



## Encouraging Private Developers to Get Involved in Affordable Housing

**A**lberta's economy is known for its fluctuations in response to demand for oil, but its housing sector might not be so resilient. Those whose housing situations are most precarious—seniors, low-income working families, people with disabilities, and people transitioning out of homelessness—may find that an economic resurgence could push housing prices out of their reach. "In this climate, the need for affordable housing is growing, but the financial environment is not really there to ensure its availability," says Dr. Sasha Tsenkova of the University of Calgary. "Many policy-makers are looking at ways to respond to the challenge, and private-sector involvement in the supply of new affordable rental housing represents one of the obvious strategies."

With the support of the Alberta Real Estate Foundation and the United Way of Calgary and Area, Dr. Tsenkova led a study to find out what incentives for private-sector involvement were working in Canada, the United States and the United Kingdom, and to better understand the factors that discourage involvement. She and one of her graduate students, Melissa Witwer, conducted a literature review, looking for practices abroad that might apply to Alberta's market and regulatory framework. They then conducted an overview of 17 affordable housing projects, and interviewed 27 professionals involved in them. "We identified developers who were instrumental in carrying out affordable housing projects: we were looking for public-private partnerships and success stories,"

*continued on page 2*

## About the National Housing Research Committee

The National Housing Research Committee (NHRC), established in 1986, is made up of federal, provincial and territorial, municipal, industry, social housing, academic community and consumer representatives. Its objectives include:

- identifying priority areas for housing-related research or demonstration,
- fostering greater co-operation, developing partnerships and minimizing overlap in research activities,
- encouraging support for housing research,
- promoting the dissemination, application and adoption of research results.

In addition to the Full Committee, the NHRC also operates through working groups to exchange information, discuss research gaps and undertake research projects. Currently, working groups meet on housing data, homelessness, sustainable housing and communities and distinct needs. The NHRC participants also contribute articles to the *NHRC Newsletter*, which is produced twice a year, and network through their online community: [www.nhrc-cnrl.ca](http://www.nhrc-cnrl.ca).

The NHRC co-chairs are Steve Mennill of Canada Mortgage and Housing Corporation (CMHC) and Lora Pillipow of Alberta Housing and Urban Affairs. CMHC provides the Secretariat for the Committee and produces this Newsletter.

## How to reach us

For more information, please contact:  
David Stansen  
Coordinator, NHRC and External Liaison

CMHC National Office  
700 Montreal Road, C2-346  
Ottawa ON K1A 0P7  
Tel.: 613-748-2427  
Fax: 613-748-2402  
E-mail: [dstansen@cmhc-schl.gc.ca](mailto:dstansen@cmhc-schl.gc.ca)

*NHRC Newsletter* subscriptions / orders:  
Call 1-800-668-2642  
(product no. 67236)

*continued from cover page*

she says. "It was very important that we discover what the market was able to deliver without much government support. We wanted to understand this eclectic mosaic of innovation in the province."

From this "eclectic mosaic" emerged several themes. Private-sector developers reported the increase in land and construction costs as a challenge to maintaining affordability; they also found that the web of requirements for government grants and subsidies and development permits made it difficult to commit to projects and to plan them. This suggests that a more streamlined approach to development approvals would encourage involvement and innovation. Other strategies such as long-term leases and sales at fixed cost might also improve access to land.

## Table of Contents

Encouraging Private Developers to Get Involved in Affordable Housing .....	<b>1</b>	A Revolving Door of Homelessness and Incarceration .....	<b>12</b>
Trends in Housing Conditions for Immigrant Households .....	<b>3</b>	Homelessness Among Federal Ex-Offenders in Saskatchewan .....	<b>13</b>
Housing Conditions of Inuit Households .....	<b>5</b>	Networking Alberta Research on Homelessness .....	<b>14</b>
An Aging Population Challenges the Quebec Housing Market .....	<b>6</b>	Leveraging Information to Serve the Homeless in Calgary .....	<b>15</b>
A Survey of Housing Co-ops in Canada .....	<b>7</b>	Heat Recovery Ventilators and Air Quality in Nunavut .....	<b>17</b>
Seniors' Housing Conditions Improve .....	<b>8</b>	Improving and Showcasing Environmental Performance at the Community Level .....	<b>18</b>
TAFETA Opens a Door to Independent Living .....	<b>9</b>	EQuilibrium™ Housing Forums .....	<b>19</b>
Housing for People with Intellectual Disabilities in Quebec .....	<b>10</b>	Developing Standards for On-Site Reuse of Wastewater .....	<b>20</b>
Tenants' Experiences in the Regent Park Redevelopment .....	<b>11</b>		

*continued from page 2*

The study also cast light on several innovative practices being used at home and abroad, such as Real Estate Investment Trusts and Real Estate Investment Companies, as well as philanthropy, including contributions of expertise and gifts-in-kind. Inclusionary zoning, density bonusing, and including affordable housing units within market rate buildings also showed promise.

Dr. Tsenkova describes the US and the UK as having a lot to offer when it comes to private-sector involvement in affordable rental housing. "There's a longstanding legacy in the UK of providing and financing non-profit housing. The private sector benefits from that legacy, as there are well-established sources of finance and a suite of fiscal and tax-related instruments to benefit the non-profit sector in ways that engage the private sector." Likewise, she adds, "The US has a suite of tax incentives to get private landlords and developers interested, so they can still do what they do best in the marketplace with limited or controlled profits."

Though the study evaluates each of these practices for their applicability to Alberta's housing market during a time of escalating housing prices, Dr. Tsenkova expects that the same pressures will return, noting that "the developers are already positioning themselves for the next wave." Preparing for that wave will require understanding not only the effectiveness of incentives, but also the developers themselves. "Private-sector developers who get involved in affordable housing are a special breed," she says. "The people we talked to in some cases represent large developers, but there is also an element of social responsibility. They won't erode the bottom line, but that's not the primary driver for their engagement in affordable rental housing projects." ■

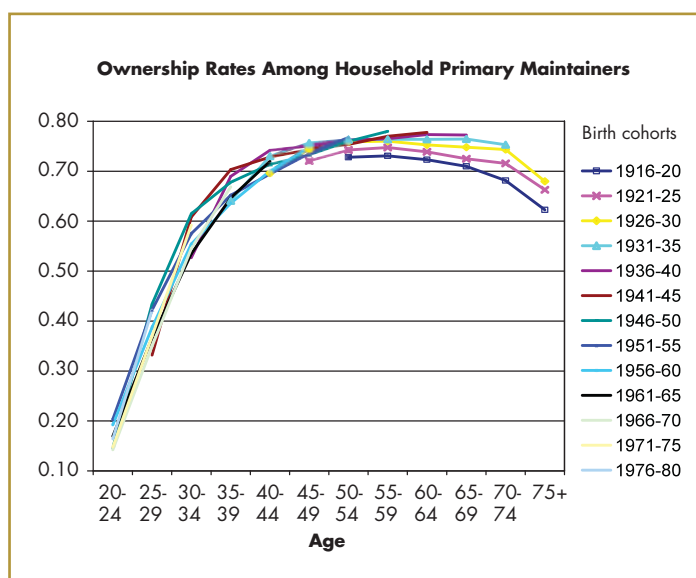
For more information, contact Dr. Sasha Tsenkova at 403-220-2155 or [tsenkova@ucalgary.ca](mailto:tsenkova@ucalgary.ca). Details on this and several other related studies are available at the University of Calgary's Cities, Policy and Planning Lab at <http://ucalgary.ca/cities/research.htm>.

## Trends in Housing Conditions for Immigrant Households

Recent CMHC analysis of 2006 Census data paints a detailed picture of the housing conditions of immigrant households—and suggests avenues for further research in the area.

As represented in the Census data, the profile of Canada's 2.8 million immigrant households shows that they have, on average, a larger household size (2.8 persons, compared to 2.4 for non-immigrants), though living in houses with the same number of bedrooms; their homeownership rate stood at 68.9 per cent, slightly above the non-immigrant average of 68.7 per cent.

The CMHC analysis also looks at trends since the 2001 Census, showing an increase in homeownership among immigrant households from 66.0 per cent; core housing need dropped slightly, from 18.3 to 18.2 per cent. However, a more nuanced picture emerges when comparing immigrant groups by the amount of time they have lived in Canada: immigrants are more likely to become homeowners as they stay longer, and show



*continued on page 4*

*continued from page 3*

a considerable reduction in core housing need. As Ian Melzer, Manager of Housing Needs at CMHC's Policy and Research Division, describes the trend, "The major mechanisms are likely the need to learn languages, get credentials, get into the job market—and over time they become acclimatized to Canada while their salaries go up. That gives them a chance to generate savings and become homeowners."

Indeed, the cohort of immigrants who had been in Canada for 11-15 years have a homeownership rate equivalent to that of non-immigrants, while those who had arrived more than 25 years before exceeded the national rate. Melzer notes that these rates may vary among immigrant groups: "Some immigrants, though not all, come from cultures that have historically placed a high value on homeownership and the stability of owning a home."

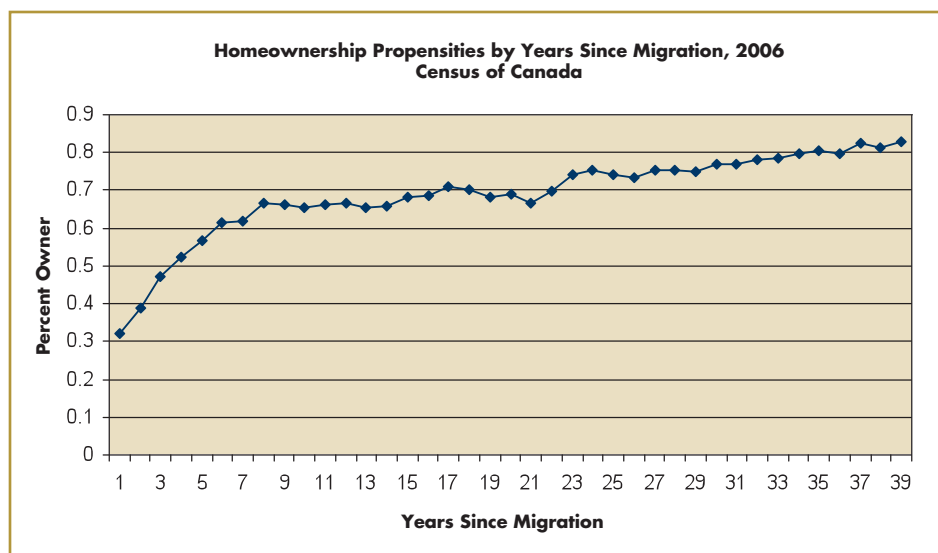
Dr. Michael Haan, Professor and Canada Research Chair at the University of New Brunswick, concurs that the broader homeownership rates mask group differences. He notes that the housing-career framework that reflects Canadians' rates of acquiring homes early in adulthood, establishing themselves, and downsizing in old age, is becoming less applicable as lifestyles evolve. Furthermore, he says, "If we use the framework as a baseline assumption, many immigrants challenge that in several respects. For example, many appear to go out of their way to live with their ethnic group." Other anomalous factors include household formation, different levels of demand for ownership, group-level resources to facilitate access to ownership (such as connections to the construction industry), and city choice.

More complex are the issues of ethnic succession, says Dr. Haan. He cites the example of Brampton, which was originally home to many southern Europeans and was built largely as single-family dwellings.

"They've been replaced by South Asians, Caribbean, Chinese, and the dwellings designed for southern Europeans don't always work for current residents. Now, many of these dwellings house multiple families, and some of the driveways have eight cars. And when there is a succession, he asks, "Should local resources, such as language services and community centres, be tailored to this?"

Dr. Haan suggests that the effect of ethnic concentration on homeownership would be a promising line of research; some ethnic groups have a tendency to form multi-family households, he says, "but is it because of affordability issues, household structure carried over from their home countries, or the need to pool resources? We just don't know." ■

A Research Highlight, available on the CMHC website (product #67112), provides further breakdown and analysis of the Census data. For more information, contact Ian Melzer at 613-748-2328 or [imelzer@cmhc-schl.gc.ca](mailto:imelzer@cmhc-schl.gc.ca), or Dr. Michael Haan at 506-447-3384 or [mhaan@unb.ca](mailto:mhaan@unb.ca).



# Housing Conditions of Inuit Households

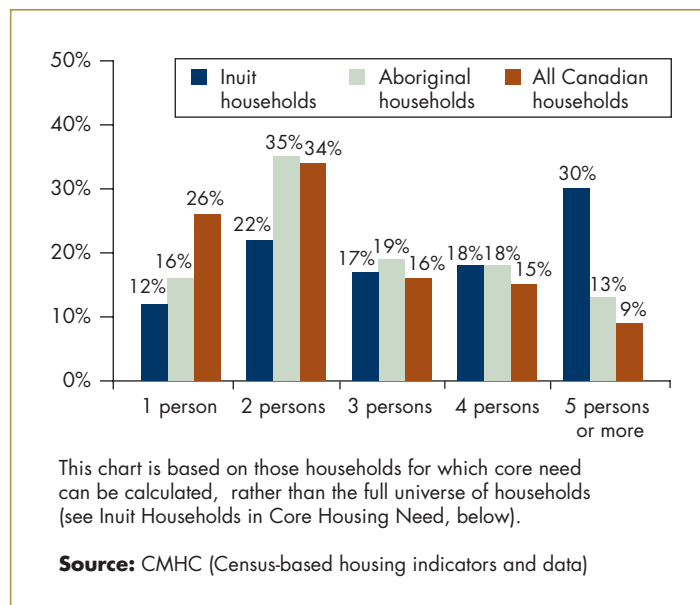
Analysis of 2006 Census data shows that the percentage of Inuit households living in core housing need has remained stable since 2001, at 35.8 per cent. However, this figure far exceeds the Canadian average of 12.7 per cent, and variations in the type of housing need, combined with demographic data, reveal some of the emerging challenges that face Inuit households.

Overall, 75 per cent of Inuit households were outside of cities, compared with a Canadian average of 19 per cent; Inuit households were also larger (averaging 3.6 persons, against the Canadian average of 2.5). Household incomes were lower than the national average (\$63,031, against \$72,391).

Most Inuit rent their homes. Within the Inuit Nunaat (the Inuit homeland, comprising Nunavut and northern parts of the Northwest Territories, Yukon Territory, Quebec and Labrador), 77 per cent of Inuit reported renting their homes, while those living outside the homeland have a homeownership rate of 51 per cent. This still fell short of the national average of 68 per cent. As CMHC Senior Researcher Candace Fedoruk explains, “Inuit people have lower levels of education on average, and it may be that, when they move south, they have fewer labour force opportunities and lower earnings.”

In terms of core housing need, Inuit homeowners fared substantially better than renters (15.7 per cent, versus 46.4 per cent)—and yet affordability was a relatively minor factor in core housing need, with about 13 per cent of Inuit households spending more than 30 per cent of their pre-tax income on shelter. “Affordability isn’t as big a problem in much of the North because more people are renters, and the rent is often subsidized, provided through social housing or an employer.” The two other elements of core housing need, suitability and adequacy, remained substantial challenges, 27 per cent of Inuit households reported living in crowded houses, far above the Canadian average of 6 per cent, a situation that can be attributed partly to larger household size. Likewise, the figures for adequacy showed that 22 per cent of Inuit homes required major repairs, despite the fact that more than half of the homes were less than 25 years old.

About 40 per cent of Inuit homes where the family requires three or more additional bedrooms, required major repairs, compared to 19 per cent of uncrowded homes. “Even fairly young houses



## *Inuit Households in Core Housing Need, 2006*

can be in poor repair,” Fedoruk explains. “The wear that accumulates from crowding, which would happen anywhere, is compounded by the harsh conditions: more freezing and heating, more issues with humidity and mold, more people staying indoors.” She adds that the difficulty in getting building materials in remote communities poses a challenge to quick and thorough repair.

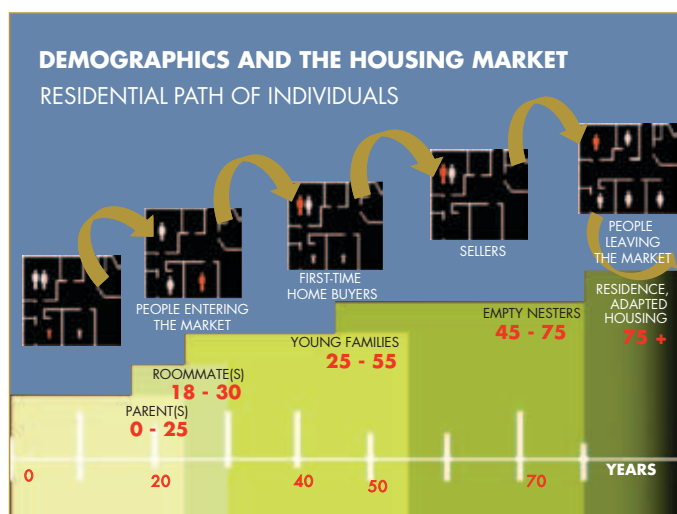
Though there has been a considerable investment in housing in the North, Fedoruk notes that the region’s population is also growing quickly. This may also suggest some next steps for researchers: “There’s certainly value in exploring more about crowding and the extent to which families would want to divide and move if they had a choice,” she says. ■

A Research Highlight, available on the CMHC website (product #67186), provides further analysis of the Census data. For more information, contact Candace Fedoruk at 613-748-4562 or cfedoruk@cmhc.ca.



## An Aging Population Challenges the Quebec Housing Market

A demographic study by Daniel Gill, Associate Professor at the *Institut d'urbanisme of the Université de Montréal*, projects an unprecedented shift in the Quebec housing market, driven by the aging population. "Before 2010, the potential for new housing creation was always bigger than for vacancies," he says. "Since then, the numbers of those 50 and over will continue to increase, and will always be more than those under 50. So, the potential of those who will leave their homes will be greater for the first time in history."



*Senior households leaving the market may soon be the driving force of the chain of vacancies.*

In other words, what has always been a demand-driven market will abruptly become a supply-driven market—but that supply depends on the mobility of sellers along what Prof. Gill calls a "chain of vacancies" that will be increasingly disrupted as the market transforms. "The market is driven by residential mobility," he says. "In Montréal and other cities, we're constructing big buildings for senior citizens; older people who move into them will have to sell their houses. If they have no buyers, they won't be able to afford to move. If you stop the chain, the market will stop."

Part of what inspired Prof. Gill to take on this analysis is the fact that most previous research had focused on the cohorts of people, mostly younger families, entering the housing market—and an

assumption that the chain of vacancies that began with seniors moving out of larger homes ended with this newest generation of homeowners. However, the retirement of the baby boomers, coupled with an inability to sell the properties that have appreciated over a lifetime, could break the chain: if older households find themselves unable to sell, younger buyers would have an incentive to wait, creating a classic problem of deflation, and potentially freezing the market.

While acknowledging that population increase will continue to create a need for new housing, Gill says that the challenge will be felt differently in different places. "A lot of immigrants in Montréal will be able to take up the slack, but the same might not be true in Québec City."

The effects of limited mobility in the older generation of households—both geographically and in the market—could be buffered by measures to promote "aging in place," but Gill stresses that these measures can only delay the change in the market. "It's a fact that most of them want to live in their houses most of their lives," he says, "but at some point they have to leave their homes, because of lack of a car or accessibility issues, and it costs a lot to maintain their quality of housing while adding services."

The study estimates the strain in the Québec housing market to increase around the year 2020, once the bulk of the baby boomers have retired and their rate of moving out of their homes peaks. Still, there are effects that can't be controlled for, and which may require more research. "This was a macro study, comparing cohorts 50 years and older versus 50 years or younger," says Prof. Gill. "What we have yet to see is the mobility of those over 50 years old, and what kinds of projects they will want. There is a new chain of vacancies for those over 50 years old, and we don't have a lot of information about that."

Meanwhile, the study has garnered the attention of the *Société d'habitation du Québec*. Along with the Rhône-Alpes regional government and Anne-Marie Séguin of the *Institut national de la recherche scientifique*, they are preparing an international congress to share ideas on "aging in place," scheduled for October 2011 in Québec City; Prof. Gill plans to contribute his projections of the potential challenges to the Quebec housing market there. ■

For more information, contact Prof. Gill at 514-343-5971 or [daniel.gill@umontreal.ca](mailto:daniel.gill@umontreal.ca).

# A Survey of Housing Co-ops in Canada

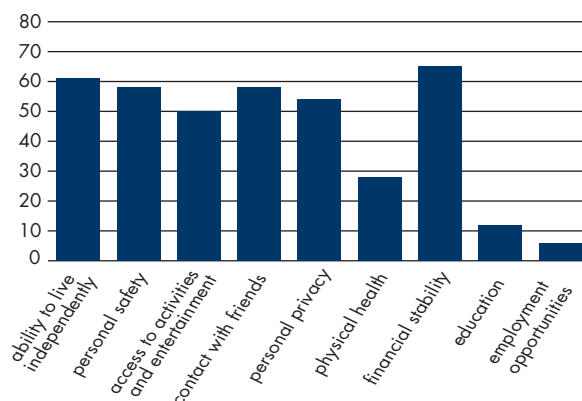
In recognition of the aging of Canada's population and the increasing number of seniors who would like to remain in their own homes as long as possible, the members of the Co-operative Housing Federation of Canada (CHF Canada) established an Aging in Place Committee in 2009 to guide CHF Canada's work plan on aging in place within the values and principles of co-operation.

The Committee implemented a survey project to identify the specific needs of older co-op members and create an overall view of the supports, accommodations and challenges experienced by co-op members as they age in place. Surveys were distributed to co-op members over 60 years old and to co-op managers who could provide additional information about the housing needs of older co-op residents. CHF Canada plans to publish the results soon in a report titled *Aging in Our Co-op Communities: A Survey of Housing Co-ops in Canada*.

Several trends emerge from the survey data. Older members expressed a high level of satisfaction with their co-op communities, and the vast majority reported that the size of their co-op units currently meet their housing needs. Members felt included in their co-op communities, and stated that co-op living has improved their lives by providing them with financial stability, a sense of personal safety and an improved ability to live independently. While 35 per cent of surveyed members planned to remain in their units for at least another 10 years, only 16 per cent reported that their units were accessible. These statistics are especially notable when considering that the average age of respondents was 68.8; the need for accessible units will increase as the mobility of older co-op members continues to decrease.

Co-op managers responded positively to the survey, noting that the results will help them better understand their members' needs. They reported that older members generally participate equally in the governance of the co-ops and other activities, as compared to other co-op members. Managers expressed concern about a shortage of accessible units and the loss of subsidies that will accompany the end of co-op operating agreements. When asked if they had a long-term plan to address future subsidy needs, 85 per cent of the co-ops responded that they did not.

**Members who Answered that Living in Co-op had Improved Various Aspects of their Lives**



The survey's results confirm that older members of housing co-ops are very satisfied with the services they receive from their co-ops. Co-ops provide a secure, affordable housing model that works for older residents. The results also identify challenges that co-ops will face in the near future. Once released, the report will identify key areas where CHF Canada plans to take action to address these challenges. Some of the report's recommendations include:

- highlighting the value that housing co-operatives play in the lives of older members,
- raising awareness about the expiry of rent-geared-to-income subsidies as operating agreements end,
- promoting and creating tools that support good governance and ensure that co-ops continue to include older members in governance, and
- promoting planning tools for co-ops that support both the subsidy and maintenance needs of their members as they age in place. ■

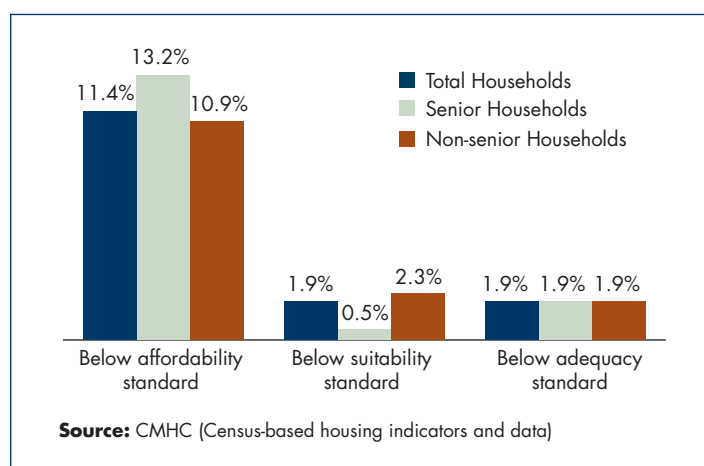
For more information about the *Aging in Our Co-op Communities* report, please contact Diana Devlin, CHF Canada's Program Manager for Special Projects, at 1-800-465-2752, ext. 245, or [ddevlin@chfcanada.coop](mailto:ddevlin@chfcanada.coop).

## Seniors' Housing Conditions Improve

Recent CMHC analysis of 2006 Census data sheds light on the housing conditions of seniors in Canada and compares them to conditions in 2001.

From 2001 to 2006, the proportion of seniors in Canada's population grew from 13 to 13.7 per cent—and though most seniors lived in private households, they made up 61 per cent of the population living in collective dwellings. Seniors were overrepresented in small cities and rural areas, and households headed by seniors were more likely to own a home than households headed by non-seniors (72 per cent, versus 67 per cent). The average size of senior-headed households was smaller than that of households headed by non-seniors (1.7 people, against 2.8 people).

Though many of the trends in seniors' housing conditions confirm expectations, the data show that, for the first time since 1996, housing conditions have improved more for senior households than for non-senior households. As CMHC Senior Researcher Hoda Shawki explains, "This is likely because of policy changes that have increased transfer payments to low- and moderate-income seniors—but population aging will cause housing challenges that are more complex than just household incomes and that extend to issues not captured by the core housing need indicator." She adds that it's also not clear whether future data will continue to show an accelerated decline in core housing need.



*For both seniors and non-seniors, affordability was the greatest factor in core housing need in 2006.*

Despite the general improvement, the analysis reveals that some senior households still lived in core housing need in 2006: 14.4 per cent, above the rate of 12.2 per cent for non-senior households. The key factor in this rate was the affordability, as opposed to the suitability or acceptability, of their homes. "Though it's true that senior householders are more likely to own their houses mortgage-free, that still leaves them with utilities, property taxes and maintenance to pay for," says Shawki. Furthermore, the data underlying this analysis do not provide any insight into the accessibility of the homes and whether the housing situation allows residents to access needed services.

Seniors living alone were much more likely to be in core housing need in 2006 than those living with a spouse or other family members. Though this tendency has been borne out in previous research, says Shawki, "What we didn't expect is that this is true whether the seniors living alone are male or female. Conventional wisdom suggests that core housing need among senior households headed by females would be much higher than among senior households headed by males, and indeed it is much higher. It turns out that household type accounts for a large share of the gender-based difference in core need."

Shawki observes that several lines of research could build on the findings. "For example, we know that housing conditions of seniors are improving as defined by core housing need—but are there local models that are successfully providing services to seniors who are aging in those homes and not moving? What are communities doing to accommodate aging seniors and to become more age-friendly? Who are the seniors who live in collective dwellings, what kinds of collective dwellings do they live in, and what prompts the move to such dwellings?" She also expects that data collected in 2011 will be a good opportunity to compare housing conditions post-recession to current findings. "The analysis used data that were collected before the recession's effect started to be felt. The upcoming 2011 Census and National Household Survey will be the first since the financial crisis, and it will be interesting to see what the data show." ■

A Research Highlight, available on the CMHC website (product #67201) provides further analysis and breakdown of the Census data. For more information, contact Hoda Shawki at 613-748-2429 or hshawki@cmhc.ca.



# TAFETA Opens a Door to Independent Living

As Canada's population ages, the percentage of seniors is expected to grow from 13.9 to 25 per cent by 2030, placing an additional burden on health care systems—while seniors who find themselves in hospitals can expect a shortage of 60,000 nurses by 2022. These factors lend weight to the concept of “aging in place”—helping seniors remain living independently for as long as possible, in their homes and communities.

In many cases, technology can bridge the gap between intensive care and independence, according to Dr. Frank Knoefel, Vice-President of Medical Affairs, Clinical Information and Support at Bruyère Continuing Care in Ottawa. He and Dr. Rafik Goubran, Professor and Dean of the Faculty of Engineering at Carleton University, are coleading the Technology Assisted Friendly Environment for the Third Age (TAFETA) Program, which is developing unobtrusive smart technologies to facilitate independent living for older adults. “The smart technologies being researched and developed allow us to monitor the well-being of older adults in their own homes,” he says. “These measures are aimed at preventing situations that would cause a person to require more expensive institutional care.”

Since its launch in 2003 as an Ottawa-based partnership between the Élisabeth Bruyère Research Institute and Carleton University Engineering, TAFETA has conducted 12 studies of non-invasive technologies; the most recent involved a “smart” fridge sensor that provides occupants with an audible cue when the fridge door has been left open for a set period. The study identified specific activity patterns in the 11 participating residences, which would be very useful for the sensors’ larger potential of linking with a central monitoring system—possibly in concert with other types of sensors. “The long-term goal for TAFETA and the development of smart technologies is to be able to look at information from multiple sensors and monitor the environment and well-being of an individual,” says Dr. Knoefel. “This data will then be integrated into a realistic interface that reports the information to a care provider, relative or nurse.”

Another technology tested by TAFETA is a pressure-sensitive mat that is placed on beds to monitor bed entry and exit patterns; analysis of the mat's pressure data could alert care providers of an unusually slow transfer, which might indicate a stroke. TAFETA has also worked with “electronic noses” that can detect odours (for example, of food going bad), and motion sensors to monitor room occupancy.



*Most participants appreciated the benefits of having a “smart” fridge sensor.*

The fridge sensor study showed that most, but not all, participants accepted the technology. “Some participants feel that they’re healthy, and they don’t feel they need to be monitored right now—but they see that some of their peers would benefit from this type of technology to help them maintain their independence,” says Dr. Knoefel. “Current research trends indicate that older adults are becoming more accepting of these technologies, especially if it means the difference between living in their homes or not.”

Though TAFETA has not yet exploited the full potential of these technologies, Dr. Knoefel notes that getting them to work together is only a matter of time—and of developing the right interface. “We do have prototype software at Bruyère, and we’re planning more community-based projects to capture data from multiple sensors. We’ve done lab studies and now we’re moving into the field, getting real-life data from real-life people.”

And the field itself benefits from getting other experts to work together. “We have local, national and international research partners including academic institutions like McGill and University of Toronto along with industry partners in British Columbia and Seattle,” says Dr. Knoefel. “Through collaboration, we’re able to generate ideas and create innovative research projects.” ■

More details on TAFETA's research, along with links to news and publications, are available on the TAFETA website at [www.tafeta.ca](http://www.tafeta.ca). For further information, contact TAFETA's Project Manager, Jodie Taylor, at [jtaylor@bruyere.org](mailto:jtaylor@bruyere.org).

# Housing for People with Intellectual Disabilities in Quebec

About 3 per cent of the North American population have intellectual disabilities, characterized as “limitations both in intellectual functioning and in adaptive behavior as expressed in conceptual, social, and practical adaptive skills,” according to the general estimate of the American Association on Intellectual and Developmental Disabilities. However, about nine-tenths of these people have only a mild disability and, according to the Government of Quebec, in the province only some 60,000 people and their families require specialized services; with the right support, most have the potential to participate actively within their communities.

In recognition of this, the Government of Quebec provided \$1.5 million in 2007 to fund studies on people presenting Intellectual Disability and Autism Spectrum Disorders. Most recipients of this funding took a clinical approach, but the *Laboratoire de recherche sur les pratiques et les politiques sociales* (or LAREPPS) at the *Université du Québec à Montréal* (UQÀM) took a social policy approach, looking at 102 emerging and innovative residential and socio-professional services across the province, and how the roles and interactions of the people involved meet the needs of people with intellectual disabilities and promote their community participation.

“Our aim was to provide data about social participation and inclusion,” says UQÀM Professor Lucie Dumais, who co-authored the study, along with LAREPPS Researcher Jean Proulx. “It’s about enabling people to participate in employment and community

life more than before, and our aim was to provide data and evidence to back this up.” LAREPPS selected the initiatives for their innovation in how they improve the lives of people with disabilities and how they could encourage involvement and partnerships of the initiative’s social, economic and political actors, and for their potential of promoting broader participation in society—specifically, the potential to scale up and develop further. The team studied these initiatives through a questionnaire, and then followed up with in-depth documenting of five initiatives, selected for variety in geography and the number of people involved.

The study, completed in 2009, found that the most common aspirations of people with intellectual disabilities were to “live on their own” and to “live like everyone else,” though these aspirations varied considerably: some required limited support or a managed transition to independent living. The study also identified some emerging needs, not just among people with intellectual disabilities but also among their families, who are taking on a growing support role.

Indeed, the number of innovative programs seems to be increasing, while community organizations are more present in the service offerings than a decade before, possibly in response to the Government’s increasing reliance on community resources since the 1990s, precipitating what Dumais calls a “post-welfare” state: “You could see it as a decline of the welfare state, but also as its transformation, leaving more room to the private and community sectors, with the state keeping a major role in regulating social life and the economic aspects.”

This transition, says Dumais, will require both commitment and flexibility on the part of the Government. “Bureaucracy in the public sector has functioned in silos: health and housing need to reflect a more integrated view of people’s needs,” she says. “The present discourse is pro-integration, and there’s an action plan to integrate housing and social service policy, but deficit-prone politics and the rationalization expected over the next few years will not help to realize this.”

Meanwhile, she notes that more research is also required. “It’s very important, this idea of helping people with intellectual disabilities to have their own choice of housing, but it’s also very new, so we don’t have any long-term studies on the effects on them and their families, their support and the financial aspects.” ■

For more information, visit the LAREPPS website at [www.larepps.uqam.ca](http://www.larepps.uqam.ca) or contact Lucie Dumais at 514-987-3000, ext. 2458, or [dumais.lucie@uqam.ca](mailto:dumais.lucie@uqam.ca).



# Tenants' Experiences in the Regent Park Redevelopment

Regent Park, located on 28 hectares (69 acres) in downtown Toronto, is Canada's oldest and largest public housing project—and the faults revealed in this early experiment are spurring a major redevelopment, says Laura C. Johnson, Professor at the University of Waterloo's School of Planning. "The faults lie with the idea that family-friendly housing could be an isolated island, an inward-facing park. The city streets were interrupted to make this park. In the new plan, these houses are being knocked down and they're bringing the streets back. Regent Park will be seamlessly integrated with the rest of the community." Through a public-private partnership, the modernist, 1950s Garden City style community is being razed and rebuilt into a higher-density, new urbanist, environmentally sustainable, mixed-income community.

Integral to this redevelopment is a commitment to look after the original low-income tenants, who have been guaranteed a legal right of return to the rebuilt Regent Park community. Prof. Johnson is leading a longitudinal study of how those original Toronto Community Housing Corporation (TCHC) tenants are faring in the redevelopment process, how that right of return is exercised by the first phase of the displaced residents, and how it is interpreted by TCHC.

The \$1-billion, 12-year, phased redevelopment began in 2005/2006 when some 400 households were moved and their buildings razed. Tenants were relocated temporarily into alternative public housing units inside Regent Park, downtown nearby, or elsewhere in the Greater Toronto Area. For the past five years, the research team has been tracking a sample of 52 Phase 1 relocated households, interviewing them several times, learning about the issues they faced when being displaced and resettled and then (starting in 2009) returning to newly built homes within or outside the Regent Park boundaries.

As of December 2010, only 14 of the 52 households had been resettled in the original Regent Park (see table). Another 11 moved to new housing nearby. Fifteen households await newly constructed units; others opted to stay where they were relocated, or left the TCHC system, or have an unknown status.

Interviews with residents revealed three key themes:

- Many acknowledge the stigma Regent Park has had, yet feel it to be a vibrant and close-knit neighbourhood, emphasizing their strong feelings of attachment to the community in its downtown location, to the relationships that they formed with neighbours, and to the services and agencies based there. In a recent summer art program, youth decorated exterior walls with two-storey portraits of building residents.

*Young local artists depicted residents on Regent Park buildings. Credit R.E. Johnson, 2008.*



Interpreting the portraits' meaning, one young artist said, "When those buildings are broken down, part of ourselves will be lost. The rest of the city thinks this is a dangerous and frightening place. For us, it is home."

- Describing their relationship with the landlord, some complain that the already stressful process of moving was more difficult because TCHC arbitrarily changed the terms of relocation.
- Many residents felt that, although consulted in the redevelopment, tenants could have played a larger role in planning the whole process. Overall, relocated residents expressed optimism that TCHC will get it right and that their redeveloped community will thrive.

Resettlement outcome	Households
Resettled in new housing in Regent Park	14
Resettled in new housing nearby, but outside Regent Park boundaries	11
Awaiting new housing in Regent Park	15
Moved out of TCHC housing	3
Stayed in alternative TCHC housing	4
Status unknown	5
<b>Total</b>	<b>52</b>

Clearly, Regent Park holds powerful meaning for many of its residents—and the research team is using their findings to help them stay involved, says Prof. Johnson. "Our ongoing challenge is to share the results with residents. We've made some videos about the results and invited residents to screenings, and we now have plans to launch an interactive website where we can communicate results and also hear more feedback from residents." ■

For more information, contact Professor Laura Johnson at 519-888-4567, ext. 36635, or [lcjohnson@uwaterloo.ca](mailto:lcjohnson@uwaterloo.ca).

## A Revolving Door of Homelessness and Incarceration

The number of homeless prisoners in Toronto area jails increases yearly, with a growing subgroup of men caught in a revolving door between jails and shelters, according to a team of researchers from the John Howard Society of Toronto and the University of Toronto's Cities Centre. Homeless counts by the City of Toronto have confirmed this increase, but reliance on the court-determined status of prisoners with "no fixed address" means that the true figures are likely much higher.

To better understand the cycle of homelessness and incarceration, the research team conducted face-to-face interviews with 363 sentenced prisoners who had spent a minimum of five consecutive nights in custody and were within days of scheduled release from one of four provincial correctional facilities in the Greater Toronto Area.

The team found that 23 per cent of the men had been homeless before their incarceration. Of the 83 homeless prisoners, 52 per cent had been staying in a shelter or treatment facility; 37 per cent had been living on the street or in places considered unfit for human habitation, including vehicles and abandoned buildings; and 11 per cent had been couch-surfing: temporarily staying with friends and paying no rent. If couch-surfing is excluded, the rate of absolute homelessness was 19 per cent.

Among those surveyed, the previously-homeless prisoners were determined to be a more vulnerable group than those who had been housed: they were more likely to have been charged with a property-related offence, have a health impairment (43 per cent had a physical or psychiatric disability or chronic illness), and rely on income support programs, whose benefits they lose while in jail. Conversely, they tended to be in custody for a shorter time—usually less than three months.

The survey showed that the projected rate of homelessness within days of discharge was 40 per cent higher than the pre-custody level. Almost one-third of respondents were planning to stay in a shelter, live on the street, or couch-surf at the home of a friend. Another 12 per cent did not know where they would live, so were at risk of homelessness. In total, 45 per cent were homeless or at risk. Of those who had been housed when jailed, 16 per cent had lost their residences; of those who had been employed,

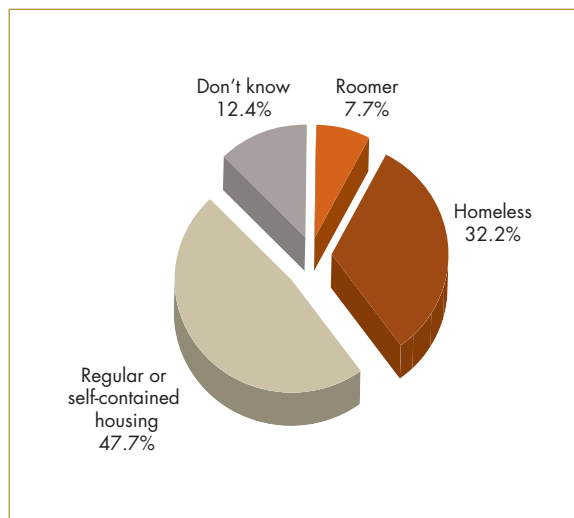
38 per cent were unsure whether they would find work again.

According to the report from the study, *Homeless and Jailed: Jailed and Homeless*, incarceration clearly contributes to the cycle of homelessness—and assisting this large, identifiable stream of people can reduce chronic homelessness. The Ontario Ministry of Public Safety and Corrections is considering promising practices to assist homeless prisoners, especially those with mental health issues, says the John Howard Society's Amber Kellen, a co-author of the report. "The Deputy Minister has assigned a full-time senior staff person to work with us on

the report's recommendations. Together, we're looking into some of the best practices already in the system—and, more importantly, at the systemic issues underlying the cycle."

Co-author Sylvia Novac, Research Associate with the Cities Centre U of T, notes that the reasons for helping these people are not only compassionate, but also practical: "People who are chronically homeless are in and out of shelters, but also hospitals and the justice system, which is incredibly costly. The cost of supportive housing is far cheaper per capita for these homeless people who have a history of problems." ■

For more information, view the full report on the John Howard Society of Toronto website ([www.johnhowardtor.on.ca](http://www.johnhowardtor.on.ca)), or contact Sylvia Novac at 416-537-2700 or [sylvia.novac@utoronto.ca](mailto:sylvia.novac@utoronto.ca).



*Almost half of the surveyed prisoners did not expect to find housing after discharge.*



# Homelessness Among Federal Ex-Offenders in Saskatchewan

Research into the links between incarceration and homelessness has seen a subtle transformation in the past decade, says Dr. J. Stephen Wormith, Acting Director of the Forensic Psychology Laboratory at the University of Saskatchewan. Before 2005, he says, “there was a focus on ‘criminogenic needs’ such as substance abuse, lack of education and contact with antisocial companions. In the midst of this, there wasn’t much focus on practical issues of re-entry, such as housing. It’s hard to think about getting employment or education without a roof over your head.” Conversely, he says, “Since 2005, there’s been a focus on assessment and treatment, and the continuity from institution from community has developed—and with that came questions about how to manage this transition.”

Understanding some of these issues would require a longitudinal study of offenders; with support from the Saskatchewan Housing Corporation (SHC), Dr. Wormith and his colleague Dr. Karen Parhar collected information about 41 inmates of federal correctional facilities, interviewing them before and after their release; the team also conducted in-depth interviews with key informants, such as parole officers, and undertook a search of housing services and programs available to released federal offenders in the province.

Yet a longitudinal study proved more challenging than expected. “We didn’t anticipate how difficult it would be to track offenders down after release,” says Dr. Wormith. “We had procedures in place before release, getting agreements with the offenders, and so on—but understandably, once they’re released, their interest in participating in what they see as an esoteric exercise is sometimes a challenge.” The transitory nature of the offender population presented a similar difficulty.

Nevertheless, they were able to glean data from enough offenders to derive several findings. Perhaps the most fundamental was that homelessness tended to increase after release from prison—a finding that largely confirms what the team understood from anecdotal evidence. And while the study also indicates that a variety of positive housing programs and services are available, released highest-risk offenders (single males with a history of violent or sexual crime), not on parole or conditional release, have the fewest options among the inventory of housing services.

Through SHC, Wormith and Parhar published a technical report, *Homelessness Among Offenders Released from Federal Correctional Facilities in Saskatchewan*, in July 2010. The report issues several recommendations, identifying the need for a central housing registry for federal offenders in Saskatchewan, and for financial support to released federal offenders to help them secure housing.

The team’s next step, says Wormith, “is to bring it to the justice system and academic community through conferences and publications to make these findings more widely known, hopefully to stimulate others to conduct similar types of research.” SHC held a forum in November 2010 for representatives from housing-related social service agencies to discuss the paper, sparking a dialogue that Wormith calls “quite engaging and spiritual.” He expresses his hope that other researchers will be able to build on or corroborate the findings. “While this is limited to federal offenders in Saskatchewan, there’s no reason to think things would be terribly different with provincial offenders—they generally serve a lot less time, but otherwise, I suspect that there are some similarities.” ■

For more information, contact Dr. J. Stephen Wormith at 306-966-6818 or [s.wormith@usask.ca](mailto:s.wormith@usask.ca), or visit the SHC website at <http://www.socialservices.gov.sk.ca/housing>.





# Networking Alberta Research on Homelessness

"Before, service providers and municipalities were involved in crisis prevention and working to manage homelessness, but the 10-Year Plan provided a new vision: the idea of *ending* homelessness was radical, and it changes everything in your approach." That's how Dr. Gary Bowie, Chair of the Alberta Secretariat for Action on Homelessness, describes the driving force behind the formation of the Alberta Homelessness Research Consortium (AHRC).

One of the strategies set out in *A Plan for Alberta: Ending Homelessness in 10 Years* is the development of a research arm to help researchers across the province bring their ideas together, with the ultimate goal of creating a better research foundation for policy and the provision of services in Alberta. As Bowie explains, "There was always a clear desire to use evidence-based approaches, but there wasn't a mechanism to access and share knowledge and best practices. AHRC aims to provide that forum."

Toward that end, AHRC has now completed its first essential task: an environmental scan of the research expertise and capacity in the province. This began with a review of homelessness-related literature in the province from 1990 to the present; AHRC also contacted researchers across the province, to develop an inventory of those working on homelessness and their research interests. This also helped to identify research gaps. "The biggest one was the need to understand more about the effectiveness of various techniques and service delivery models to prevent homelessness, and to rapidly rehouse people who become homeless," says Dr. Gayla Rogers, Chair of the AHRC Steering Committee.

The next steps for AHRC are to develop a provincial research agenda, and then a work plan, with a view to creating what Rogers sees as "a forum for researchers to coordinate their work and discuss priorities that might guide future projects."

A key challenge that AHRC will have to face is the difference in capacities between small and large communities. According to Rogers, "The larger cities have more resources to dedicate to research, while the smaller communities definitely have less capacity, and focus mostly on running their programs, rather than research. Part of the vision of AHRC is to help those smaller communities access that research and build capacity, and also to engage those smaller municipalities and ensure that their priorities are identified and supported."

Calgary in particular has a strong research network that is generating new projects and has much to offer to AHRC and researchers in the rest of the province. For example, a multidisciplinary group of researchers at Mount Royal University has been conducting a scan of housing options and facilities for the "hard to house" in Calgary, helping researchers and service providers identify real and perceived obstacles to housing stability for these people. In conducting this scan, the group has made it a goal to build partnerships between the research community and service providers and service users; another goal is to prepare for a larger study, scheduled for this year, to promote evidence-based decisions for housing research in Calgary.

Rogers reflects that, while Calgary is "something of a frontrunner in Alberta" in research on homelessness, AHRC may be able to help share knowledge without diluting community focus. "As a collaborative forum," she says, "our goal is to develop a research agenda that responds to local priorities." ■

For more information on AHRC, contact Jessica Garland at 403-297-3095 or [jessica.garland@gov.ab.ca](mailto:jessica.garland@gov.ab.ca). For more information on the Mount Royal University study, contact Dr. Andreas Tomaszewski of the MRU Department of Justice Studies at 403-690-6580 or [Atomaszewski@mtroyal.ca](mailto:Atomaszewski@mtroyal.ca). Alberta's 10-Year Plan is posted on the Government of Alberta website at [http://www.housing.alberta.ca/documents/PlanForAB\\_Secretariat\\_final.pdf](http://www.housing.alberta.ca/documents/PlanForAB_Secretariat_final.pdf)



## Leveraging Information to Serve the Homeless in Calgary

"When we looked at adopting this in Calgary, there was no Canadian precedent," says Alina Tanasescu, Vice-President of Research and Public Policy at the Calgary Homeless Foundation (CHF). She's referring to the Foundation's new Homeless Management Information System (HMIS), which was launched in February as a way to improve services to the homeless through shelters, housing providers, health-care providers and case workers.

The HMIS is an integral part of *Calgary's 10-Year Plan to End Homelessness* and is part of Calgary's response to *A Plan for Alberta: Ending Homelessness in 10 Years*, which identifies Alberta's need to "establish evidence-based measurable outcomes if it hopes to achieve success in reducing and ultimately ending homelessness in the province." But the HMIS will do much more than measure progress.

The system is a database that links longitudinal information on homeless clients with service providers around the city. A Web interface allows participating agencies to report information ranging from entries and exits to service use and results, while allowing updates to client profiles. This will help service providers, funding organizations and taxpayers gain a better understanding of the effectiveness of programs. This data will also guide policy-makers and give researchers better insight into the problems of homelessness. For service providers, however, the greatest benefit will be the ability to draw on the information to improve client outcomes, says Tanasescu. "It allows for continuous improvement. If you're a housing provider, and some of your clients are returning over and over again, this can help you understand why. They can also identify what services make improvements."

The HMIS will also help programs to share information—not merely through reducing duplication (for example, in entering clients' data),

but also through referrals. "If a client comes into the network at any point, the agency can do an online assessment and make an online referral," Tanasescu explains. "The referred agency can then draw up the client's profile. What's more, before making a referral, you can see whether that agency has space and whether the client meets their criteria. HMIS will reduce inappropriate referrals." Another benefit of sharing data involves coordinated case management. In many instances, several service providers in different fields (such as housing and mental health) work with the same people, and can share information that would benefit their mutual clients.

In all this, the interests of the homeless themselves remain central. Having a bank of data will reduce the need for clients to retell their stories at each visit, often a painful experience. And despite all the sharing of information, their privacy is paramount.

"If people want to remain anonymous, the system's not there to take that choice away," says Tanasescu, adding that the HMIS can still gather useful information without violating privacy: even without names, the HMIS can track the use of services.

Concern about privacy was one of several factors that made selection and development of the HMIS complex; another was the lack of a Canadian precedent. Cities in the United States have had as much as 10 years of experience in working with such systems, partly because the main coordinator and funder is the US Department of Housing and Urban Development, which requires certain types of information to be collected as a condition for funding. This experience formed the baseline for what could be done in Canada, but the environment was radically different.

---

*continued on page 16*





*continued from page 15*

"In Calgary, agencies deal with as many as 40 funders, with different reporting needs," says Tanasescu, "and different legislation that applies when you receive money from different bodies. There was also the complex legal framework to account for, especially around privacy issues, and the software had to be robust enough to control who sees what, and who could share data." CHF also benefited from engaging the Office of the Information and Privacy Commissioner of Alberta early on in the project to ensure alignment with legislation.

In getting to the selection of software, CHF spent much of a year consulting with agencies and other stakeholders, gathering requirements and generating buy-in—which would be essential to the system's long-term effectiveness, especially as the HMIS will not be mandatory in Calgary. "In some communities in the US, it's just seen as a way to report to a funder. Our system has that function, but it can do so much more. When information gathering is voluntary, you can expect better data quality," says Tanasescu.

In addition to the consultations, CHF ran a request for proposals in January 2010 for guiding the Foundation through the definition and implementation of the HMIS, selecting Canavan Associates, which had considerable experience in the US. After refining their requirements, they ran a second competition in November to select software: Bowman Systems LLC, which supplies most of the market in the US. CHF will steward the HMIS for participating agencies.

Training on the software began in February, while agencies across the cities continue to adopt the new system. "We have 20 agencies in the configuration stage in light of their current information systems—which are sometimes just paper," says Tanasescu. "The HMIS is configured to meet the individual needs of agencies and programs; so, for an outreach and a housing agency, the interface will look different. We then look at their security settings; for example, a mental health specialized program would want online access to assessments."

Tanasescu points out that the HMIS will probably continue to need refinement: stakeholders that see the value in the data they're collecting may also see the potential for more. There is also the potential for new capacities, such as a module that links clients directly to housing providers or income support before they leave a service provider.

She advises interested communities to take advantage of the expert community in the US, which can help Canadians leapfrog to the most refined versions of the HMIS, and to get in touch with CHF. "We're the first in Canada to take this kind of project on," she says. "Though the kinks around legalities, funders and privacy are going to be different everywhere, they can benefit from our experience and learnings." ■

**For more information, contact Alina Tanasescu at 403-718-8527 or [alina@calgaryhomeless.com](mailto:alina@calgaryhomeless.com)**





# Heat Recovery Ventilators and Air Quality in Nunavut

The third phase of a multi-year study led by the Children's Hospital of Eastern Ontario (CHEO) has brought forward evidence that heat recovery ventilators can improve the indoor air quality of houses in Canada's North—and consequently the health of its residents.

The study originated in 2003 after Dr. Thomas Kovesi, a CHEO pediatric respirologist, noticed a large number of cases of bronchiolitis and other respiratory infections among children flown south from Nunavut. This part of Canada has an infection rate for bronchiolitis about 30 times higher than in Ottawa. In response, Dr. Kovesi convened a team of researchers to study the air quality in their homes. "From the first two phases of the study, a big signal came out about ventilation as a way to improve respiratory health," he says. "The next phase was to try to fix it."

In an environment that sees winter temperatures of -50°C, ventilation is a challenge. Dr. Kovesi's colleague, Professor J. David Miller at Health Canada and Carleton University, proposed the idea of installing heat recovery ventilators (HRVs) in Nunavut homes and measuring the effect of improved ventilation on both the air quality and children's health. With support from the Program of Energy Research and Development (PERD), CMHC, Health Canada, the Natural Sciences and Engineering Research Council of Canada (NSERC) and other partners, they brought together builders, engineers, nurses and other specialists to install 100 HRVs in homes in Nunavut communities—complementing active units with a control group of "placebo" HRVs that circulated the air in-house rather than to the outside. Research coordinators in each community tracked humidity, temperature and carbon dioxide (CO<sub>2</sub>) levels in the homes, and reported on respiratory infections in children.

The remoteness of the communities and the short shipping season presented considerable challenges, and a number of participants disabled their HRVs, often over concerns about noise or dryness. Even so, the remaining data available showed a reduction in CO<sub>2</sub> levels from an average of 1,300 to 800 parts per million, well within the recommended range. Because humans are the only CO<sub>2</sub> emitters in a normal home, this suggests adequate ventilation. Dr. Kovesi notes a corresponding drop in cases of wheezing illnesses in units with active HRVs, and a significant drop in the number of runny noses among children who were not playing outside, usually indicative of a cold infection.

Paul Rust, an architect who has a professional interest in Inuit and First Nation communities, concurs that "HRVs are the way to go" and points out that "some of the new models are easy to install, fitting easily on the return air duct." Sensors in the HRVs can help to keep humidity and CO<sub>2</sub> within acceptable ranges. However, he argues that any attempt to improve air quality for the Inuit will have to take into consideration not only their architecture but also their culture. For example, to prepare hides, many families need a sewing room that's almost outside temperature; many also prefer an open-concept design that allows all rooms to be visible from the kitchen.

Furthermore, the fact that HRVs lower humidity in an already uncomfortably dry climate may be a disincentive to their use; Dr. Kovesi cites three studies that showed very low levels of humidity in Nunavut houses. Even so, cracks in the vapour barrier, a large temperature gradient and cooking that tends to involve a lot of boiling could lead to condensation and mold problems (which the studies also indicated as generally low). Dr. Kovesi describes the humidity problem as complex, given that some viruses thrive on more humid environments, and some in less. Developing HRVs that are ideal for arctic conditions may be a challenge for industry, noting that "doctors, engineers and architects don't talk to each other as much as they should." His experience of coordinating a multidisciplinary team in remote communities may provide a foundation for that dialogue. ■

A Research Highlight, now available on the CMHC website (product #67086), provides more detail on the HRV study. For more information, contact Dr. Kovesi at 613-737-7600, ext. 3675, or [kovesi@cheo.on.ca](mailto:kovesi@cheo.on.ca).

*Nunavut HRV and furnace installation*



## Improving and Showcasing Environmental Performance at the Community Level

Environmentally friendly and energy-efficient design often focuses on improving the performance of individual buildings; however, CMHC and Natural Resources Canada (NRCan) are jointly leading an initiative that funds the analysis and sharing of innovations in neighbourhood-scale development projects.

The EQUilibrium™ Communities Initiative is supporting projects that integrate energy and water use, land use and housing, transportation, the natural environment and financial viability. "They are all mixed-use, multi-building projects," says CMHC Senior Researcher Susan Fisher. "This scale enables integration of shared systems, such as community energy systems using waste heat, as well as pedestrian connectivity, public transit access, access to daily destinations like jobs, shopping and schools—systems that go beyond consideration of single houses." The Initiative builds on knowledge gained from CMHC's EQUilibrium™ Sustainable Housing Demonstration Initiative, also supported by NRCan.

To select the projects, the Initiative issued a public request for submission that elicited an enthusiastic response from developers, with 44 submissions. The funded projects were recommended by an independent evaluation committee. "We set out criteria based largely on targeted performance, such as consumption of energy and water, housing affordability, access to transit and habitat protection," says Fisher. Within these, the competition specified 18 performance indicators ranging from energy use in MJ/m<sup>2</sup> for each building type to the number of pedestrian intersections per hectare. In addition to assessing how the proponents would make use of the funding and other criteria, submissions were rated on the degree of integration across the 18 indicators.

As of March 2011, four EQUilibrium™ Communities have been announced:

- **Ampersand** will combine several housing types in a 1,000-unit mixed-use development in South Nepean, Ottawa, near existing rapid bus transit and planned light rail. With the initiative funding, developer Minto Group, Inc. is exploring options such as a community-level district energy plant, permeable pavements, green roofs and a "green loan" program.
- The **Regent Park Revitalization**, led by Toronto Community Housing Corporation, is transforming Canada's largest social housing community into a mixed-income, mixed-use community.



*Image courtesy of Toronto Community Housing*

Located in Toronto's east downtown, it is part of a fabric rich with daily destinations, civic amenities and public transit. Within this project, initiative funding will be devoted to expanding and upgrading energy systems.

- **Station Pointe**, by the Communitas Group Ltd., is a transit-oriented development located on former industrial lands in Edmonton. Situated within walking distance of a light rail station, the development will make use of "green loans" to bring affordability and environmental sustainability together.
- The **Ty-Histanis Neighbourhood Development**, located near Tofino, British Columbia, is being developed by the Tla-o-qui-aht First Nations (TFN). Extensive community consultations contribute to the TFN's goals of reducing greenhouse gas emissions by half, preserving at least 40 per cent of the development site as undisturbed habitat, and encouraging social interaction.

The EQUilibrium™ Communities Initiative does not provide capital cost funding; rather, the funding must be devoted to specific aspects that will improve the projects' performance: community engagement, consultation with approval authorities on innovative approaches, research and analysis for design modifications, and monitoring of results. With actual performance monitoring, Fisher stresses, "We will be able to say that this type of system results in this type of performance." In short, the EQUilibrium™ Communities developments will have demonstrable application for others in the industry.

For that reason, says Fisher, developers can also devote some of the funding to showcasing their innovations. "We can only directly fund a small number of projects," she says. "Our intention is that the whole industry can benefit from sharing of lessons learned from the analysis and monitoring of results. The ultimate goal is to encourage high performance that the industry and municipalities can learn from and build on." ■

For more information, contact Susan Fisher at [sfisher@cmhc-schl.gc.ca](mailto:sfisher@cmhc-schl.gc.ca) or 613-748-2317, or visit the EQUilibrium™ Communities Initiative page at <http://www.ecoaction.gc.ca/equilibrium-eng.cfm>.





*A building-integrated photovoltaic/thermal (BIPV/T) roof is nearly indistinguishable from a normal roof but helps the highly efficient ÉcoTerra EQuilibrium™ House approach net-zero energy consumption annually. Credit: Maisons Alouette*

In November 2010, CMHC hosted its second EQuilibrium™ Housing Forum in Montréal, bringing together architects, developers, researchers and government representatives to showcase successful EQuilibrium™ Housing developments, explore their underlying technologies and best practices, and share ideas for improvement, both in design and the market.

Led by CMHC, the EQuilibrium™ Housing Initiative brings the private and public sectors together to develop homes that combine healthy, resource- and energy-efficient technologies with renewable-energy technologies. These homes are designed and built by private developers and eventually sold to private buyers—ensuring that market value remains a core consideration in creating sustainable housing. The Forums are key to meeting one of the Initiative’s goals, to “build the capacity of Canada’s home builders, developers, architects and engineers to design and build sustainable housing and communities across the country.”

The Montréal Forum, entitled *True Stories: Sustainability in Action*, focused on sharing lessons learned from the three EQuilibrium™ Housing projects in Quebec: ÉcoTerra in Eastman, Abondance Montréal: le Soleil in Montréal, and the Alstonvale Net Zero House in Hudson.

Presentations by the building teams focused on the techniques they used to create a net-zero energy home, along with the challenges they faced and the costs involved. They also discussed the various experiences in holding “design charrettes” to gather ideas from stakeholders and experts and consolidate their project vision and approach. Throughout the Forum, participants were encouraged to explore opportunities for integrated design as a way to promote sustainability—for example, the multi-functioned roof of the ÉcoTerra home designed to generate power while collecting heat for use in the home.

Lessons learned from these developments included design solutions, such as fostering a net-zero energy lifestyle (that is, net-zero energy use for food, transportation and housing)

## EQuilibrium™ Housing Forums

in the Alstonvale Net Zero House or integrating systems to ensure occupant health and comfort in the Abondance Montréal project. Other lessons included the design of the charrettes, which the Alstonvale team decided were best organized as “a single, small group and having a free-flowing discussion.” CMHC presenters also brought forward lessons from market research, finding that builders report an increase in consumer interest in energy-efficient homes. CMHC also presented results from the performance monitoring of EQuilibrium™ homes, revealing some of the strengths of the EQuilibrium™ Housing approach—and ways that modelling could be improved.

To meet the goal of building industry capacity, the presentations were geared to reaching the Forum’s diverse audience. As one participant put it, “I enjoyed the Forum greatly, learning a lot because it was very concrete—not too technical—and the lessons learned by each of the participants were very enriching.” Another described the presentations as “Great exploratory paths, offered by impassioned speakers.” Even participants who did not have a technical background, such as ÉcoTerra homeowner Gilles Drouin, found the experience instructive, welcoming and open.

The success of the Montréal Forum echoed that of the first EQuilibrium™ Housing Forum, held in Edmonton a year before. There, participants shared lessons learned from the three completed EQuilibrium™ Housing projects in Alberta: the Riverdale NetZero Home in Edmonton, the Avalon Discovery 3 Home and the Laebon CHESS Project, both in Red Deer, along with the Mill Creek NetZero home in Edmonton, the first post-EQuilibrium™ project by the Riverdale team.

CMHC Senior Researcher Thomas Green, who helped to organize the Forum, says that sharing ideas on sustainability among industry, academic and government stakeholders must continue: “Participant feedback from both of the EQuilibrium™ Housing Forums indicates a high level of industry interest in the Initiative’s market-ready approach, and a strong desire to put the lessons learned into practice for designing, building and marketing high-performance sustainable housing.” As another Montréal participant put it, “It’s very important to pursue this research while promoting it—not only to designers and builders but also to consumers.” ■

For more information about the Edmonton and Montréal Forums, visit the CMHC website at [www.cmhc-schl.gc.ca/en/inpr/su/eqho/eqhofo/index.cfm](http://www.cmhc-schl.gc.ca/en/inpr/su/eqho/eqhofo/index.cfm) or contact Thomas Green at 613-748-2340 or [tgreen@cmhc.ca](mailto:tgreen@cmhc.ca).

# Developing Standards for On-Site Reuse of Wastewater

"The concept of capturing and recycling water on site has long been discussed," says Duncan Ellison, a Partner at Cheffell Associates, who recently retired as Executive Director of the Canadian Water and Wastewater Association. He cites areas in the Gulf Islands that have no water supply, and residents rely on rainwater harvesting; and in northern Canada, where potable water must be transported and can cost up to \$40/m<sup>3</sup>. Likewise, the Saskatchewan Department of Health has been encouraging reuse of water in rural areas where the water availability is low.

There have been strong movements in other countries, such as Australia and Belgium, to encourage or mandate water reuse, and LEED buildings encourage on-site water harvesting for use within the buildings. Though Canada has seen growing interest in the on-site reuse of wastewater, there are few regulations, standards or codes of practice to guide homeowners and local authorities. "Local initiatives have to be approved by the local plumbing authority or local public health inspectors," says Ellison, "but there's no consistency or guidance from region to region." Furthermore, manufacturers can import or sell products without reference to an applicable standard for performance or installation.

These are some of the reasons behind the efforts of the Canadian Standards Association (CSA) B128 Technical Committee to develop a standard for evaluating the performance of water

treatment devices capable of taking water from various sources and treating it to suit an expected range of non-potable uses. These efforts are a response to a formal proposal by CMHC, which provided the base funding.

The task is to determine what water sources can be used, and for what purposes. Sources include full wastewater, greywater, laundry water, stormwater and rainwater, each of which could be treated for reuse. For drinking, cooking and bathing, fully potable water is desirable—though in some countries, water for bathing can meet recreational water standards. In contrast, for toilet and urinal flushing, there is a tendency to accept non-potable water that approaches but does not meet potable standards for microbiological hazards; for irrigation and automobile washing, non-potable water seems widely accepted. At this stage, Canada has only the Health Canada guidelines for non-potable water for urinal and toilet flushing.

To set out the applicable standards, CSA must both define the quality of the test waters that would simulate the various source water types, and set the product water qualities that can be used for the different purposes. The Technical Committee is presently examining and comparing the water quality parameters being developed or used in Australia, the US and the UK, among other countries. International harmonization of these qualities is important to the technology trade, says Ellison: "We don't make a full range of water treatment devices in Canada anymore. And a lot of the technology we would want to use may be designed primarily for the southern States."

CSA expects to complete the standard and distribute it for public dialogue late in 2011—and Ellison believes that the public will benefit. "If a consumer sees a toilet, for example, on a store shelf, it would be certified to the CSA B45 standard," he says; "If I would like a device in my basement to capture shower, bath and laundry water, treat it and pump it back into toilets for flushing, I would like to know that it's certified to a recognized standard." There's also potential for municipalities when dealing with land use applications: with a commitment to water reuse, a developer could build more houses with a lower "water footprint" in the same subdivision, encouraging density while increasing profits and not imposing additional infrastructure costs on the municipality. Despite these benefits, says Ellison, the challenge is partly about getting buy-in: "The technology is there; the issue is the public and professional acceptance of the technology." ■

For more information, contact Duncan Ellison at 613-882-4219 or [duncan.ellison@videotron.ca](mailto:duncan.ellison@videotron.ca).

## Revitalizing the Don River Watershed

"The City of Toronto, like a number of growing cities, doesn't have water supply problem, but it has a water distribution capacity problem," says Ellison. "Inasmuch as the population has increased so much, downtown high-rises have created huge demand, and the sizes of the pipes underground can't accommodate it." Toronto has indeed made efforts to reduce per-customer demand, by encouraging introduction of low-flow showerheads and toilets and other efficient water appliances. However, Toronto's high density also limits the city's ability to manage stormwater runoff.

In 2006, the Toronto and Region Conservation Authority (TRCA) began developing a new plan for the next phase of the restoration of the Don Valley watershed. In three concept sites, TRCA applied hydrologic modelling technology, funded by CMHC, to a variety of low-impact development measures, such as "rain gardens," permeable pavements, infill development and forest regeneration. The modelling software (Visual OTTHYMO 2.0) could then predict water runoff volumes for common and exceptional storms.

Results of the modelling are detailed in a Research Highlight, available on the CMHC website (product #67087).