At Home/Chez Soi Interim Report

The Housing First approach improves the lives of those who are homeless and have a mental illness. It makes better use of public dollars – especially for those who are high users of health care and social service resources.

ACKNOWLEDGEMENTS

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It has been estimated that 150,000 Canadians are homeless, and some suggest it is as high as 300,000 people[2].

Canadians who are homeless and living with a mental illness are amongst our most vulnerable and many receive services from shelters, hospitals, emergency rooms and even the criminal justice system with little benefit to them or society. Housing First services and supports provide a better way.
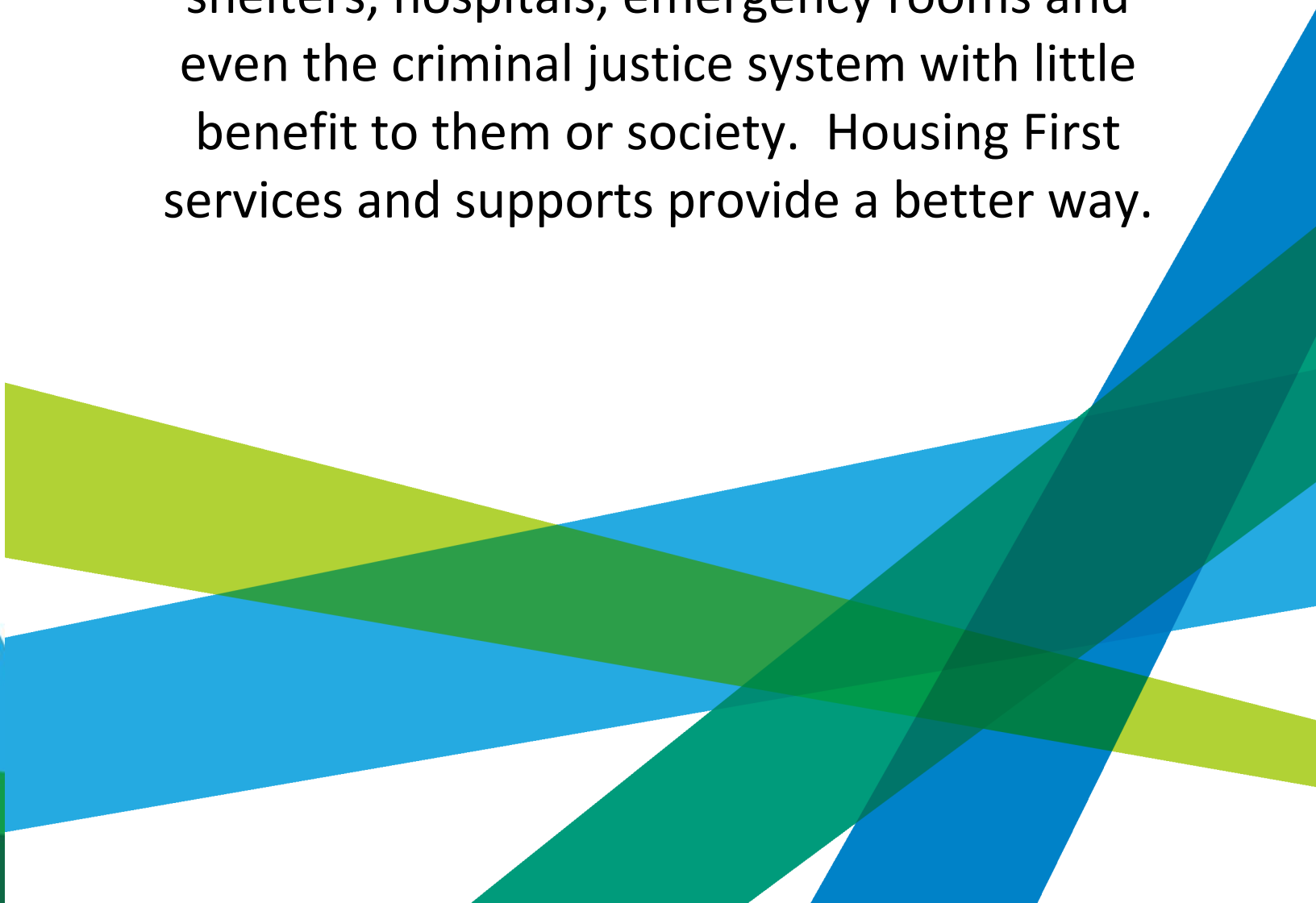
MAIN MESSAGES

Housing First improves the lives of those who are homeless and have a mental illness.

Over 900 individuals from our shelters and on our streets who have not been well served by our current approach are now housed in adequate, affordable and suitable settings.   Eighty six percent of participants remain in their first or second unit (as of August 2012). At 12 months those in the Housing First intervention had spent an average of 73% of their time in stable housing. In contrast, those in treatment as usual (TAU) spend only 30% of their time in stable housing. This creates the possibility of better long term health and social functioning outcomes for individuals who have histories of trauma and poor health. Once housed many are beginning to take advantage of the safer places and the opportunities that are created to make better life choices – including pursing opportunities to engage in part or full-time employment.

Housing first makes better use of public dollars-especially for those who are high service users.

For many participants, more stable living conditions contribute to a shift away from the frequent, heavy, and sometimes inappropriate use of expensive resources (hospital/inpatient care, Emergency Rooms, police detentions) to more efficient and effective alternatives (community services, telephone calls, home visits). For participants who were using the most services before the study began (high users), this results in an overall savings to government of $9,390 per person per year. In other words, for every dollar that is spent on Housing First for these participants, $1.54 is saved through the reduction in other shelter, health and justice services. This means that prior service use can be used to define recruitment targets so there will be more savings accrued.

For the total sample, the costs of Housing First (HF) are offset by an average of 54%. Taking this cost offset into account, a program that provides rent and support to a representative group of those who are homeless and mentally ill requires an additional investment of only $7,910 per year. In other words, for every dollar that is spent on Housing First, 54 cents is saved through the reduction in other shelter and health care services. Once people are housed and unmet needs are addressed, there are potential longer term gains that will make that investment even more fiscally worthwhile. We will have more detailed evidence about costs and benefits in future reports. Policy choices about where to invest should be informed by information about both economic and social outcomes.

Housing First can be implemented across Canada.

Existing agencies and organizations can work to put this innovation into action effectively and quickly in regions and provinces. Since the model uses service delivery structures that are often already present in provincial and municipal systems, new infrastructure is not required. Although implementation does often require major shifts in practice and collaboration, we have learned that it is possible to achieve fidelity to the key program principles, while also tailoring it to fit local circumstances.

The Housing First approach aligns with directions in the recently released Mental Health Strategy for Canada as well as current policy and program directions federally (Homelessness Partnering Strategy) and in a number of provinces (e.g., Alberta, New Brunswick, Ontario, Saskatchewan, Manitoba)

From this large scale project, there is now a wealth of experience in communities across Canada that can be drawn upon to assist others with implementation. We now know that persons with lived experience of homelessness and mental illness, the private sector (via private market landlords) and local communities are willing and able to play a major role in making policy and practice change happen.

A cross ministry approach that combines health, housing, social services with non profit and private sector partners is required to solve chronic homelessness. Solving this problem can create dramatic improvements for Canadian communities.

The implementation of Housing First requires attention to the social determinants of health, i.e. housing, income, education and social integration. Collaboration across government sectors and among different service providers is necessary at the program and the individual level. In each of the communities under study, new relationships and ways of working together have been created because of the implementation of this innovative program. In addition, working with private landlords has resulted in strong public-private collaboration.

Some of the other benefits of implementing Housing First for communities as a whole, such as increased social cohesion, reductions in visible street homelessness, and potentially reduced crime are more difficult to measure but real. Police, emergency and acute care services are able to care more quickly for other members of the community. Citizens can take pride in their downtown environments and in a more humane response to those who are most disadvantaged.

EXECUTIVE SUMMARY

This interim report, from the Mental Health Commission of Canada's (MHCC) At Home/Chez Soi project, a multi-site pragmatic trial of Housing First in five Canadian cities, draws upon one year results to examine several questions that we think will be of interest to a variety of audiences:

- Who is in the study and what do their past experiences tell us about their needs for care?

- What is Housing First and how has it been implemented?

- To what extent is housing stability achieved in the first year?

- Does continued investment in Housing First, as one innovative solution to the problem of chronic homelessness, make sense from social and economic perspectives?

- How can this research evidence inform decisions about where and how to invest?

Chronic homelessness is a significant health and social problem. In Canada, our current response relies heavily upon shelters as a housing option and upon emergency and acute services to provide health care. This is a costly and ineffective way of responding to the problem. Housing First is an evidence-based practice, originating in New York City (Pathways to Housing) in the 1990s and Toronto (Streets to Homes) in 2005, that provides immediate access to both permanent, independent housing and to mental health and support services offered by community teams. It provides an alternative to traditional emergency shelter or transitional housing approaches by giving immediate access to permanent housing. Most of the housing is in the private market and is funded through rent subsidies with the tenant responsible for contributing up to 30% of their income towards their rent. There are many examples of pioneering programs that have used this approach in Canada. They are particularly interested in evidence to support further implementation.

Previous studies offer promising evidence that Housing First models provide a variety of positive outcomes for clients. Many important questions, however, remain, because many of the studies have methodological limitations or are based on the experiences of U.S. programs. Given the differences in health care and social policies between the U.S. and Canada, it is vital that evidence about the Housing First approach be grounded in the Canadian context.

In 2008 the Federal Government invested $110 million for a five year demonstration project aimed at providing evidence about what services and systems best help people experiencing serious mental illness and homelessness. The MHCC's At Home/Chez Soi project is a pragmatic field trial of a complex intervention in the five cities of Vancouver, Winnipeg, Toronto, Montreal, and Moncton. The rigorous, multi-site, experimental research design of the At Home/Chez Soi project will help to identify what works, at what cost, for whom, and in which environments. It is comparing Housing First with existing approaches in each of the five cities. For the first time in a trial, it includes a standardized definition of Housing First and the use of fidelity assessments to document the quality of the implementation of the program over the first two years. The inclusion of recovery, employment, and social functioning outcomes add new knowledge to the evidence base, as does a broadened definition of the target

population to include those with moderate mental illness and disability and the inclusion of two levels of intensity of support services.

The implementation of Housing First across study sites has been enhanced through training, technical assistance, and quality assurance strategies. Fidelity results confirm that, for the most part, implementation went well. Completion of the many tasks associated with the planning and implementation of this project has required a participatory approach with engagement of multiple sectors at local and national levels. The scope and impact of this involvement is broad, with partners and key supporters from a range of sectors.

A randomized trial design was chosen for this project so that the most rigorous evidence regarding the impact of the intervention could be generated. The rates for completed interviews across follow-up intervals currently (July, 2012) are 92% for the Housing First group (HF) and 84% for the treatment as usual (TAU). These are excellent rates of follow up for a transient population. In this document, the findings reported are based on information provided by participants in interviews that were conducted at baseline and then at 3-month intervals over the 12 months after study entry, and information reported by the housing teams. Longer term (21 months) outcomes will be reported in 2013.

Most study participants were recruited from shelters or the streets. The typical participant is a male about 41 years old, but there is a wide diversity of demographic characteristics. Women (32%), Aboriginal people (22%), and other ethnic groups (25%) are well-represented. The typical total time homeless in participants' lifetimes is nearly 5 years on average. There are many indications that participants have multiple challenges in their lives that have contributed to their disadvantaged status. For example, 56% did not complete high school, and they are living in extreme poverty. All participants have one or more serious mental illnesses, in keeping with the eligibility criteria of the study. In addition, more than 90% of participants have at least one chronic physical health problem. The early life origins of homelessness are reflected in the life histories of study participants, the realities of life on the street are reflected in their current circumstances, and the challenges of regaining housing and employment are understandable given the many health problems that they have.

From administrative data reported by the housing teams for all of the 13 intensive case management and assertive community treatment programs in the project, we know that, as of July 2012, 932 individuals are housed in the community. Sixty percent are still in their first unit and an additional 27% are still in their second unit. The finding that close to 86% of the individuals currently housed have remained in their first or second unit indicates that the attention paid to client choice and the support of the service teams have quickly created appropriate living conditions for the majority of the participants. At 12 months, those in HF reported having spent an average of 73% of their time in stable housing. In contrast, those in the TAU group had spent only 30% of their time in stable housing. Instead, their time was spent in temporary housing, shelters, and streets to a much higher degree than the Housing First group.

In order to examine the economic implications of this Housing First intervention, the savings from other housing and services are balanced against the investment in Housing First for the total group and for a group of the highest previous service users. The average shelter, health and justice costs for one year

are $23,849 for the TAU group and $14,599 for the HF group. The difference of $9,250 partially offsets the annual intervention cost of $17,160, resulting in an average net investment of $7,910 per person per year to deliver the Housing First intervention. In other words, for every dollar that is spent on Housing First, 54 cents is saved through the reduction in other shelter and health care services.

The high service user group (defined as the top 10% of all study participants based upon historical costs) shows a different picture. Average costs per person of non-study shelter, health and justice services are $56,431 for the TAU group and $30,216 for the HF group. The difference of $26,215 not only covers the annual cost of $16,825 for the Housing First intervention, it represents a net savings of $9,390 per person per year. In other words, for every dollar that is spent on Housing First for these participants, $1.54 is saved through the reduction in other shelter, health and justice services. Using this information about the relative savings from different subgroups to target future investments in Housing First makes good economic sense.

Living in shelters and on the streets makes it very difficult to take care of one's health, adhere to treatment routines and move forward in one's life. One of the advantages of stable housing for a group who have high levels of chronic mental and physical illness is the possibility of shifting their health care from institutions to the community. This shift does create cost savings and cost offsets that can be taken into account when making decisions about where to target future programs and how to avoid future cost pressures. The longer-term benefits of the Housing First intervention are also important considerations for decision making about where and how to invest. They will be the focus of the final report of the study which will be tabled after the complete period of follow-up of 21 to 24 months (Autumn/Winter 2013).

INTRODUCTION

Purpose

This interim report from the Mental Health Commission of Canada's (MHCC) At Home/Chez Soi project, a multi-site pragmatic trial of Housing First in five Canadian cities, draws upon one year results to address several questions that we think will be of interest to a variety of audiences:

- Who is in the study and what do their past experiences tell us about their needs for care?

- What is Housing First and how has it been implemented?

- To what extent is housing stability achieved in the first year?

- Does continued investment in Housing First as one innovative solution to the problem of chronic homelessness make sense from social and economic perspectives?

- How can this research evidence inform decisions about where and how to invest?

Policy Issue

Chronic homelessness is a significant health and social problem. Within the larger population, there is a subgroup of 12-13% who are heavy shelter users, accounting for a disproportionate amount (over half) of the shelter days.[36] Lifetime prevalence of mental illness (67%) and substance abuse (68%) among the general homeless population[37] are even higher and more disabling amongst the heavy shelter user subgroup[38].

In Canada, our current response relies heavily upon shelters as a housing option and upon emergency and acute services to provide healthcare. This is a costly and ineffective way of responding to the problem.

Canada does not have accurate estimates of homelessness. However, a government report suggests there are 150,000 homeless people in Canada and some reports suggest it is as high as 300,000.[2] It has been estimated that homelessness costs Canadians $1.4B per year.[4] There is a real risk these numbers will grow with new pressures from the unstable global economy creates pressures upon Canadian households.

People who are homeless more commonly experience serious mental illness, substance abuse, and challenges with stress, coping, and

"J" says that his old life was like a "vicious cycle", without any supports.

He used to drink heavily, and had many criminal charges. J stopped drinking when he moved into his apartment with *At Home/Chez Soi*, and has stayed sober for over a year.

"Supports have helped me do better, and being on the right medication helped a lot too," J says. "The worker on the project helped me save money - now I can buy furniture I really wanted but needed to save for." "My biggest goal going forward is to try to make the best of the next year and a half in the project," J told us. "I've signed up for carpentry school now - two semesters of 16 weeks each. I have this time to keep going in the same direction. I'm trying to build on all my successes in the project."

suicidal behaviour than the general population.[1] Mortality among homeless people in Canada is much higher than among the general Canadian population, and many unexpected deaths are related to mental illness and suicide.[28]

The face of homelessness in Canada is diverse. Nearly one in seven users of shelters are children; almost one third of the homeless population is aged 16 to24; increasing numbers of homeless are seniors; aboriginal people are overrepresented in homeless counts across the country; and one quarter of all new Canadians were paying more than 50% of their income for rent.[25]

People who are homeless and living with mental illness often face barriers to accessing health services and end up using emergency room and inpatient hospitalizations for their care.[29] A study in British Columbia found that costs for health, criminal and social services are 33% higher for people who are homeless than for people with housing.[5] Existing mental health services often lack the resources or are unable to combine the variety of services and supports needed to address their needs, especially at higher levels of care.[3] Service fragmentation and lack of options for consumer choice often make it difficult to engage those with the most complex needs.

Research in Canada and elsewhere has shown that people with serious mental illness prefer to live independently in community settings, and that consumer choice is an important predictor of clients' success in retaining housing and engaging in treatment. [6, 30, 31]

What is Housing First?

Housing First is an evidence-based practice originating in New York City (Pathways to Housing) and Toronto (Streets to Homes) which emerged in the 1990s, that provides immediate access to both permanent, independent housing through rent subsidies and to mental health and support services offered by community teams. It provides an alternative to traditional emergency shelter or transitional housing approaches in that it provides immediate access to permanent housing. Most of the housing is in the private market. There are many examples of pioneering programs that have used this approach in Canada. They are particularly interested in evidence to support further implementation.

Housing First is becoming well known internationally and in Canada, although there is often variation in how it is defined and implemented. Programs in some Canadian cities and one province (Alberta) are in place with positive outcomes. For example, the Calgary Homeless Foundation with a focus upon Housing First has housed 4096 people over 4 years and system impacts are becoming evident (www.calgaryhomeless.com).[27] Homelessness is down for the first time since 1992 and there was an 11.4% reduction in the number of homeless individuals between 2008 and 2012. There has also been a reduction in use of emergency shelters; from April 1, 2011 to March 31, 2012 the Human Services Funded shelters in Calgary showed a decreased rate of use of 5.4%; as well the Human Services and the Salvation Army closed 189 shelter and transitional spaces. However, with recent increased migration into Calgary a small increase in shelter use has been noted.

Housing First is a fundamentally different way of doing business. Canada's first Mental Health Strategy (www.mentalhealthcommission.ca) recommends increasing access to housing for people living with mental health problems—and specifically, the expansion of programs that take a 'housing first' approach to homelessness. Investments in Housing First align with the Federal government's current Homeless Partnering Strategy goals which recognize the Housing First approach and the importance of stable housing as a basic requirement for improving health, parenting, education and employment[47]as well as the Human Resources and Skill Development Canada's Social Innovation agenda. It also aligns with Health Canada's interests in supporting sustainable health care delivery that achieves better results on investment and helps Canadians maintain and improve their health based on longevity, lifestyle and effective use of the public health care system. [39] As a part of its mental health strategy, New Brunswick is actively pursuing wider implementation of Housing First based upon the Moncton At Home/ Chez Soi experience.

PRINCIPLES OF THE HOUSING FIRST PROGRAM MODEL[26]

- **No conditions on housing readiness** – People are not expected to prove they are 'housing ready' by participating in treatment or by being sober). Tenancy is not tied to engagement in treatment.

- **Choice -** offers clients a choice of housing (e.g., neighbourhood, congregate, scattered site). In At Home/Chez Soi, housing is in self-contained units, mostly private sector, scattered site across the community.

- **Individualized support services** - provides a range of treatment and support services that are voluntary, individualized, culturally-appropriate, and portable (e.g. in mental health, substance use, physical health, employment, education)

- **Harm reduction** – which aims to reduce the risks and harmful effects associated with substance use and addiction – (encouraging but not requiring absolute abstinence)

- **Social and community integration** – provides opportunity to engage in local communities through opportunities for meaningful activities

Effectiveness of Housing First from other studies

Previous research, using diverse research designs, and focusing on those with severe mental illness who are homeless, has demonstrated promising findings regarding several outcomes.

- **Positive impacts on housing stability.** [6, 8, 12, 14 - 19, 33]

- **HF creates cost off-sets when compared to existing approaches** (in health care and justice system use). Housing First typically reduces costs associated with health care and justice system use. Multiple economic analyses have shown that the resulting cost savings in these areas can significantly offset the cost of a Housing First program. [7-13] Research from Toronto's Streets to Homes Post-Occupancy study of a convenience sample of 88 participants also suggests savings from the reduction in emergency service use once an individual is housed. The study estimated that the four highest service users they surveyed used an average of at least $36,000 in emergency and health services in the last year they were homeless. [7]

- **Can reduce unnecessary emergency visits and hospitalizations.** [7-9, 11, 13, 21 -23, 32] This decrease in use of emergency and inpatient services is accompanied by increases in use of community outpatient services that are better able to meet client needs and prevent unnecessary or lengthy hospitalizations. It also frees up necessary health care resources of others who need them.

- **Improves health, mental health and addictions symptoms**[7, 10, 11, 13, 24]

- **Reduces involvement with police and criminal justice system which allows police to do the kind of police work that they are commissioned to do.**[7, 8, 9, 11]

- **Improves quality of life** [7, 9 -11]

These studies offer promising evidence that Housing First models provide positive outcomes for clients. Many important questions, however, remain, as many of the studies have methodological limitations or are based on the experiences of U.S. programs. Given the differences in health care and social policies between the U.S. and Canada, it is vital that evidence about the Housing First approach be grounded in the Canadian context.

Of great interest to all levels of government facing challenging economic times is the question of cost-effectiveness. Prior research is encouraging regarding the potential of the intervention in this regard but there are also cautions from some experts that the cost savings conclusions or statements have been oversold.[40] Studies that rely only upon pre-post comparisons and/or have narrowly selective samples of high user groups give a false impression that, for everyone, the savings that are accrued from reductions in other types of services will be much greater than the Housing First program costs. This can only hold true if there has been significant service use prior to program entry. It is perhaps more useful to note that better return on investment can be achieved in various ways. Cost **offset**s that reduce the net investment in Housing First and longer term gains in housing and health outcomes that are achieved through the investment are also important considerations.

At Home/Chez Soi

In 2008 the Federal Government invested $110 million through a funding agreement between Health Canada and the MHCC to support a five-year demonstration project to evaluate what services and systems best help people experiencing serious mental illness and homelessness. At Home/Chez Soi is a pragmatic field trial of a complex intervention in the five cities of Vancouver, Winnipeg, Toronto, Montreal and Moncton. Its activities and guiding principles are aligned with the stated project goal to "implement research demonstration projects in Canadian settings that will yield policy and program relevant evidence about what service and

> Over 1000 individuals experiencing homelessness and mental illness have been housed through At Home/Chez Soi.

system interventions achieve the best health and social outcomes for those who are homeless and mentally ill". (see Appendix A for Project Précis). It is the largest study of its kind in world, with 2,255 participants, 1,265 of whom were randomized to receive the Housing First intervention.

"If anything, they're being looked after better than regular tenants because there's all that team behind them."

Quote from an At Home/Chez Soi Landlord about the project

Intensive Case Management teams (ICM): Provides intensive case management services to individuals with 'moderate' needs. Case managers provide outreach and broker /coordinate with other programs to help people access necessary services. Teams are available 12 hours/day. Staff to client ratio of 1:15 to 16

Assertive Community Treatment (ACT): Provides multi-professional intensive service for people with serious mental health issues. ACT teams provide a range of supports directly to individuals living in the community (e.g. recovery and wellness services; peer support; integrated mental health and addictions supports). Services and crisis coverage available 24 hours, 7 days per week. Staff to client ration of 1:10

The intervention is based on the Housing First model. Housing is provided through rent subsidies, **with participants paying up to 30% of their income towards their rent paid**. Supportive services are provided according to two levels of need by Assertive Community Treatment (high need) and Intensive Case Management teams (moderate need). Refer to Appendix E for a glossary of terms. Client choice is at the centre of all housing and support considerations.

The rigorous, multi-site, experimental research design of the At Home/Chez Soi project will help to identify what works, at what cost, for whom and in which environments. For the first time in a trial, it includes a standardized definition of Housing First and the use of fidelity assessments to document the implementation and development process over time. The inclusion of recovery, employment and social functioning outcomes add new knowledge to the evidence base, as does the broadened definition of the target population to include those with moderate mental illness and disability. It is comparing Housing First with treatment as usual (TAU) e.g. typical or existing approaches in each of the five cities.

There are a range of different services and supports (housing, health, justice, vocational, peer etc) that might be provided to those in the two study groups. Across all cities there is a common definition of the essentials of the Housing First intervention but treatment as usual will differ depending upon the system context.

At a minimum Housing First includes access to rent subsidy and accommodation in a chosen location, as well as one visit a week by the service team. Depending upon the participant's needs and decisions, it may also broaden to include a comprehensive "basket of services and supports" tailored to the individual. They may either be provided directly by the ACT and ICM teams or through referrals to other agencies and community resources.

The treatment as usual groups have access to whatever the existing housing and support services are in their communities. In some cities this includes a range of options, with other supportive housing programs and treatment resources available. In other cities/neighborhoods there are fewer options and very restricted resources for those who are homeless and have a mental illness.

Based upon 3 years of implementation by housing and service teams in 5 cities and one-year follow-ups of 2,149 participants, this interim report can inform interested parties about our progress and begin to inform decisions about continued investment in Housing First. Three Early Findings reports provide supplemental information from various knowledge sources. (www.mentalhealthcommission.ca) Reports on the conception and implementation of the project are also available. (www.mentalhealthcommission.ca) A final report using 21 to 24-month follow-up data and more comprehensive economic and outcome analyses will provide a stronger evidence base for decisions about disseminating the model more widely and inform policy for federal, provincial and territorial governments. It is slated to be released in the autumn of 2013.

Implementation Process

Training, technical assistance and quality assurance have accompanied and enhanced the implementation of Housing First across the country. A multi-phased, multi-year approach to training and technical assistance included partnering with experts in Housing First from Pathways to Housing in New York City and Streets to Homes, a service provider in Toronto. At Home/Chez Soi supported a number of training and technical assistance events to assist with implementation and fidelity. In addition to 4 national training events, each of the

At Home/Chez Soi uses an integrated knowledge translation approach to share its findings.

We are involved in multiple dissemination activities including:
- Presentations (locally, nationally and internationally)
- Publications in peer reviewed journals
- Research reports including 18 qualitative reports on project conception, planning and implementation
- *Focusing the Frame ,* a unique project by participants in Winnipeg who took photos to depict their experiences of being homeless and then housed through At Home/Chez Soi

We are also building research capacity in the sector and are collaborating with Housing First programs in Calgary and Edmonton; and assisted with the exciting Chez France D'Abord research demonstration project in France modeled on At Home/Chez Soi.

For more information: www.mentalhealthcommission.ca

teams received on-site technical assistance from trainers, on-going facilitated conference calls for the communities of practice (ACT, ICM, Housing, and Peer Support Workers) as well as online training seminars ("webinars") on topics identified by the teams. The on-site technical assistance visits from trainers included two visits to each site in each of the first two years.

Fidelity results confirm that for the most part, implementation went well. Program fidelity was assessed by a national "fidelity team" that provided additional and important feedback for each of the local teams. The fidelity scale used during these visits was based on a newly created Housing First Fidelity Scale.[35]   Consistent with the literature on effective implementation the fidelity visits were designed to be collaborative. Immediately at the end of each visit, teams were given direct verbal feedback based on the observations, interviews and measures collected that day. They were also given written reports that summarized their ratings and made recommendations for improving implementation. Results from the first round of fidelity visits are reported in the Cross-site Implementation and the second Early Findings reports (www.mentalhealthcommission.ca).

Involvement of decision makers and other interested parties

Completion of the many tasks associated with the planning and implementation of this project has required a participatory approach with engagement of multiple sectors at local and national levels. [34] The scope and impact of this involvement is broad with partners and key supporters from a range of sectors including health, mental health, housing, justice, philanthropic, government (federal, provincial, municipal), Non-governmental organizations (NGO's), consumers and family members, research organizations and private market landlords (see Appendix B). More particularly, we have over 260 landlords and property management companies involved in the project, 29 core partners who host the housing, support and research teams, and over 83 key partners who provide valuable support to the project through their involvement in local or national advisory groups, providing referral and service supports, and research assistance.

Involvement of People with Lived Experience

It is imperative that people with firsthand knowledge and experience of what it is like to be homeless and to have mental health issues are involved in projects such as At Home/Chez Soi. People with lived experience (PWLE) in mental health issues and homelessness can provide advice, insight and direction to help guide project implementation. At Home/Chez Soi is proud that PWLE are engaged across the project nationally and in all five sites. In total there are 103 peer roles across the project; these roles range from having PWLE employed as peer support workers on ACT and ICM teams; as peer researchers; as peer facilitators; and in a variety of advisory positions nationally and locally. The involvement of PWLE has influenced the project's implementation, research questions, and knowledge exchange and communications strategies.

In the first year of At Home/Chez Soi, individuals receiving Housing First have had a much higher level of stable housing than those in the Treatment as Usual Group.

Housing First has also shown the potential to provide system-wide cost offsets. For example, individuals receiving Housing First saved the system a yearly average of $2,184 per person in costs related to inpatient stays – this savings was even greater for the "high user" sub-group.

AT HOME/CHEZ SOI – RESEARCH FINDINGS

> **Continued Investment in Housing First is supported by the following project results**
>
> - Individuals who were living in shelters on the streets can be housed in adequate, affordable, suitable settings
>
> - Stable living conditions contribute to a shift from the frequent use of inappropriate and expensive services – At Home/Chez Soi saved the system a net **average of $9,390** for those who were high users of services
>
> - Canada can (and is) implementing Housing First
>
> - Benefits are being seen across a range of sectors (health, social services, criminal justice)

Methods

Rationale

A randomized trial design was chosen for this project so that the most rigorous evidence regarding the impact of the intervention could be generated (see Appendix E for a definition of the eligibility criteria and project design). Studies that rely upon pre-post comparisons cannot untangle the effects of naturally-occurring change over time from those attributable to the intervention itself. Studies that use non-randomized comparison groups cannot determine whether differences are due to the different initial characteristics of the groups that are studied rather than the intervention itself. Although this report draws upon quantitative data, there is also a rich set of qualitative findings that also informs our understanding. A mixed-methods approach was used so that we can document not only quantitative findings, but also qualitative findings such as on the process of implementing the intervention and how it is experienced by those who are receiving it. [34, 42] A 21-24 month follow-up period was necessary in order to track changes in outcomes that take longer than one year to manifest.

Data sources

Results in this report are based on housing and service use histories over the first year of the study as reported by participants and from program administrative data. Interviews with participants were conducted at baseline and then at 3 month intervals thereafter.[i] All interviews included detailed questionnaires about housing and stays in institutions (Residential Time-line Follow-back [45]). The

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[i] Administrative data will supplement self report in the final report that draws upon 15, 18, and 21 month follow-ups.

baseline interview also included a history of homelessness and a structured diagnostic interview,[44] while use of health, social, and justice services was assessed at 6 months and 12 months. The broad domains covered by the interview and particulars about the research instruments are described in the study protocol.[43]

The rates for completed interviews across follow-up intervals currently (July, 2012) are 92% for the Housing First group and 84% for the TAU. These are excellent rates of follow up for a transient population. With the relatively low rates of attrition, the generalizability and the strength of our findings are increased.

Analytic techniques

For the purposes of this report, the definition of the high service user group was based upon service use over the three (overnight stays) to six-month (community visits) period immediately prior to entry into the study. A total annual service use cost prior to study entry was calculated by assigning unit prices to self-reported service use. The top 10% of the total sample was then defined as high service users. Simple descriptive comparisons are provided for the characteristics of the total sample and the high user group. Change over time models for the 12 months after program entry were used to identify where there were differences between the HF and TAU groups that would have cost implications, i.e. the magnitude of the difference and/or the unit price would contribute to the larger picture.

Anticipated outcomes

One of the realities of implementing Housing First is that some program impacts will happen relatively immediately, but others will take the full follow-up period in order to be visible; and yet others may not manifest until after the study is over. Prior to analysis of the findings, we used previous research, implementation experience and program logic to anticipate where early changes are likely to occur. A survey of 19 key informants identified the 6 most likely first-year outcomes. These outcomes included days housed, housing stability, Emergency Room visits, hospital admissions, service agency visits and jail/prison nights. Health status, social functioning and quality of life outcomes were generally thought to be outcomes that would be more likely to manifest in the second year of the study.

"We need to generate some evidence that's based on the Canadian health-care system, looking at an extremely difficult-to-serve population,"

Quote from Marion Wright CEO of the Canadian Mental Health Association Ottawa Branch about At Home/Chez Soi (Source: Ottawa Citizen March 11, 2011)[46]

Results

Sample

The sample for the service use and costing results reported here includes all of the TAU group and the ICM and ACT programs from all 5 sites (N=2149) but does not include the one "third arm" congregate living program in Vancouver (n=107) where the program model differs in many ways, e.g., the Assertive Community Treatment team provides services at the residence and individuals were not given a choice regarding the location of their housing. Evidence about who does well in congregate versus scatter site models will be reported by the Vancouver research team. Refer to Appendix E for a definition of ACT, ICM and TAU.

Participant Demographics

Our study population is primarily a middle-aged group; however about 1 in 3 is under the age of 34. This means that, to the extent that the intervention is effective with this age group, it has the potential to realize benefits in terms of gains in productive years of life over the long term. Only 1 in 10 of the sample is over age 55. (In homeless populations, health professionals consider age 55 to be the start of the older age period, because street life impacts physical health so profoundly).

> Appendix C, Table 1 lists demographics characteristics for the total sample and the two service use groups.
>
> Appendix C, Table 2 lists homelessness history characteristics for the total sample and the two service use groups.
>
> Appendix C, Table 3 lists past and current personal, health and social circumstances for the total sample and the two service use groups, documenting the risk factors and trauma of this highly vulnerable population with multiple problems and unmet needs.

The typical participant is a male in his early 40s. While males are more numerous in the homeless population generally, we aimed to have women comprise at least 20% of the sample so that we could learn more about this under-studied group. The final sample is 32% women.

Across all sites, 81% name Canada as their country of birth. However, there are intentional differences in the ethnocultural and Aboriginal make-up of the samples in some cities, which means that proportions may differ from those in the wider population of homeless Canadians.

- o The plan in Winnipeg was to recruit 70% of participants from the Aboriginal community (First Nations, Métis and Inuit) and it was realized.

o   In Toronto, a targeted approach to recruitment has resulted in approximately 46% of participants having been born outside of Canada. This gives us an opportunity to learn about adapting best practice approaches to diverse communities.

96% of participants are currently single, separated, divorced or widowed. A small proportion (about 4%), is married or living common-law. Many are parents, with 32% reporting having one or more children, though few of these children are currently living with the participant.

There are many indications that participants have multiple challenges in their lives that have contributed to their disadvantaged status. For example, 56% did not complete high school, and are living in extreme poverty. The average income reported for the month prior to study entry was less than $685 per month. While 93% were unemployed at the time of study entry, more than 65% have worked steadily in the past, which suggests a reasonable potential for re-employment after stabilization in housing.

A small but important percentage (4%) of participants are veterans, having reported wartime service for Canada or an allied country.

Homelessness History

Most study participants were recruited from shelters or the streets, with 82% absolutely homeless and 18% in precarious living situations after having been in shelters or on the streets in the year prior to entering the study (refer to Appendix E for a definition of absolute and precariously housed).   (The duration of homelessness varies. One in 5 first became homeless in the past two years. The longest single past period of homelessness is reported by participants to be about 30 months and the typical total time homeless in participants' lifetimes is nearly 5 years. Participants report a typical age of first homelessness of around 30 years, but more than 40% report having their first episode of homelessness before the age of 25.

Past and Current Personal, Health and Social Circumstances

All participants have one or more serious mental illnesses, in keeping with the eligibility criteria of the study. At entry, participants reported symptoms consistent with the presence of the following mental illnesses: 52% major depression; 13% mania; 29% post-traumatic stress disorder; 24% panic disorder; 35% psychotic disorder; 16% mood disorder with psychotic features; 35% alcohol dependence and 46% drug dependence. A substantial proportion had more than one mental illness. Participants were recruited into moderate (62%) or high need (38%) groups (see definition in Appendix C-Table 3). These classifications determined the type of case management they received (ICM or ACT respectively). Refer to Appendix E for a definition of ACT and ICM.

The early life origins of homelessness are reflected in the life histories of participants, the realities of life on the street are reflected in their current circumstances, and the challenges of regaining housing and employment in their hidden disabilities. For example, about 61% reported being emotionally abused and 53% reported being physically abused in childhood. Thirty-six percent reported "often or very often" not having enough to eat, having to wear dirty clothes, and not being protected. Substantial proportions also reported experiencing domestic violence in the household (34%), living with someone who was abusing substances (55%) or having a household member in jail or prison (28%)[ii].

Nearly forty percent of participants reported having a learning problem or disability, and 51% have a history of one or more traumatic head injuries involving unconsciousness.

More than 90% of participants have at least one chronic physical health problem. The most common conditions, in about a third to half of participants, are: dental problems, back problems, foot problems; migraine headaches; and arthritis/joint problems. More than 40% report having a serious chronic respiratory illness (either asthma or chronic bronchitis). One in 5 reports having Hepatitis B or C. Significant proportions (7 to 10%) also have serious health conditions including HIV/AIDS, seizure disorder/epilepsy, Crohn's disease or colitis, diabetes, and heart disease, and 2.5% have cancer.

Thirty-six percent of participants have had two or more hospital admissions for a mental illness in any one-year period in the 5 years before study enrolment, and 7% of participants report having been hospitalized for a mental illness at least once for more than 6 months in that time period.

Being homeless can increase risks of various kinds. For example, 35% reported having had involvement with the criminal justice system in the 6 months prior to the study, having been arrested one or more times, been incarcerated or served probation. *(We know from other studies that petty crimes related to living in public spaces probably account for a fair proportion of this legal involvement.)* With respect to the type of legal system involvement, 21% of participants reported being detained or moved along by police; 23% reported being held by police for less than 24 hours; 26% reported being arrested; 29% reported having had a court appearance, and 10% reported participation in a justice service program in the prior six months.

Involvement in child welfare system was reported in the Winnipeg site, where 49% of participants had been placed in foster care before the age of 18.

Many participants had experienced victimization in the 6 months prior to study entry: 32% were robbed or threatened to be robbed; 42% were threatened with physical and 36% were physically assaulted. The average level of community functioning of participants (in domains such as daily living, money management, coping with symptoms, and social effectiveness) is 60.2 on a scale where scores below 63 represent moderate to high disability. Participants lack basic social support – around half report having no one to confide in. General distress levels were also high with 36% reporting symptoms consistent with moderate to high suicide risk. *(Note that there are standard referral processes that are followed in the study if a participant is deemed at risk of suicide).*

[ii] percentages are reported for a subsample of 1418 participants with data collected to August 2012

High Service Users

As is shown in Appendix C, the high service user group is similar to the rest of the sample with regard to most of the demographic and history characteristics. What most differentiates those in the top 10% of service costs are being in the high need group (61 % vs 31.2%) and having a diagnosis of psychosis (48% vs 33.8%). The high users were somewhat more likely than the rest of the sample to be absolutely homeless rather than in precarious housing when they entered the study, but their histories of homelessness were somewhat less prolonged and chronic. For 29%, it was their first time homeless and the total lifetime homeless history was 8 months shorter than for the other 90%. Aboriginal people are underrepresented among high service users. There are some indications that the high user group experienced less risk associated with brain injury and victimization. They were more likely to be detained by police and they do report more side effects associated with medication in the past 6 months. But for the most part high users are not easily identified by anything other than their service use histories.

Housing Outcomes

From administrative data reported by the housing teams for all of the 13 programs in the project, we know that 932 individuals are housed in the community as of July 2012. Fifty-eight percent are still in their first unit, 28% are in their second, and 14% have moved 3 to 5 times. The finding that close to 86% of participants currently housed remain in their first or second unit they were located (as of August 2012) indicates that the attention paid to client choice and the support of the service teams have quickly created appropriate living conditions for the majority of the participants. Moves for some within the housing first program model are expected, sometimes because the unit is not suitable/ acceptable, and sometimes because things do not go well in general and a change creates an opportunity for the individual to learn from the first housing attempt and retry with support from their team.

Data from the research interviews of this study sample (N=2149) allows us to compare the amount of time spent in various settings for the Housing First and TAU groups during the first 12 months after study entry (see Figure1).

Figure One

Percent of Time Spent by Housing Type, HF versus TAU
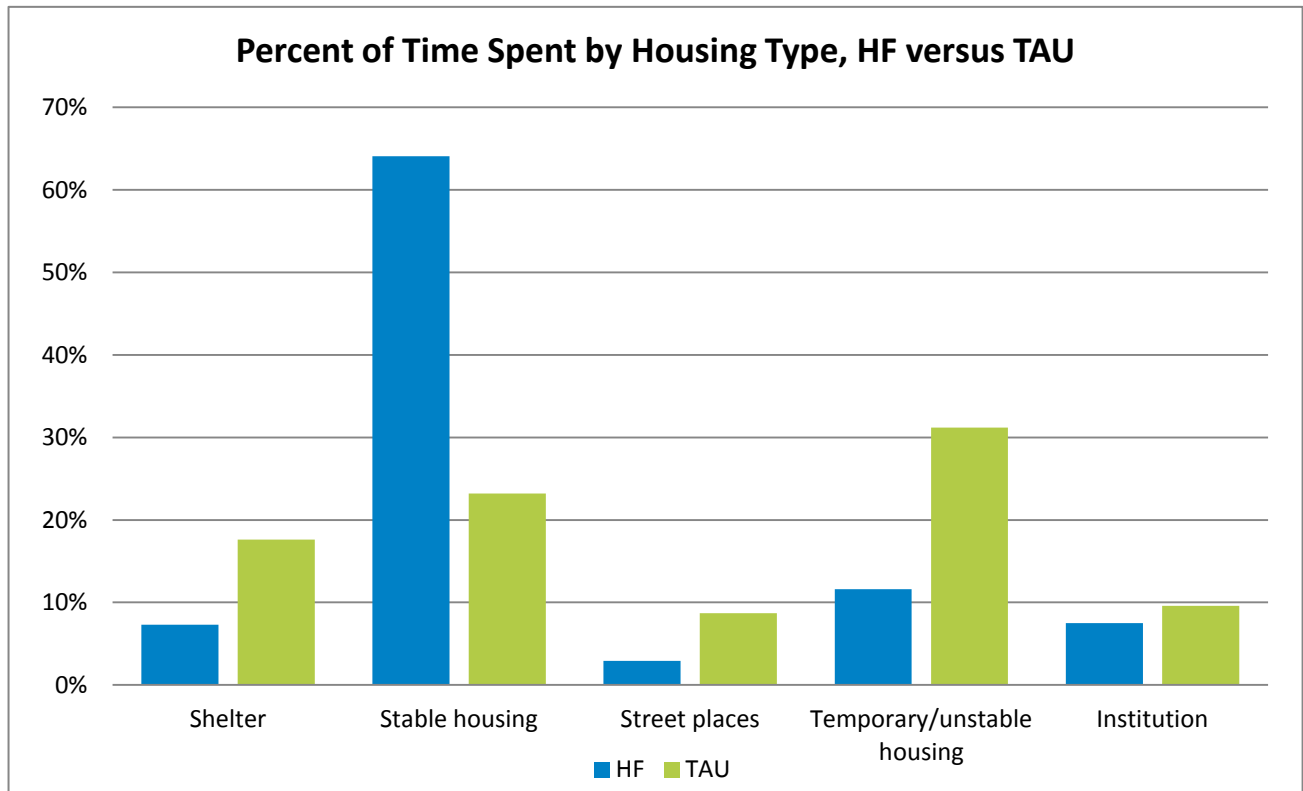
During the first year of this study, those in HF spent an average of 64% of their time in stable housing. In contrast, those in TAU spend only 23% of their time in stable housing. Instead, their time was spent in temporary housing, shelters and streets to a much higher degree than the intervention group.

The following are definitions of the kind of housing included in the 5 housing categories in the graph:

- Shelter/crisis housing includes: emergency room; emergency shelter; crisis housing; detox

- Stable Housing includes: own apartment or house; parent's apartment or house; group home (long-term)

- Street places includes: indoor public place open late or all night; bus or subway; abandoned building; car; on the street or other outdoor place

- Temporary/unstable housing includes: on the street, hotel/motel; single room occupancy room (SRO); in another person's SRO; boarding house; temporary shelter at parent's or family member's house/apartment; Institutional includes: nursing home/long-term care facility; drug/alcohol treatment facility; psychiatric rehabilitation facility; prison; corrections half-way house; general Hospital; psychiatric hospital

Figure 2 below indicates that it sometimes takes a few months for individuals in the HF program to move into stable housing. At 3 months, only 42% of the previous period was in stable housing, but by 12 months that had risen to an average of 73% for those in HF. In contrast, some time is spent in stable housing by those in TAU and it too gradually increases over the year, but at 12 months, less than a third of the time was spent in stable housing.

Figure Two

Time Spent in Stable Housing Over Year One
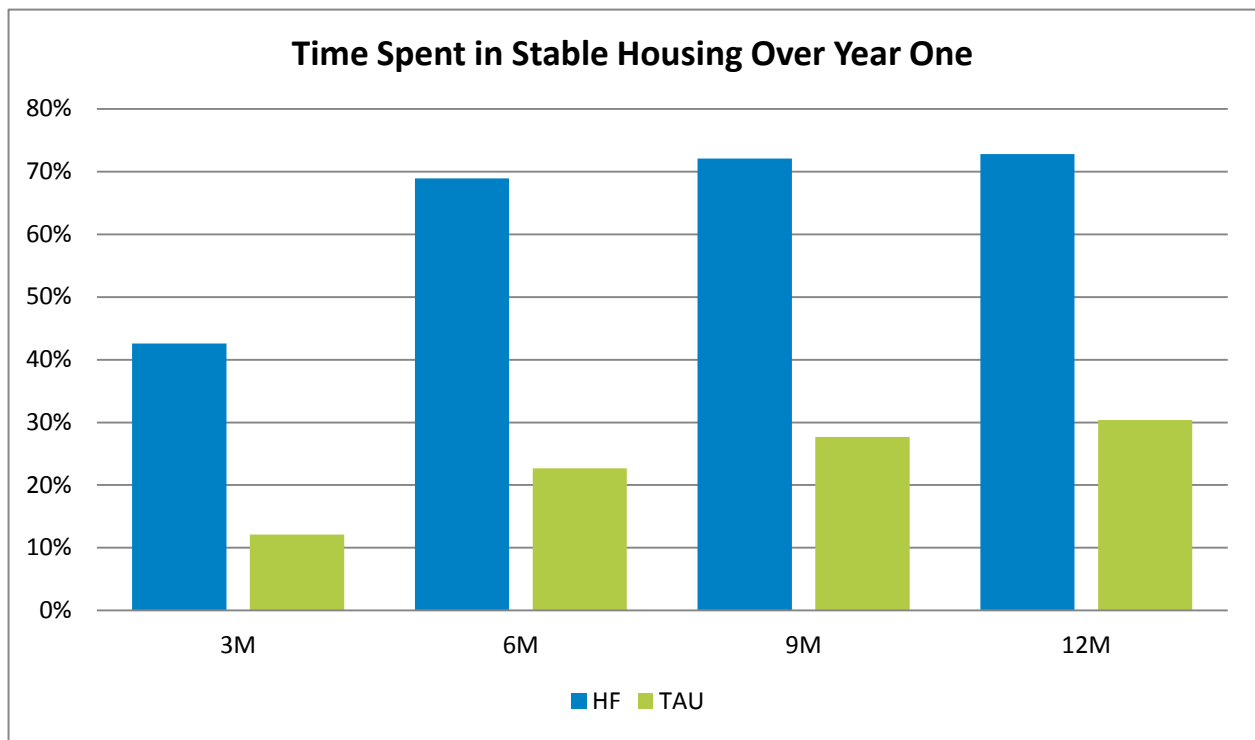
Costing and Service Use

Table I summarizes the overall financial picture from the first year taking into account both use of other health care, justice, and social services and the annual cost of providing Housing First. Comparisons of TAU and HF are shown for the total group and for high users, defined as those in the top 10% based upon prior service costs (See Appendix F for details about the calculation of these summary costs). The average service and shelter costs for one year are $23,849 for the TAU group and $14,599 for the HF group. The difference of $9,250 offsets the annual intervention cost of $17,160. The net cost of the intervention is $7,910 per person per year to deliver the Housing First intervention. A focus upon the high user group results in a different picture. Average costs per person of non-study services are $56,431 for the TAU group and $30,216 for the Housing First group. The difference of $26,215 not only covers the annual cost of $16,825 for the Housing First intervention, it creates a savings of $9,390 per person per year.

> Housing First saves an average of **$2,184** per person in inpatient days. For the high user group it is a savings of **$25,899** in inpatient days.

Table One

	Annualized costs: Total sample			Annualized costs: High Service Users		
	TAU	Intervention	Difference	TAU	Intervention	Difference
Est. annual cost: Non-study services	$23,849	$14,599	$ (9,250)	$ 56,431	$30,216	$ (26,215)
Est. annual intervention cost		$17,160	$ 17,160		$16,825	$16,825
Total	$ 23,849	$ 31,759	**$ 7,910**	$ 56,431	$ 47,041	**$ (9,390)**

In order to better understand how these differences in total service costs happen, it is useful to examine specific types of service and look at patterns over time. Appendix D displays a series of graphs that plot comparisons of HF and TAU for the total sample and where relevant, for the high service user group. When we compare the type of service and housing use by group, we can then focus upon the differences between Housing First compared to Treatment as usual. The graphs give us a sense of the

size of that gap over time. Applying a unit price to the 12 month difference gives us the annualized cost consequences. (See Appendix F).

Shelter days and transitional housing (one type of time-limited housing with government support) both decrease over the 12 months for both groups (pg 44). Because the Housing First groups are moving into stable housing at a greater rate, the reduction in use of these settings is faster and annual per person savings of $2,976 from shelters and transitional residences accumulate (pg 48). Within the high user group the number of days spent in shelters at baseline is 50% less than in the total group and the differences between HF and TAU are less pronounced, contributing $563 per person per year.

Living in shelters and on the streets makes it very difficult to take care of one's health and adhere to treatment routines. One of the advantages of stable housing for a group who have high levels of chronic mental and physical illness is the possibility of shifting their health care from institutions to the community. Because each day of inpatient care is expensive, even modest differences in rates of use can translate into savings and among high users the differences in rates are more dramatic. It must be kept in mind that some inpatient admissions are appropriate and what is desired is to reduce its use when other, equally effective, alternatives are available. Shorter lengths of stay are also possible when there is a fixed address.

The greatest source of savings for the total sample and for the high user group comes from differences in inpatient days (pg 44,47), with the magnitude of the difference being much greater in the high user group where the annualized savings per person were $25,899, while in the total group they were $2,184.(pg 48) Addiction treatment inpatient days also contributed to savings in both HF groups in the amount of $822 per person per year for the high user group and $345 for the total group. There were far fewer addiction treatment days at baseline and they decreased only in the Housing First group. Although the latter represents system savings it may not serve longer term health outcomes. It depends upon whether other addiction treatment and rehabilitation services are accessed instead of inpatient care.

Given the extent of prior legal involvement among this group, it is anticipated that stable housing and community supports might also shift use in the justice sector. At one year there were two types of services with differences between HF and TAU in this sector (pg 45, 47). Detentions in a police cell occurred less often for the HF group with a resultant annual savings of $210 for high users and $125 in the total sample (pg48). Trends over time suggest that this difference is likely to become greater in the second year. Over the initial 12 months, there was only a slight difference in nights in prison and jails for the total group, reducing annual costs by $13 and in the high user group there was greater use for the HF group adding $254 to the annual costs. It is probable that arrests and sentencing prior to entering the program are affecting this outcome and longer periods of time are necessary to see the savings in this type of institutional care. As with all the service use and costing patterns, there may be differences across sites in legal involvement and information about the unique contexts will be helpful to explain what drives the outcomes.

Because Housing First provides care in the community in the form of home visits and frequent telephone contact, it is expected that other types of community care will not be needed as much. In the first 12 months, outpatient mental health services and emergency rooms were visited less often by Housing First participants in comparison to TAU (pg46, 47). The difference in ER/outpatient use respectively translates into $253 versus $97 per year for the total group and $142 versus $101 for the high users (pg 48). Fewer days in detox settings resulted in an annualized savings of $603 for high users and $251 for the total group.

Finally, visits by providers, as reported by participants, are much higher in both HF groups than for TAU. (pg 46, 47) This use of service by the HF group (34 visits per year on average) reflects the delivery of community-based support that is intrinsic to the Housing First intervention. Usual care does include an average of 11 visits a year which need to be included in the financial picture. We do not yet have the program budgets for such usual care services. For now, we estimated these costs using the information we do have from the HF programs. In order to assign a cost to the visits by providers for the TAU group, the cost of the intervention was calculated using actual fiscal expenditures of the 2011/2012 year for service teams. Then a cost for visit for the HF ICM service teams in each city was calculated and assigned to the reported usual care visits in that city. (This method of estimating costs for usual care is probably under-reporting actual costs since it does not assume that any of the TAU group was receiving services from a more expensive ACT team.)

Adjustments made to reflect the city compositions of the two groups result in an estimated cost of Housing First of $17,160 for the total sample and $16,825 for the high user group (pg 48). This includes rent subsidies as well as housing and support team costs. The annual costs for the delivery of ACT and ICM are in line with those of similar teams funded by the governments in each city. By including all of the actual expenditures we are overestimating its cost in relationship to many of the other services where the fiscal information is less complete. When we complete a more detailed and comprehensive economic analyses that include all service use and has adjustments for differences in data sources in the final project report, it is quite possible that there will be even more cost offsets and savings.

DISCUSSION

These findings from the first year can begin to inform decisions about future investments in Housing First. In particular, the evidence regarding the relationship between prior service costs and the effect of the intervention upon cost savings and cost off sets can be used to guide the definition of recruitment and eligibility criteria. For example, for maximum savings a program could be designed that only served those in the top 10 percent of prior service use. But that would exclude many with unmet needs who have not yet accessed services that could have a strong positive impact on longer term health outcomes. For these individuals there is a trade-off between investing in appropriate services now or facing cost pressures later as a result of inappropriate service use. The data from our study suggests that a recruitment strategy that targeted the top 36% of the population in terms of prior service costs could be cost neutral, i.e. the investment would pay for itself in the system savings that accumulate. Different scenarios regarding the mix of clients to be served can be defined using a graph of our findings regarding the average and marginal costs per participant. Of course, budgetary concerns need to be linked to outcomes and return on investment. It will be important to take into consideration evidence regarding the housing, health and social improvements that result from the Housing First programs as those results continue to become available.

One of the questions that sometimes arises is whether the kind of savings that are generated with Housing First, a type of tertiary preventive intervention, can ever actually be realized. Given the pressures that growing community populations with high unmet needs place upon the shelter system and upon acute and inpatient health services, it is difficult for beds to be closed and dollars to be shifted to other sectors. In smaller locations where there is a critical mass of HF capacity the closure of shelters and reductions in beds may be realized. In larger urban areas it may be more reasonable to talk about cost avoidance rather than cost savings. Reductions in the use of resources by the homeless population can alleviate existing pressures on the respective shelter and health services and ensure governments won't have to build and fund more shelter supports. There will not be as much need for expansion of services in response to growing numbers of individuals who require assistance and access to existing resources will be greater for those who require them. Resources that are no longer used by formerly homeless people are made available for others. These benefits of slowing growth and allowing greater access are relevant to many types of acute and crisis services, including emergency room visits, and to inpatient and shelter beds.

"As a society member, we need to get involved if we want to see changes," he said. "We can't just sit down and blame the government."

Quote from David Methot, owner of Amarosia Organic Garden, who offered employment and on-the-job training to 6 At Home/Chez Soi participants in Moncton in the summer of 2011. [41]

FURTHER RESEARCH

This interim report is providing a high level view of a multi-facet project which will yield much more evidence in the coming months. Scientific papers that examine one year outcomes for the Assertive Community Treatment and Intensive Case Management service delivery models will be written and submitted in the next six months. Local sites will also begin to report about the unique characteristics and program outcomes in their settings. As well, several important questions will be answered through supplemental papers and reports. For example - What is the relationship between program fidelity and outcomes? How is the implementation of Housing First influenced by the Affordable Housing Supply (e.g. limited rental options)? How are the needs of sub-populations met through Housing First (children and youth, Aboriginal people, new Canadians and ethno-racialized minorities, women, people with addictions)? What are the characteristics of participants for whom this program model does not work so well? Are there patterns of service mix/intensity that predict better outcomes?

In the future, the MHCC Knowledge Exchange Centre website will be a central mechanism for the dissemination of the various reports and articles. We are also actively engaged with other homelessness and mental health forums to share the best practices and information (e.g. involvement with the development of a national Community of Practice/forum around housing and housing supports through PSR Canada and MHCC).

The final report to Health Canada (Autumn 2013) will provide evidence which can inform decisions about broad policy shifts and opportunities to expand the model more widely in Canada. It will include quantitative and qualitative data across the sites about a more comprehensive set of outcomes at 21 to 24 months of follow-up. A more complete cost-effectiveness analysis will be informed by findings from administrative data. We will be in a position to make policy and practice recommendations about a wide range of questions concerning the relative effectiveness of Housing First for different subgroups and in various contexts. This will assist governments to target investments aimed at solving chronic homelessness.

"… freedom to think about what I might want to do later on, next year maybe, maybe like go back to school and stuff like that … So, the housing gives me … the freedom to work on myself and to get my life back together."

Quote from an At Home/Chez Soi participant on what being housed has allowed him to do. From the Qualitative Research[45]

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Appendix A – Project Outline from Project Précis

Guiding Principles

Project planning and implementation is guided by the following principles:

- Ensure people with lived experience are central to the planning and delivery of all supports and services and inform the research questions and methods utilized in the demonstration projects;

- Strive to achieve long-term improvements in the quality of life of participants and seek a bridge to transition and support participants after the end of the demonstration projects;

- Develop a knowledge-base from the research demonstration projects to support more effective interventions for the homeless mentally ill;

- Build on work undertaken by the cities and provinces and other related best practice endeavours to maximize scope of the results and impact of the study;

- Conduct research in a manner that is ethically sound and meets generally accepted standards and practices of excellence;

- Support the knowledge exchange component of the MHCC mandate;

- Create partnerships with federal, provincial, municipal, not-for-profit and private sectors to leverage funds and avoid duplication of efforts;

- Establish mechanisms to collaborate with Aboriginal communities to ensure culturally relevant approaches;

- Work with communities to ensure lasting results and buy-in;

- Help address fragmentation through improved system integration;

- Work with partners to develop a plan for sustainability.

Project Goals and Objectives

Goal

To implement research demonstration projects in Canadian settings that will yield policy and program relevant evidence about what service and system interventions achieve the best health and social outcomes for those who are homeless and mentally ill.

Short Term Objectives (present to March 2009)
- To develop project management capacity to support project roll out across sites;
- To approve demonstration project research applications and workplans for five selected cities in Canada;
- To develop knowledge translation and communications plans;
- To identify lead service agency and lead academic institution/department for the consortium in each site;
- To contract with data vendor(s) to conduct cross provincial data collection and analysis services;

- To formalize working agreements between researchers, service providers and other partners to achieve smooth implementation;
- To appoint site-based advisory committee members;
- To establish protocols and timelines for participant recruitment and data collection;
- To finalize site-specific research questions and methods;
- To have in place mechanisms for inclusion of persons with lived experience in all aspect of project planning, implementation, and evaluation;
- To approve budgets and disburse the 1st funding installment to each site;
- To establish supplemental funding opportunities for related research through CIHR;
- To establish a plan for achieving a minimum of 20% leveraging of funds;
- To engage Provincial and city governments in discussions regarding sustainability.

Medium Term Objectives (April 2009 to March 2010)
- To achieve participant recruitment targets in each site;
- To secure rental accommodation for all participants;
- To establish operational ACT teams and Intensive Case Management programs according to recognized standards;
- To secure and assign appropriate intensity levels of supportive services for high and low need participants;
- To complete baseline data collection for all core measures in each site;
- To characterize the demographic and clinical characteristics of participants in the research;
- To document the personal narratives of participants in the study as an ongoing source of qualitative data;
- To routinely report on indicators of progress with respect to the demonstration project implementation plan.

Long Term Objectives (April 2010 to March 2013)
- To identify effective approaches to integrating housing supports and other supports and services or other "prerequisites" for success that promote housing stability, improved health and well-being, and long-term quality of life for homeless Canadians with mental illness;
- To contribute to the development of Best Practices and Lessons Learned that inform public policy and programmatic actions to address mental health and homelessness across Canada;
- To identify the unique problems of and solutions for diverse ethno-cultural groups within homeless population;
- As a project legacy, enable support system improvements at each project site that address fragmentation through improved system integration and support including on-the ground information technology solutions;
- To build service and evaluation capacity that endures after project ends;
- To identify potential service approaches for youth within the homeless mentally ill population.

Appendix B – Stakeholder Map

Legend

- Core team members: these are the service and research organizations working on the project to provide service/housing supports and research (involves over 17 service/housing agencies and over 40 PIs and 12 Research Institutions); also includes Pathways to Housing and Streets to Homes who are key project consultants

- Project contributors – people and teams who provide supports and inputs to the project e.g. referrals, supportive services, advice and input on local and national advisory committees

- Government partners – municipal, provincial, federal

- Project collaborators – agencies and organizations with similar mandates and interest in housing and homelessness

- Key audiences e.g. public and media

Appendix C – Descriptive Information about Participant Characteristics

Table 1 – Participant Demographic Characteristics*

	Total Sample N = 2149	Highest 10% prior service users N = 177	Other 90% N = 1972
	Freq. %	Freq. %	Freq. %
Age Groups			
34 or younger	705 (32.8)	61 (34.5)	644 (32.7)
35-54	1232 (57.3)	101 (57)	1131 (57.4)
55 or older	212 (9.9)	15 (8.5)	197 (10)
Gender			
Male	1441 (67.1)	112 (63.3)	1329 (67.4)
Female	687 (32.0)	62 (35)	625 (31.7)
Other	20 (.9)	3 (1.7)	17 (.9)
Country of Birth			
Canada	1744(81.2)	141 (79.7)	1603 (81.3)
Other	405 (18.8)	36 (20.3)	369 (18.7)
Ethnic Status^			
Aboriginal	465 (21.6)	22 (12.4)	442 (22.4)
Other Ethnocultural	532 (24.8)	47 (26.6)	485 (24.6)
Marital Status			
Single, never married	1513 (70.4)	132 (74.6)	1381 (70)
Married or common-law	82 (3.8)	3 (1.7)	79 (4)
Other	554 (25.8)	42 (23.7)	512 (26)
Parent Status			
Any children	660 (30.7)	48 (27.1)	612 (31.0)
Education			
Less than high school	1188 (55.3)	83 (46.9)	1105 (56)
High school	403 (18.8)	41 (23.2)	362 (18.4)
Any post-secondary	549 (25.5)	52 (29.4)	497 (25.2)
Prior Military Service			
(for Canada or an ally)	94 (4.4)	10 (5.6)	84 (4.3)
Prior month income less than $ 300	557 (25.9)	50 (28.6)	507 (25.9)
Prior Employment (worked continuously at least 1 year in the past)	1416 (65.9)	116 (65.5)	1300 (65.9)
Currently Unemployed	1998 (93)	167 (94.4)	1831 (92.8)

- * all information was reported by participants except where noted
- ^ many values will not reflect proportions in the general homeless population due to deliberate oversampling of some groups in some sites

Table 2 – Homelessness History*

	Total Sample N = 2149	Highest 10% prior service users N = 177	Other 90% N = 1972
	Freq. %	Freq. %	Freq. %

Homeless Status at enrolment
  Absolutely homeless**
  Precariously housed
	1751 (81.5)
	 397 (18.5)
		158 (89.3)
		 19 (10.7)
			1593 (80.8)
			 378 (19.2)

First time homeless
  The year prior to the study
  2008 or earlier
	485 (22.6)
	1664 (77.4)
		51 (28.8)
		126 (71.2)
			434 (22)
			1538 (78)

	Mean (min/max)	Mean (min/max)	Mean (min/max)
Longest single period of homelessness in months **(lowest and highest rounded to next month)**	31.3 (0-384)	28.2 (1-384)	31.6 (0-360)
Total time homeless in lifetime in months **(lowest and highest rounded to nearest month)**	58.1 (0-720)	50.3 (1-384)	58.8 (0-720)
Age first homeless	30.8 (0 - 69)	31.7 (8-64)	30.7 (0-69)
	Freq. %	Freq. %	Freq. %

Age first homeless (groups)
  < 25 years
  25-34
  35-44
  45-54
  55+
 (N = 2127)
	873 (41)
	478 (22.5)
	448 (21.1)
	255 (12)
	 73 (3.4)
		67 (38.5)
		43 (24.7)
		36 (20.7
		22 (12.6)
		 6 (3.4)
			806 (41.3)
			435 (22.3)
			412 (21.1)
			233 (11.9)
			 67 (3.4)

* all information was reported by participants except where noted
** See http://bmjopen.bmj.com/content/1/2/e000323.full for definitions of absolutely homeless and precariously housed

Table 3- Past and Current Personal, Health and Social Circumstances*

	Total Sample N = 2149	Highest 10% prior service users N=177	Other 90% N = 1972
	Freq. %	Freq. %	Freq.%
Need Level[#] (determined by study screening)			
High need	822 (38.3)	108 (61)	714 (36.2)
Moderate need	1327 (61.7)	69 (39)	1258 (63.8)
Adverse Childhood Experiences/Trauma			
(for subsample N = 1365)			
Emotional abuse by parent or adult	833 (61.0)	66 (55.9)	767 (61.5)
Physical abuse by parent or adult	725 (53.1)	57 (53.1)	668 (53.6)
Sexual abuse by any adult	489 (35.8)	37 (35.8)	452 (36.2)
Emotional neglect	699 (51.2)	62 (51.2)	637 (51.1)
Physical neglect (lack of food, clothing)	496 (36.3)	41 (36.3)	455 (36.5)
Divorce/separation of parents	694 (50.8)	63 (50.8)	631 (50.6)
Substance abuse in household	749 (54.9)	63 (54.9)	686 (55.0)
Domestic violence in household	460 (33.7)	34 (33.7)	426 (34.2)
Household member jailed or imprisoned	379 (27.8)	37 (27.8)	342 (27.4)
Household member with mental illness or attempted suicide	577 (42.3)	47 (42.3)	530 (42.5)
Cognitive Impairment			
Got extra help with learning in school	854 (39.7)	59 (33.3)	795 (40.3)
Has a learning problem or disability	822 (38.3)	63 (35.6)	759 (38.5)
Diagnosis at enrolment			
Depression	1119 (52.1)	55 (31.1)	1064 (54)
Mania	272 (12.7)	19 (10.7)	253 (12.8)
Post-traumatic stress disorder	629 (29.3)	35 (19.8)	594 (30.1)
Panic disorder	504 (23.5)	27 (15.3)	477 (24.2)
Mood disorder with psychotic symptoms	352 (16.4)	29 (16.4)	323 (16.4)
Psychotic disorder[&]	751 (34.9)	85 (48)	666 (33.8)
Alcohol dependence	770 (35.8)	52 (29.4)	718 (36.4)
Drug dependence	980 (45.6)	68 (38.4)	912 (46.2)
Suicide Risk at enrolment			
Moderate or high	780 (36.3)	45 (25.4)	735 (37.3)
	Mean (min/max)	Mean (min/max)	Mean (min/max)
Community Functioning at enrolment			
(rated by interviewers)			
Average MCAS score[%]	60.2	57.5	60.4
(lowest and highest scores)	(33-80)	(37-75)	(33-80)
	Freq. %	Freq, %	Freq. %
Hospitalized for a mental illness[&]			
(for more than 6 months at any time in the past 5 years)	135 (6.3)	29 (16.4)	106 (5.4)
Hospitalized for a mental illness[&]			
(2 or more times in any one year in the past 5 years)	783 (36.4)	104 (58.8)	679 (34.4)
Common physical health conditions			
7 most common:			
Dental problems	1135 (52.8)	93 (52.5)	1042 (52.8)
Back problems	1116 (51.9)	85 (48)	1031 (52.3)
Foot problems	855 (39.8)	67 (37.9)	788 (40)

Migraine headaches	772 (35.9)	51 (28.8)	721 (36.6)
Joint problems/arthritis	765 (35.6)	41 (23.2)	724 (36.7)
Skin problems	522 (24.3)	47 (26.6)	475 (24.1)
Asthma	518 (24.1)	44 (24.9)	474 (24)
High blood pressure (known)@	453 (21.1)	31 (17.5)	422 (21.4)
Serious physical health conditions			
Hepatitis B or C	425 (22.5)	32 (18.1)	451 (22.9)
Asthma	518 (24.1)	44 (24.9)	474 (24)
Chronic bronchitis/emphysema	381 (17.7)	30 (17)	351 (17.8)
HIV/AIDS	75 (3.5)	5 (2.8)	70 (3.6)
Epilepsy/seizures	217 (10.1)	19 (10.7)	198 (10)
Crohn's disease/colitis	218 (10.1)	15 (8.5)	203 (10.3)
Diabetes	192 (8.9)	21 (11.9)	171 (8.7)
Heart disease	143 (6.7)	12 (6.8)	131 (6.6)
Cancer	53 (2.5)	8 (4.5)	45 (2.3)
Number of comorbid health conditions			
None	181 (8.4)	24 (13.6)	157 (8)
One	214 (10)	14 (7.9)	200 (10.1)
Two or more	1754 (81.6)	139 (78.5)	1615 (81.9)
Side effects from medication			
(past 6 months)	837 (39.1)	92 (52)	745 (38.0)
Traumatic Brain/Head Injury			
Ever knocked unconscious one or more times	1099 (51.5)	78 (44.1)	1021 (51.8)
Justice system involvement			
(arrested > once, incarcerated or served probation in prior 6 months)	759 (35.3)	53 (29.9)	706 (35.8)
Justice System involvement types			
Detained by police	462 (21.5)	69 (39)	393 (19.9)
Held in police cell 24 hours or less	496 (23.1)	38 (21.5)	458 (23.2)
Arrested	568 (26.4)	49 (27.7)	519 (26.3)
Court appearance	632 (29.4)	54 (30.5)	578 (29.3)
Attended a justice service program	223 (10.4)	16 (9)	207 (10.5)
Victimization			
Theft or threatened theft	692 (32.4)	53 (29.9)	693 (32.6)
Threatened with physical assault	907 (42.4)	62 (35)	845 (43.1)
Physically assaulted	766 (35.8)	58 (32.8)	708 (36.1)
Lack of Social Support			
Lacking a close confidante	1065 (49.6)	91 (51.4)	974 (49.4)

* all information was reported by participants except where noted

\# See http://bmjopen.bmj.com/content/1/2/e000323.full for definitions of high and moderate need
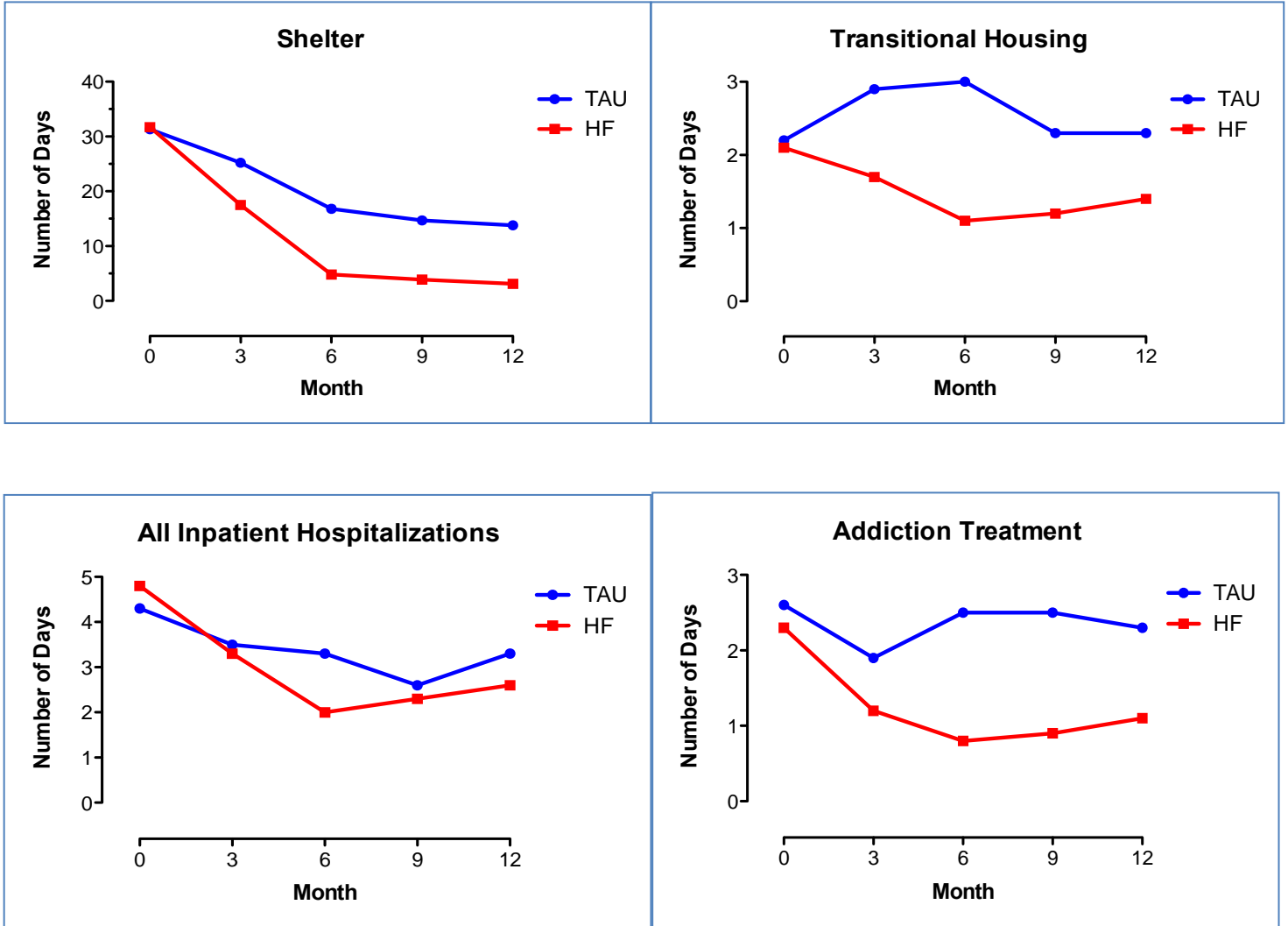
% Multnomah Community Ability Scale - higher scores indicate better functioning; a score of 63 and below represents moderate to high disability or moderate to poor functioning; items include daily living independence, money management, coping with illness and social effectiveness

& self-report of psychotic disorders and related hospitalizations are likely to be under-estimates due to the nature of the illness
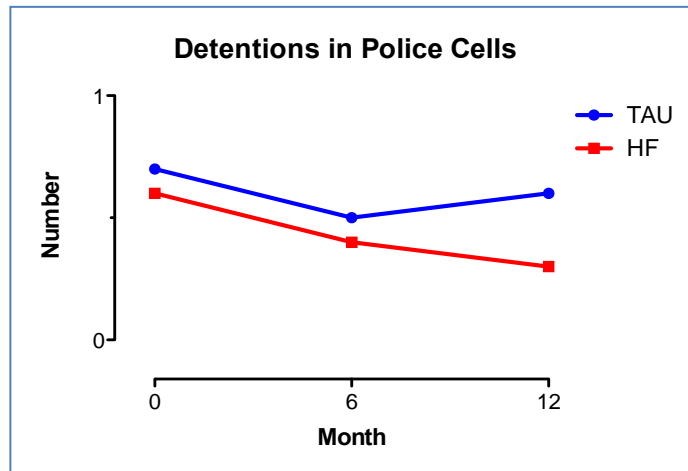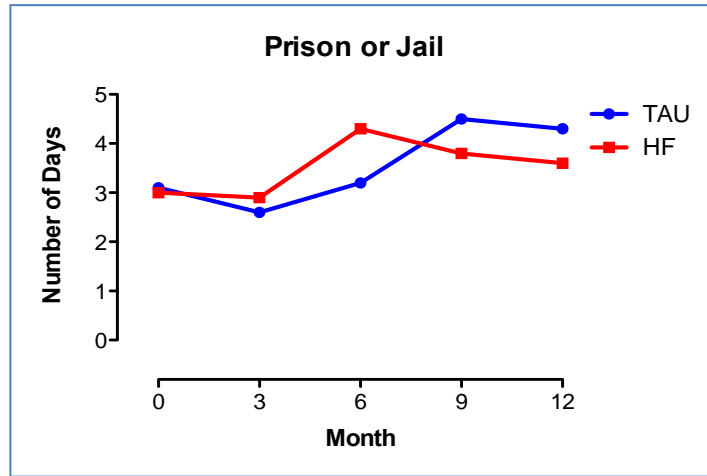
@ this may be an under-estimate, since 111 (5%) indicated that they didn't know whether or not they had high blood pressure; lack of awareness of or the presence of an undetected physical health condition is also very possible for other conditions
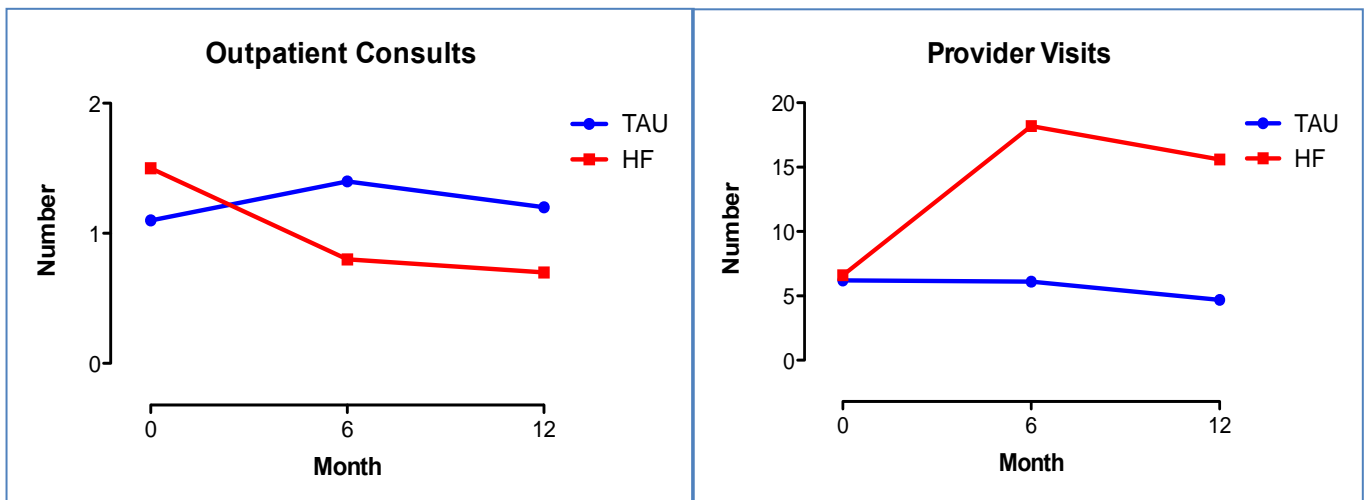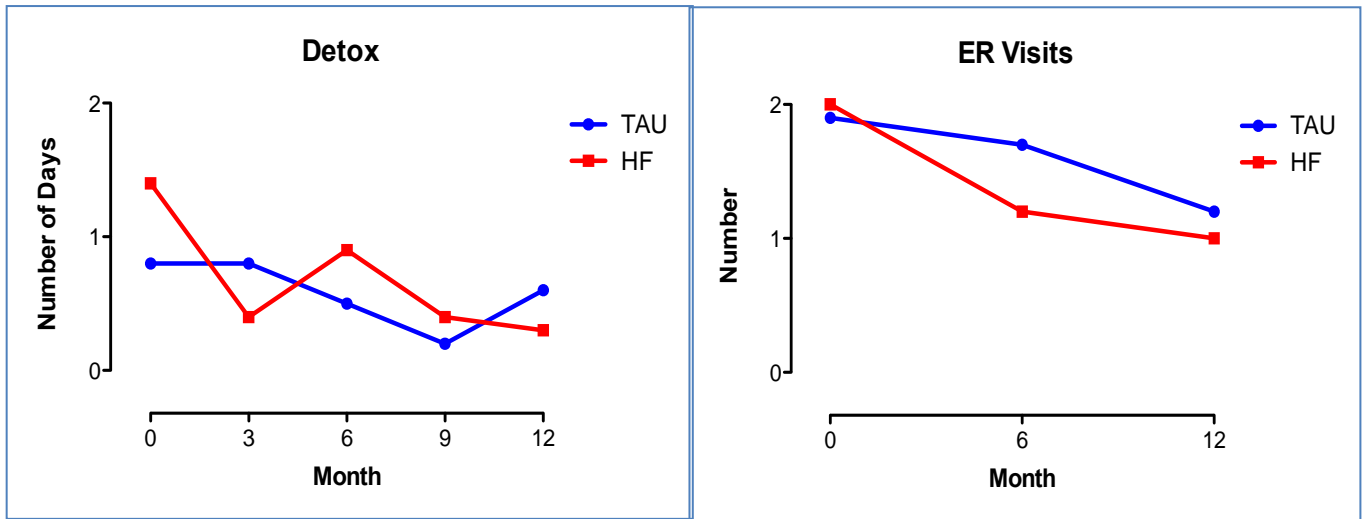
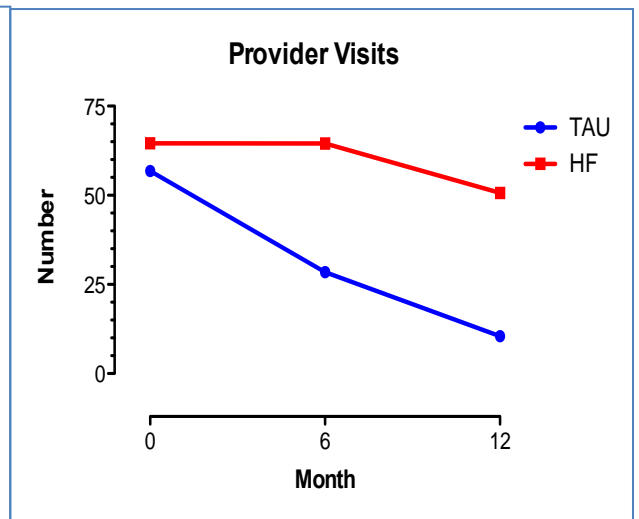**Appendix D – Total Sample Outcomes**
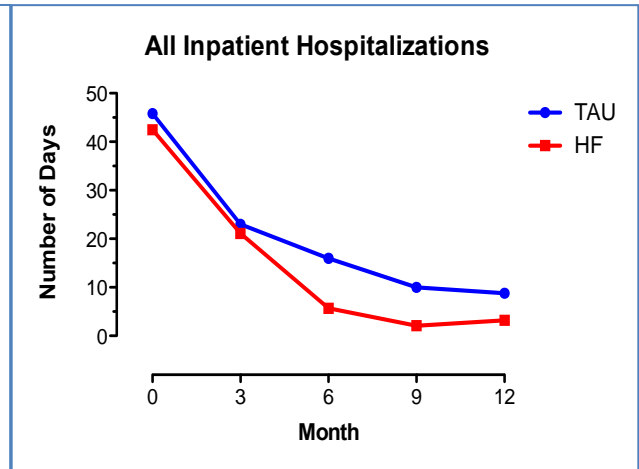
Total Sample – residential

Total Sample - Justice

Prison or Jail

Detentions in Police Cells

High Users

Shelter

All Inpatient Hospitalizations

Prison or Jail

Provider Visits
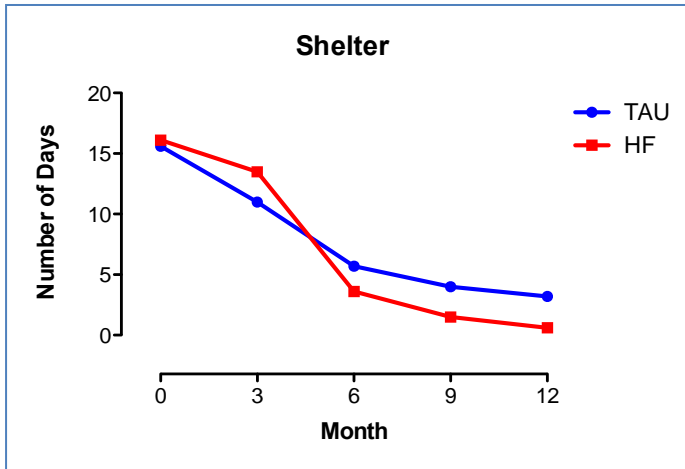
Appendix E – Glossary of Terms

Intensive Case Management teams (ICM): Provides intensive case management services to individuals with 'moderate' needs. Professionals/case managers provide outreach and broker /coordinate with other services to help people access necessary services. Teams are available 12 hours/day. Staff to client ratio of 1:15 to 16.

Assertive Community Treatment (ACT): Provides multi-professional intensive service for people with serious mental health issues. ACT teams provide a range of supports directly to individuals living in the community (e.g. recovery and wellness services; peer support; integrated mental health and addictions supports). Services and crisis coverage are available 24 hours, 7 days per week. Staff to client ration of 1:10

"High Service User", "High User" – refers to the participants who have the highest use of services. For this report it has been defined as the top 10% of all study participants based on historical costs related to the use of services such as inpatient care, ER's and police detentions.

"Moderate Need" and" High Need" - Prior to randomisation in the study, participants were assessed according to the severity of their psychiatric problems into High Need or Moderate Need groups. Those in the High Need group are randomised into Housing First and ACT (HF+ACT) or TAU, while those with Moderate Need are randomised to Housing First and ICM (HF+ICM) or TAU. Assessment of need was based on the Mini International Neuropsychiatric Interview[49] and the Multnomah Community Ability Scale. Participants were asked questions about service and housing history.

Participant Eligibility - Participants were considered to be eligible for the At Home/Chez Soi project if they were aged 18 or older (19 in British Columbia). Were absolutely homelessness OR precariously housed, and had a mental illness with or without a co-existing substance use disorder at the time of entry (determined by DSM-IV criteria on the Mini International Neuropsychiatric Interview (MINI44). Participants were not included if they were a client of another ACT or ICM program, did not have legal status as a Canadian citizen, landed immigrant, refugee or refugee claimant or if they were *relatively homeless*

Treatment as Usual Group (TAU) and Housing First Group (HF) - refers to the group of people in a study who receive the same services and care they would have even if they were not part of the research. They are also called the 'control group' and are compared to the people who receive the Housing First intervention, called the 'experimental group' or the Housing First Group (HF).

Definition of 'Homelessness Status' on At Home/Chez Soi- the At Home/Chez Soi Project defines being homeless as not having a place to stay for more than 7 nights and having little chance of finding a place to stay in the next month. The At Home/Chez Soi project includes people who are *absolutely homeless* or are *precariously housed*.

> *Absolutely homeless* means people who are living 'rough', which refers to places not usually used for sleeping (such as outside on the streets, in parks, in cars, or in parking garages); staying in shelters or hostels; or leaving an institution, prison, jail or hospital with no place to stay.

> *Precariously housed* refers to people who are staying in a Single Room Occupancy (SROs), rooming houses or hotels/motels and have had been 'absolutely homeless' at least twice.

Appendix F – Economic Analysis

	Prices and costs					Annualized means: Total sample		Annualized means: Top decile		Annualized costs: Total sample			Annualized costs: Top decile		
	Moncton	Montreal	Toronto	Winnipeg	Vancouver	TAU	HF	TAU	HF	TAU	HF	Difference	TAU	HF	Difference
Health and Justice Use															
ER visits	$270.40	$424.27	$355.64	$419.62	$331.55	2.9	2.2	3.8	3.4	$1,060	$806	$(253)	$1,387	$ 1,245	$(142)
Detentions in police cells	$240.88	$262.11	$349.00	$266.51	$188.43	1.1	0.7	1.2	0.4	$ 304	$179	$(125)	$330	$120	$ (210)
Outpatient consults	$94.56	$86.74	$96.08	$90.92	$90.92	2.6	1.5	3.0	1.9	$ 237	$140	$(97)	$ 277	$176	$(101)
Provider visits (non-study)	$288.68	$348.33	$267.96	$326.73	$193.75	10.8		19.5		$ 3,006	$ -	$(3,006)	$ 5,455	$ -	$(5,455)
Overnight Stays															
Shelter	$117.94	$56.53	$87.85	$22.63	$67.43	70.5	29.3	23.9	19.3	$4,732	$ 1,964	$(2,768)	$ 1,603	$1,295	$(308)
Detox	$158.84	$375.11	$158.84	$433.00	$158.84	2.2	1.2	3.7	1.3	$ 558	$307	$ (251)	$ 936	$333	$(603)
Inpatient - Acute psychiatric in general hospital	$746.30	$512.93	$745.08	$731.76	$730.17	4.6	4.7	21.7	11.9	$3,176	$3,282	$ 106	$15,116	$ 8,272	$ (6,844)
Inpatient - Acute psychiatric ward in psych. hospital	$847.05	$627.82	$845.67	$830.54	$828.74	5.5	3.5	35.5	16.3	$ 4,395	$2,785	$(1,610)	$28,369	$12,977	$ (15,392)
Inpatient - Acute non-psychiatric	$1,042.62	$892.47	$1,059.68	$1,204.69	$1,129.83	2.6	2.0	0.5	4.0	$2,827	$2,148	$(680)	$587	$4,250	$ 3,663
Prison or jail	$142.42	$171.08	$181.30	$167.76	$168.10	14.6	14.6	6.1	7.6	$2,484	$2,472	$(13)	$1,038	$1,291	$ 254
Transitional housing	$43.64	$27.65	$43.64	$35.00	$50.28	10.5	5.4	8.1	1.9	$ 427	$219	$(208)	$330	$75	$ (255)
Addiction treatment	$68.18	$67.00	$87.85	$72.36	$62.97	8.8	4.1	13.7	2.5	$ 643	$297	$(345)	$1,002	$180	$ (822)
Est. annual cost: Non-study services										$ 23,849	$14,599	$ (9,250)	$56,431	$30,216	$(26,215)
Est. annual intervention cost	**$17,111**	**$15,677**	**$16,023**	**$ 15,397**	**$ 21,094**						$17,160	$17,160		$16,825	$16,825
Total										$23,849	$31,759	**$7,910**	$56,431	$47,041	**$ (9,390)**

1) When the information was available, we included value of indirect costs.
2) Capital costs were accounted for hospital visits based on the research of Rosenheck (1994): *Overall, capital costs add 6% to average inpatient costs and 4% to outpatient costs.* Thus, for hospitalizations, we added 6% to total costs. For outpatient visits and emergency visits, we added 4% to total costs. Emergency visits tend not to be overnight. Facility use expressed in terms of % of total costs must then be more similar to outpatient visits.   Rosenheck RA, Frisman LK, Neale MS. *Estimating the capital component of mental health care costs in the public sector*. Adm Policy Ment Health 1994;21:493-509.
3) When in-kind goods and volunteering services value was not included in the estimate, an adjustment factor of 46% was added based on estimates provided by the Welcome Hall Mission in Montreal.

4) The value provided in appendix 1 of the Kopala (2006) article was used for the detox unit cost for the Moncton, Toronto and Vancouver.   Kopala L, Smith G, Malla A,Williams R, Love L, Talling D, Balshaw R. *Resource utilization in a Canadian national study of people with schizophrenia and related psychotic disorders*. Acta Psychiatr Scand 2006: 113 (Suppl. 430): 29–39. ª 2006 Blackwell Munksgaard.

5) To account for the fact that our participants are homeless, an adjustment factor was calculated based on Stephen Hwang's article (2011). A rate of 9.6% was added to psychiatric hospitalization unit costs in general hospitals and psychiatric hospitals. Average non-psychiatric hospitalization costs had to be decreased by 17%.   Hwang SW, Weaver J., Aubry T, Hoch J.S. (2011). *Hospital Costs and Length of Stay Among Homeless Patients Admitted to medical, Surgical and Psychiatric Services.* Med Care. 49: 350-354.

6) Average Hospitalization cost per day were provided by CIHI for British Colombia, Manitoba, Ontario and New Brunswick.   *CIHI (2010). Aggregate, Ward and ICU Per Diems, by Number of Beds, by Province/Territory and Canada, 2009-10.* Average hospitalization cost per day estimates were provided by the Ministère de la santé et des services sociaux du Québec (2009-2010).

7) Values for psychiatric hospitalization costs for Moncton, Toronto, Winnipeg and Vancouver are based on the study by Philip Jacobs (2010).   Jacobs P, Dewa C, Lesage A, Vasiliadis H-M, Escober C, Mulvale G, Yim R. (2010). *The Cost of Mental Health and Substance Abuse in Canada* (2010). Institute of Health Economics. Alberta. June 2010.   Values for the Montreal site were based on two psychiatric hospitals and 5 general hospitals in Montreal.

8) Provincial detention center costs were provided by Statistics Canada (2009). Statistics Canada. *Services correctionnels pour adultes au Canada, 2008-2009. Tableaux de reference.*