can participate in, including community gardens within the community.

Conclusion

This report provides an overview of the housing and food security needs of individuals who are hard to house residing in the DTES. Food and housing intersect in a number of ways— for example, poor nutrition can play a role in exacerbating behaviour issues, which can contribute to homelessness. In turn, homelessness and drug addiction can contribute to increased food insecurity, malnutrition and disease. In contrast, access to healthy meals can play a significant role in alleviating many of these issues. Thus, proper nutrition must be part of both a housing and a harm reduction strategy. There are however, a number of areas that remain to be explored within both the research and policy arenas.

1. What is the current nutritional status of residents of the DTES in terms of macro and micronutrient intake and how does nutritional status vary according to housing situation and drug use?

2. What is the nutritional value of meals provided in the DTES in terms of macro and micronutrients? What types of foods might be beneficial for residents of the DTES given the current research on nutrition, health and behaviour?

3. How can healthy food be provided at a cost that agencies can afford? There are a number of food programs that could be assessed regarding the potential cost-benefits of meal provision.

4. What are the best models for food provision for those with addictions? The drug-induced anorexia is likely to have significant effects on the long-term health of this population. Finding a food provision model that works for them could result in significant savings of health care and other costs.

Appendix A: Research Framework on Housing and Food Security

	Framing	Context	Policy
Questions	What role does food play in supporting the health of residents of the DTES who have multiple barriers? • Food and Chronic and Acute Disease (HIV/AIDS, Hep C, Diabetes) • Food and Mental Health/Behaviour (e.g., violence) • Food and Addiction	What is the current food security status of the "hard to house" in the DTES?	What are the optimal programming, design and locational supports for the "hard to house" population living in the DTES? • What are the most effective types of food-related programming to support food security in this population? • What is the most effective housing design to support food security? • What influence does location have on the food accessed?
Purpose	To investigate the argument that food is an important component to health for people with multiple barriers.	To document the barriers to food security among the "hard to house" population in the DTES.	To provide specific policy recommendations on how best to support food security through housing.
Data Sources	Literature review	Survey of residents living in the DTES.	Focus groups and interviews with housing and food providers in the DTES.

Appendix B: Low-Barrier Housing in the DTES

In the DTES, low barrier housing or "housing first" is the main form of supportive housing. These are a mix of non-market apartment and hotel rooms (SROs). Table 2 provides a listing of some of the supportive and low-barrier housing in the DTES with details on the cooking and food provision services available. While some buildings are made up entirely of supportive units, others such as the Silver/Avalon Hotel and the Bridget Moran Place are only partially supportive.

SUPPORTIVE/LOW-BARRIER HOUSING in the DTES	**Service Provider**	**Number of Supportive Units**	**Kitchen /Food Provision Facilities**	**Resident Profile**
Avalon Residence (SRA)	Lookout Emergency Aid Society	35	Communal cooking area (stove only) on each floor. Private individual contracts with the hotel owners to provide breakfast and lunch each day. Breakfast $3.25 per day, lunch $4.25 per day.	Mental illness and dual diagnosis
Bridge Housing (Non-market housing)	Bridge Housing Society	36	Common kitchen and dining room, self-contained apartments. Have community kitchen twice a week.	Women with mental illness/dual diagnosis
Bridget Moran Place (Non-market housing)	RainCity Housing and Support Society (formerly Triage)	26	Self-contained studio apartments with kitchens. DECK community kitchen	People with mental illness
Cordova House	St. James Community Services	66	On site cafeteria offering three meals and two snacks per day for residents.	45 years and older
Cordova Residence (SRA)	Lookout Emergency Aid Society	34	One shared kitchen. Also provide food pantry.	Addictions and physical and mental health problems.
Hampton Hotel (SRO)	Motivation, Power & Achievement Society (MPA)	46	Self-contained suites. Also has a communal kitchen.	Mental illness

Hazelton Residence (SNRF)	Lookout Emergency Aid Society	39	Meals available for purchase at on-site dining room. $125 per month for 3 meals/3 snacks a day. Option to purchase one or two meals a day (may include lunch which is the big meal of the day) at $65 per month.	Multi or dual diagnosis
Jeffrey Ross Residence (non-market housing)	Lookout Emergency Aid Society	37	Self-contained apartments. Have a monthly community meal.	65+ with mental illness
Jim Green Residence (non-market housing, "third stage" support)	Lookout Emergency Aid Society	66	Self-contained apartments. Courtyard with gardens.	Mental illness, physical health problems, disability.
Molson's Bank Building/Roosevelt	PHS Community Services	45	No in-room cooking facilities. One delivered meal (PHS)	Individuals with multiple barriers.
Pennsylvania Hotel (non-market housing)	PHS Community Services	44	Self-contained studios with cooking facilities. One delivered meal a day (PHS)	Individuals with multiple barriers.
Portland Hotel (non-market housing)	PHS Community Services	86	Self-contained apartments and single rooms. Full service cafeteria, community kitchen. One meal provided in cafeteria.	Singles in need of support
Princess Rooms (SRO)	RainCity Housing and Support Society	45	Single rooms with kitchenettes (some removed). RainCity also provides 1 meal week.	Individuals with dual diagnosis
The Rainer	PHS Community Services	41 units (20 unit detox program, 21 low-barrier housing)	Rooms with fridges. Communal cooking facilities. 1 delivered meal provided (lunch). Three meals provided to detox units.	Women recovering from addiction.

Sakura So (non-market housing, transitional)	Lookout Emergency Aid Society	38	Each room has two-burner stove, sink, fridge. One community shared meal in communal kitchen weekly at a minimum.	Individuals with mental illness and physical health problems.
Santiago /Cecilia Apts (non-market housing)	St. James Community Services	32	Self-contained studios with kitchens.	Second stage and independent apartments for people with mental illness.
Sereena's House	Bridge Housing Society	58	Single rooms with fridges. 2 communal kitchens. Recently started a once a day meal program.	Women with addiction, street involved.
Stanley/New Fountain (non-market housing)	PHS Community Services	65	Single rooms without cooking facilities. DECK community kitchen. One delivered meal a day (PHS)	Low-barrier
Sunrise Hotel (non-market housing)	PHS Community Services	52	Single rooms without cooking facilities. One delivered meal a day (PHS)	Individuals who are low-income with complex needs
Tamura House	Lookout Emergency Aid Society	35	Two shared kitchens on each floor. DECK community kitchen on Wednesdays.	People with mental illness and lack of social skills.
Vivian House (Transitional housing)	RainCity Housing and Support Society	24	One communal kitchen in building. Rooms have bar fridges.	Women with mental illness and addictions
Washington Hotel (non-market housing)	PHS Community Services	84	Single rooms without cooking facilities. Grocery store on the ground floor. 1 delivered meal a day (PHS)	People with low-income with complex needs
Windchimes Apts (non-market housing)	RainCity Housing and Support Society	27	Self-contained studios. Can access Triage Emergency Shelter cafeteria for $150 month	People with mental illness.
Yukon Apts (Long-	Lookout	37	Self-contained units.	People with mental

term transitional housing)	Emergency Aid Society			illness and dual diagnosis
The Lux	RainCity Housing and Support Society	24	Self contained with kitchens, also communal kitchens on each floor.	People with mental illness and dual diagnosis.

Appendix C: Organizations Participating in the Research

Atira Housing

Atira Women's Resource Society is a community-based organization that supports all women, and their children, who are experiencing the impact of violence committed against them and/or their children. Atira aims to be inclusive and barrier-free in their services, as the target population of their housing and food services often include women who are actively involved in the sex trade, drug-addicted, and/or suffering mental and physical health issues (e.g., HIV, Hep C, and cancer). Food services in Atira's housing projects vary according to the capacity of the organization and of the residents. These services include a mixture of provision of free for residents to cook, provision of refrigerators in rooms, community kitchens programs, meal programs, and staff-assistance in purchasing and preparation of food.

Carnegie Cafeteria

The Carnegie Cafeteria provides 3 meals a day: breakfast (serve around 50) for $1.75, lunch (serve around 200) for $1.75 and dinner (serve around 100) for $3.00. The cafeteria also always has soup and sandwiches, baked goods, yogurt etc. for sale. All volunteers at the Carnegie Centre receive food tickets for meals in the cafeteria. Most customers are single, poor, homeless or living in unstable conditions, while some also suffer mental health issues. The Carnegie strives to provide healthy, nutritious, and affordable meals; the cafeteria currently has a vegetarian and vegan night that is slowly gaining popularity among those who struggle with multiple health issues.

Carnegie Community Action Project

The Carnegie Community Action Project is a project of the board of the Carnegie Community Centre Association with about 5000 members who live mostly in the DTES. CCAP works on getting better and more housing and better incomes for area residents. It is also working to involve residents in developing a low-income resident-driven plan for the neighbourhood.

DECK (Downtown Eastside Community Kitchen)

The Downtown Eastside Community Kitchen Project helps people form groups where they can learn the necessary skills to cook nutritious meals together. The target population includes many with challenging health conditions such as diabetes, hepatitis C, HIV/AIDS, and various addictions. DECK participants are provided with all food and cooking supplies, as well as assistance in locating and securing a community cooking space. Residents also gain the confidence and community connections that help them feed themselves well. They become less isolated by working together and sharing meals. They also receive education on food safety through DECK. Currently, DECK's community kitchens operate on a weekly

basis, with groups from 5 participants upwards. Approximately 70% are men and 30% women. Most significantly, food that is prepared is typically shared with other residents of the building; in total, 230 residents of DTES benefit from the DECK community kitchens, either through direct participation or by receiving food prepared.

The Downtown Eastside Neighbourhood House

The DTES Neighbourhood House opened its storefront in 2007. Since its inception, it has maintained a strong emphasis on food, including a food philosophy that considers such conditions as diabetes, Hep C, and HIV/AIDS. The NH has a number of food-related programs including the Banana Beat; providing bananas to residents standing in line for their social assistance cheques and the Roving Community Kitchens; in which members of the NH make smoothies at various sites in the DTES. The Neighbourhood House has also participated in the BC Farmers Market's Coupon Project since 2007.

Lifeskills Centre

Lifeskills is resource centre for high risk drug users and women in survival sex trade. Peer run, and low threshold, the centre provides opportunities to reconnect with culture and community while participating in job training, community kitchen groups, free laundry, showers, internet and phones. The Centre provides 2 free meals a day to the community. It has also developed a resource guide and map for free and low-cost meals in the DTES and a cookbook for people with limited resources. The Lifeskills Centre provides volunteers to the PHS' DTES Lunch Delivery Program.

Lookout Emergency Aid Society

Lookout Emergency Aid Society provides services to the homeless, especially those living with multiple disabilities. Lookout operates a 24-hour emergency shelter service that assists 3,065 homeless individuals annually. They also operate a Supportive/2nd Stage Housing program which provides permanent housing for the chronically homeless, youth with multiple-barriers, and individuals living with multiple disabilities. On top of the housing programs, Lookout has a Living Room Drop-In program to engage individuals living with mental illnesses in community living. Specifically, those who are not formally involved with the mental health system are encouraged to participate. The meal program at the Living Room Drop-In feeds 100~150 per day.

Loving Spoonful

A Loving Spoonful operates The Daily Meals program, a supervised Daily Meals Program, a family Pantry Program, and an emergency Service Program aiming to help individuals living with HIV/AIDS maintain a healthy nutritional level. Many of these patients also suffer from mental illnesses and addictions that

further prevent them from accessing safe, healthy, and sufficient food. Through weekly delivery of nutritious entrees, milk, yogurt, juice, bread and fresh fruit, the Daily Meals Program helps patients too ill to shop, plan, and prepare food themselves to be able to stay healthy in their homes without taking up hospital beds.

Motivation, Power & Achievement Society (MPA)

The MPA Society provides housing, community resource, court service, advocacy, supported housing and licensed housing services within and beyond DTES. Participants can access medication information, symptom management, referrals for treatment, health & fitness services, as well as life skills training which includes home management, budgeting, and cooking. Currently, the Hampton has the most established food program: it offers 1 meal per day through an in-house commercial kitchen, and a community kitchen program free of charge to the residents. Each room is equipped with a fridge and freezer; additionally, the hotel receives donations from Starbucks every day. Staff at the Hampton will also provide additional, informal food services if the needs of the residents cannot be met with existing services. Currently, MPA is currently developing a similar food service program at the Savoy Hotel.

Potluck Café

Potluck operates a professional Café and catering enterprise that reinvests its revenue back into its 4 community social programs. These include 1) an Integrated Food Services & Life Skills Training and Employment Program that has trained and employed dozens of DTES residents with barriers to employment, 2) a daily Meal Program that provides over 26,000 free meals annually to residents of the DTES suffering with severe physical and mental health and addictions challenges, 3) a Community Kitchen Program that allows DTES residents to learn basic cooking and nutrition skills, and 4) a Recipes for Success Outreach Program that shares best practices for successful social and community employment with other employers interested in successfully maintaining employment for hard to employ inner city residents.

RainCity Housing

RainCity Housing provides a wide variety of housing services in the DTES, including emergency housing, supported housing, women's housing, and long-term housing. Like other housing services in the area, the type of food services present varies with the capacity of the organization and the residents. RainCity current provides a mixture of in-site cafeterias offering three meals a day, meal programs paid with social assistance cheques, in-unit kitchen facilities, and communal kitchens. They are also currently expanding and modifying existing food services to better serve the needs of the diverse residents.

St James Community Services

St. James Community Service Society provides the Adult Guardianship Program, Mental Health Housing, Home Support Services, Hospice Care, Women-and-Children's Services, and Low-cost Supported Housing. Cordova House in the DTES provides housing and food services to the hard-to-house aged 65+. Residents are provided with 3 meals and 3 snacks a day, which is served within the cafeteria.

Bibliography

[1] Gurstein, P and Small D (2005) From Housing to Home: Reflexive Management for those Deemed Hard to House. *Housing Studies*, 20 (5)717–735.

[2] Davis, L et. al. (2008). Dietary intake of homeless women residing at a transitional living center. *Journal of Health Care for the Poor and Underserved* 19(3), 952-962.

[3] Tarasuk V, Dachner N, and Li J,. (2005) Homeless youth in Toronto are nutritionally vulnerable. *Journal of Nutrition*. 135, 1926-1933.

[4] Gaetz S, Tarasuk V, Dackner N, and Kirkpatrick S. (2006) "Managing" Homeless Youth in Toronto: Mismanaging Food Access & Nutritional Well-being. *Canadian Review of Social Policy*, 58(43), 1-19.

[5] Langnase K, and Muller MJ. (2001) Nutrition and health in an adult urban homeless population in Germany. *Public Health Nutrition.* 4:805–811

[6] Lee BA, and Greif MJ. (2008) "Homelessness and Hunger." *Journal of Health and Social Behavior* 49(1):3-19.

[7] Tarasuk V, Dachner N, and Li J. (2005) Homeless youth in Toronto are nutritionally vulnerable. *Journal of Nutrition*. 135, 1926-1933.

[8] Tarasuk V, Dachner N, Poland B, and Gaetz S. (2009) Food deprivation is integral to the 'hand to mouth' existence of homeless youths in Toronto. *Public Health Nutrition*. Jan 15:1-6

[9] Davis L, et al. (2008) Dietary intake of homeless women residing at a transitional living center. *Journal of Health Care for the Poor and Underserved* 19(3), 952-962.

[10] Tse C and Tarasuk V (2008) Nutritional assessment of charitable meal programmes serving homeless people in Toronto. *Public Health Nutrition*. 11(12):1296-305.

[11] Daly, G. (1990). Health Implications of Homelessness: Reports from Three Countries. *Journal of Sociology & Social Welfare* 17(1): 111–125.

[12]Luder E, Boey E, Buchalter B, and Martinez-Weber C (1989) Assessment of the nutritional status of urban homeless adults. *Public Health Report*. 104(5):451–457.

[13] Sullivan G, Burnam A, Koegel P, and Hollenberg J (2000) Quality of life of homeless persons with mental illness: Results from the course-of-homelessness study. *Psychiatric Services, 51*(9), 1135–1141.

[14] Sokal J, Messias E, Dickerson FB, et al. (2004) Comorbidity of Medical Illnesses Among Adults With Serious Mental Illness Who Are Receiving Community Psychiatric Services. *The Journal of Nervous and Mental Disease*. 192(6): 421-427.

[15] Tarasuk V, Dachner N, Poland B, and Gaetz S (2009) Food deprivation is integral to the 'hand to mouth' existence of homeless youths in Toronto. *Public Health Nutrition*. Jan 15:1-6

[16] McElroy SL, Kotwal R, Keck PE, and Akiskal HS (2005) Comorbidity of bipolar and eating disorders: distinct or related disorders with shared dysregulations? *Journal of Affective Disorders,* 86:107–127.

[17] Wilkinson, S and Himstedt, K (2008) Establishing an innovative model of nutrition and dietetic care for a mental health service through collaboration with non-nutrition health care workers. *Nutrition and Dietetics*, 65 (4), 279-283.

[18]Santolaria-Fernandez, JL. et al. (1995) Nutritional Assessment Of Drug Addicts *Drug and Alcohol Dependence*.38: 11-18.

[19] Santolaria-Fernandez FJ, et al. Ibid.

[20]Nazrul Islam S.K, et al. (2001) Nutritional Status of Drug Addicts Undergoing Detoxification: Prevalence of Malnutrition and Influence of Illicit Drugs and Lifestyle. *British Journal of Nutrition*, 88(5):507-513.

[21]Himmelgreen, D, et al. (1998) A comparison of the nutritional status and food security of drug-using and non-drug-using Hispanic women in Hartford, Connecticut. *American Journal of Physical Anthropology* 107:351-361

[22] Saeland M, Haugen M, and Eriksen FL, et al. (2008) Living as a drug addict in Oslo, Norway - a study focusing on nutrition and health *Public Health Nutrition* 12(5): 630-636.

[23] Santolaria-Fernandez FJ, Gomez-Sirvent JL, Gonzalez-Reimers CE, Batista-Lopez JN, et al. (1995) Nutritional assessment of drug addicts. *Drug Alcohol Dependency.* 38:11–18.

[24]Cofrancesco J, Brown TT, Luo RF, Majnu J, Stewart KJ, Dobs AS (2007) Body composition, gender, and illicit drug use in an urban cohort. *The American journal of drug and alcohol abuse.* 33(3):467-74.

[25] Tarasuk V, Dachner N, and Li J (2005) Homeless youth in Toronto are nutritionally vulnerable. *Journal of Nutrition*. 135, 1926-1933.

[26] Strike C, Sarnocinska-Hart A, Anstice S, Lester B, Scrivo N, et al. (2009) Is there an association between food security and injection-related HIV risk? Poster presented at the Canadian Conference on HIV/AIDS Research. Vancouver, BC.

[27] Nazrul Islam SK, Hossain KJ, Ahmed A, et al. (2002) Nutritional status of drug addicts undergoing detoxification: prevalence of malnutrition and influence of illicit drugs and lifestyle. *British Journal of Nutrition.* 88:507–513

[28] Morabia A, Fabre J, Chee E, Zeger S, Orsat E, Robert A (1989) Diet and opiate addiction: a quantitative assessment of the diet of non-institutionalized opiate addicts. *Journal of Addiction*; 84(2):173-80.

[29]Mohs, ME et al. (1990) Nutritional effects of marijuana, heroin, cocaine, and nicotine. *Journal of the American Dietetics Association* 90 (9): 1261-1267.

[30] Nakah A, Frank O, Louria DB, Quinones MA, Baker HA (1979) vitamin profile of heroin addiction. *American Journal of Public Health* 69: 1058–60.

[31] Nolan, LJ and Scagnelli, LM (2007). Preference for sweet foods and higher BMI in patients on methadone maintenance. *Substance Use and Misuse*, *42*, 1555-1566.

[32] Mohs, ME. et al. (1990), Ibid.

[33] Tyndall MW, Currie S, Spittal P, Li K, Wood E, O'Shaughnessy MV, *et al*. (2003) Intensive injection cocaine use as the primary risk factor in the Vancouver HIV-1 epidemic. *AIDS,* 17(6):887-893.

[34]Mangili A, Murman DH, Zampini AM, and Wanke, CA (2006) Nutrition and HIV infection: review of weight loss and wasting in the era of highly active antiretroviral therapy from the nutrition for healthy living cohort. *Clinical Infectious Diseases*; 42:836.

[35] Food and Nutrition Technical Assistance (FANTA) (2007) Recommendation for the Nutrient Requirements for People Living with HIV/AIDS. On-line: http://www.fantaproject.org/downloads/pdfs/Nutrient_Requirements_HIV_Feb07.pdf. Accessed June 16, 2009

[36] Campa A, Yang Z, Lai S, Xue L, Phillips JC, Sales S, et al. (2005) HIV-related wasting in HIV-infected drug users in the era of highly active antiretroviral therapy. *Clinical Infectious Disease*. 41(8):1179-85

[37] Weiser SD, Frongillo EA, Ragland K, Hogg R, et al. (2009) Food Insecurity is Associated with Incomplete HIV RNA Suppression Among Homeless and Marginally Housed HIV-infected Individuals in San Francisco. *Journal of General Internal Medicine* 24(1): 14-20.

[38] Weiser SD FF, Brandson EK, Lima VD, Anema A, et al. (2009) The impact of food insecurity and body mass index on mortality among HIV-infected individuals first initiating HAART. *Journal Acquired Immune Deficiency Syndrome*.

[39] Tang AM et al. (2005) Increasing risk of 5% or greater unintentional weight loss in a cohort of HIV-infected patients, 1995 - 2003. *Journal Acquired Immune Deficiency Syndrome* 40: 70 - 76, 2005.

[40] Normén, L (2005). Food Insecurity and Hunger Are Prevalent Among HIV-Positive Individuals in British Columbia, Canada. *The Journal of Nutrition Online*.

[41] Anema, A, Druyts E, Weiser SD, Fernandes KA et al. (2009) Prevalence and correlates of food insecurity among HIV-infected individuals receiving highly active antiretroviral therapy in British Columbia. Poster presented at the Canadian Conference on HIV/AIDS Research. Vancouver, BC.

[42] Rourke SB, Tucker R, Greene S, and Sobota, M et al. (2009) The Positive Spaces, Healthy Places Team, Examining Food Insecurity and its Associated Factors in People Living with HIV in Ontario: The Positive Spaces, Healthy Places Study. Poster presented at the Canadian Conference on HIV/AIDS Research. Vancouver, BC.

[43] Vasarhelyi K, Brandson E, Palmer A, Fernandes K, et al. (2009) The Role of Stable Housing and Food Security in Treatment Success Among People on HAART. Poster presented at the Canadian Conference on HIV/AIDS Research. Vancouver, BC.

[44] Quach LA, Wanke CA, Schmid CH, et al. (2008) Drug use and other risk factors related to lower body mass index among HIV-infected individuals. *Drug and Alcohol Dependence*. 95(1-2):30-6.

[45] Forrester JE (2006) Nutritional alterations in drug abusers with and without HIV. *American Journal of Infectious Disease*. 2(3):173-179.

[46] Tang AM et al. (2005) Increasing risk of 5% or greater unintentional weight loss in a cohort of HIV-infected patients, 1995 - 2003. *Journal Acquired Immune Deficiency Syndrome* 40: 70 - 76.

[47] Quach LA, Wanke CA, Schmid CH, (2008) et al. Ibid.

[48] Campa A, Yang Z, Lai S, Xue L, et al. (2005) HIV-Related Wasting in HIV-Infected Drug Users in the Era of Highly Active Antiretroviral Therapy. *Clinical Infectious Diseases* 41:1179-85.

[49] Taylor EW, Cox AG, Zhao L, et al. (2000) Nutrition, HIV, and drug abuse: the molecular basis of a unique role for selenium. *Journal Acquired Immune Deficiency Syndrome* 1(25 Suppl 1):S53-61.

[50] Smit E, Graham NM, Tang A, Flynn C, et al. (1996) Dietary intake of community-based HIV-1 seropositive and seronegative injecting drug users. *Nutrition*. 12(7-8):496-501.

[51] Tang AM, Graham NMH, Kirby AJ, et al. (1993) Dietary micronutrient intake and risk of progression to AIDS in HIV-1 infected homosexual men. *American Journal of Epidemiology* 1003; 138:937.

[52] Vancouver Coastal Health (2005) Community Health Area 2: A Community and Health Profile. Accessed on-line: http://www.vch.ca/community/Docs/comm_health_area2.pdf on June 16, 2009.

[53] Luder E, Ceysens-Okada E, Koren-Roth A and Martinez-Weber C. (1989) Health and nutrition survey in a group of urban homeless adults. *Journal of the American Dietitians Association.* 1990;90:1387–1492.

[54] Steinmetz KA, and Potter KD. Vegetables, fruit and cancer prevention: a review. *Journal of American Dieticians Association 96(10)*:1027–39.

[55] Macallan DC (1999) Malnutrition in tuberculosis. *Diagnostic Microbiology and Infectious Disease*, 34(2):153-7.

[56] Vancouver Coastal Health (2005) Community Health Area 2: A Community and Health Profile. Accessed on-line: http://www.vch.ca/community/Docs/comm_health_area2.pdf on June 16, 2009.

[57] Davis LR et al. (2008) Dietary intake of homeless women residing at a transitional living center. *Journal of Health Care for the Poor and Underserved* 19(3), 952-962.

[58] Luder E, Godfrey E, Godbold J and Simpson DM (1995) Assessment of nutritional, clinical and immunologic status of HIV-infected, inner city patients with multiple risk factors. *Journal of American Dietetic Association*, 95:655-660

[59]Himmelgreen D., et al. (1998) A comparison of the nutritional status and food security of drug-using and non-drug-using Hispanic women in Hartford, Connecticut. *American Journal of Physical Anthropology* 107:351-361.

[60] Silvers KM and Scott KM (2002) Fish consumption and self-reported physical and mental health status. *Public Health Nutrition,* 5:427-431.

[61]Logan AC (2004) Omega-3 fatty acids and major depression: A primer for the mental health professional. *Lipids in Health and Disease*, 3:25.

[62] Hallahan B and Garland MR (2005) Essential fatty acids and mental health *The British Journal of Psychiatry*, Apr 2005; 186: 275 – 27.

[63] Hamazaki T and Hamazaki K (2008) Fish oils and aggression or hostility. *Progress in Lipid Research* 47(4): 221-232.

[64] Buydens-Branchey L (2003) Polyunsaturated fatty acid status and aggression in cocaine addicts. *Drug and Alcohol Dependence,* 71 (3), 319-323.

[65]Bodnar LM and Wisner KL (2005) Nutrition and Depression: Implications for Improving Mental Health Among Childbearing-Aged Women. *Biological Psychiatry*. 58(9): 679-685.

[66]Mischoulon D and Raab MF (2007) The role of folate in depression and dementia. *Journal of Clinical Psychiatry*. 68 Suppl 10:28-33.

[67] Volker D and NG J (2006) Depression: Does nutrition have an adjunctive treatment role? *Nutrition & Dietetics* 63: 213-226.

[68] Sher, L (2007) Possible role of selenium deficiency in the neurobiology of depression and suicidal behavior in patients with alcohol use disorders. *International Journal on disability and Human Development* 6(3): 227-230.

[69] Shor-Posner G, Lecusay R, Miguez MJ, et al. (2003) Psychological burden in the era of HAART: Impact of selenium therapy. *International Journal of Psychiatry in Medicine* 33(1): 55-69.

[70] Benton D (2007) The impact of diet on anti-social, violent and criminal behaviour, *Neuroscience and Biobehavioral Reviews*. 31(5): 752-774.

[71] Bodnar LM and Wisner KL (2005) Nutrition and Depression: Implications for Improving Mental Health Among Childbearing-Aged Women. *Biological Psychiatry* 58(9):679-685.

[72] Gailliot MT and Baumeister RF (2007). The physiology of willpower: Linking blood glucose to self-control. *Personality and Social Psychology Review,* 11, 303-327.

[73] FAO (2002) *The State of Food Insecurity in the World 2001.* Rome.

[74] Ma C, Gee L and Kushel M (2008) Associations Between Housing Instability and Food Insecurity With Health Care Access in Low-Income Children. *Ambulatory Pediatrics*, 8(1):50-57.

[75] Kushel MB, Gupta R, Gee L and Haas JS. (2006) Housing instability and food insecurity as barriers to healthcare among low-income Americans. *Journal of General Internal Medicine*. 21(1):71-7.

[76] City of Vancouver (2001) *Housing for People with Alcohol and Drug Addictions: An Annotated Bibliography*. Accessed on-line: http://vancouver.ca/commsvcs/housing/pdf/Kraus.PDF on June 18, 2009.

[77] Vancouver Coastal Health Mental Health and Addiction (2008) *A Partnership for Change.* Accessed on-line: http://vancouver.ca/projectcivilcity/documents/LornaHowes.pdf on June 18, 2009.

[78] City of Vancouver (2008) *Downtown Eastside Demographic Study of SRO and Social Housing Tenants*, accessed on-line: http://www.vancouveragreement.ca/Pdfs/DTES%20Demographic%20Study%20Final%20June%202008.pdf on June 18, 2009.

[79] Gurstein P and Small D (2005) From Housing to Home: Reflexive Management for those Deemed Hard to House. *Housing Studies*, 20 (5)717–735.

[80] *Greater Vancouver Regional Steering Committee on Homelessness (2009)* Still on our streets …. Results of the 2008 Metro Vancouver Homeless Count. Accessed on-line http://www.metrovancouver.org/planning/homelessness/ResourcesPage/HomelessCountReport2008Feb12.pdf on June 18, 2009.

[81] Shannon K, Ishida T, Lai C and Tyndal Ml (2005) The impact of unregulated single room occupancy hotels on the health status of illicit drug users in Vancouver. *International Journal of Drug Policy*, 17(2): 107-114.

[82] Gurstein P and Small D (2005) From Housing to Home: Reflexive Management for those Deemed Hard to House. *Housing Studies*, 20 (5)717–735

[83] Gaetz S, Tarasuk V, Dachner N, and Kirkpatrick S (2006) "'Managing' Homeless Youth in Toronto: Mismanaging Food Access and Nutritional Well-being". *Canadian Review of Social Policy*, 58, 43-61

[84] Tarasuk V, Dachner N, Poland B, and Gaetz S. (2009) Food deprivation is integral to the 'hand to mouth' existence of homeless youths in Toronto. *Public Health Nutrition*. Jan 15:1-6

[85] FORC (2005) Vancouver Food System Assessment. Accessed on-line: http://www.sfu.ca/cscd/pdf/final_draft_compress.pdf on June 19, 2009.

[86] Shannon K, Ishida T, Lai C and Tyndal Ml (2005) The impact of unregulated single room occupancy hotels on the health status of illicit drug users in Vancouver. *International Journal of Drug Policy*, 17(2): 107-114.

[87] Downtown Eastside Demographic Study of SRO and Social Housing Tenants, Ibid.

[88] Vancouver Agreement (2007) Hotel Analysis Project: Summary of Findings. Accessed on-line: http://www.vancouveragreement.ca/Pdfs/Hotel%20Analysis%20Project%20Summary%20of%20Findings%20March%202007.pdf on June 18, 2009.

[89] CCAP (2009) Still Losing Hotel Rooms CCAP's 2009 Hotel Survey and Report. Accessed on-line: http://ccapvancouver.files.wordpress.com/2009/06/still-losing-hotel-rooms-report-ccap-2009.pdf on June 18, 2009.

[90] Patterson, M, Somers, J, McIntosh,J, Shiell, A, Frankish CJ, (2008) Housing and Support for Adults with Severe Addictions and/or Mental Illness in British Columbia. Centre For Applied Research in Mental Health and Addiction, Simon Fraser University. Accessed on-line: http://www.carmha.ca/publications/resources/pub_hsami/Housing_SAMI_BC_FINAL(PD).pdf.

[91] Interview notes, PHS staff

[92] Karen Cooper, Personal Communication

[93] DTES Lunch Program: Start Up. Unpublished Report.

[94] Karen Cooper, Personal Communication

[95] Kurtz S, Surratt H, Kiley M and Inciardi JA (2005) Barriers to health and social services for street-based sex workers. *Journal of Health Care for the Poor and Underserved* 16, 345–361.

[96] Kurtz S, Surratt H, Kiley M and Inciardi JA (2005) Ibid.

[97] Mifflin, E; Wilton, R (2005) No place like home: rooming houses in contemporary urban context *Environment and Planning A* 37(3): 403-421.

[98] City of Vancouver (2005) *Housing Plan for the Downtown Eastside*. Accessed on-line http://intraspec.ca/dteshousingplan.pdf, on June 18, 2009.

[99] *DECK Participant Satisfaction Survey*. Accessed on-line http://www.communitykitchens.ca/ckfinder/userfiles/files/DECK/DECKSurvey.pdf, on August 17, 2009.