

# **Development And Assessment Of A Housing Adequacy Checklist For Elderly Individuals In Receipt of Home Care\***

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## **Abstract**

**Background:** One of the main concerns with home care is that many homes do not permit the delivery of safe and effective care. Housing can be a hazardous environment for care recipients and their caregivers. This report outlines a two-staged process used to develop a simple and concise housing adequacy checklist (HAC) for seniors receiving long-term care in their place of residence.

**Method:** In Phase One of the study, a systematic review of the research literature concerning the functional status of housing was conducted. This review led to the development of a draft Housing Adequacy Checklist (HAC), which assessed five factors: the physical and material infrastructure of a care recipient's place of residence; the range of amenities; the household geography; the cohabitation arrangements and supports; and the functional behaviour of the client. During Phase Two, the draft HAC was evaluated regarding its overall utility and feasibility to inform decisions that pertain to in-home eligibility and service planning, through a focus group comprised of representatives from various stakeholder groups. The participants reviewed the five factors used in the development of the HAC; weighed the factors against evaluative criteria (usefulness, feasibility, validity and reliability); and came to a consensus on the key variables within each factor to include in the HAC.

**Findings:** In the first focus group exercise, participants found the first four factors (the physical and material infrastructure of a care recipient's place of residence; the range of amenities; the household geography; the cohabitation arrangements and supports) to be of great usefulness and should be considered in the HAC. The second factor scored in the moderate range for feasibility, validity and reliability, the third factor received a higher score for these three criteria and the fourth factor scored in the low range for the three criteria. The fifth factor was deemed unimportant, therefore omitted from the HAC. In the second group exercise, participants commented on ways to improve the HAC by critiquing the key variables derived from the literature review. Participants distinguished areas that might be usefully assessed by case managers and areas that should be left to health professionals. A more efficient and effective assessment tool was created through this analysis.

**Conclusions:** The focus group participants raised many issues worthy of considering in the HAC. First, assessing health hazards, such as water leakages, mold and rot, to include in the HAC, as they may pose huge health risks to individuals. Second, there are many aspects to housing assessment, such as the need for assistive devices, which may best be assessed during an in-home visit by a health care provider. Finally, many seniors may refuse to pay for home modifications and thus be faced with limited access to home care. Many of these considerations were difficult to include in the HAC.

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## **1.0 Introduction**

Health care practices have radically changed in the recent past and a broad spectrum of health care is now delivered in the home. One of the primary concerns that underlies the shift in the care setting from institutions to the home has been the assertion that housing circumstances permit the shift of safe and effective care. However, even the finest modern home was not designed to facilitate the long-term provision of care and may indeed be a hazardous environment for care recipients and in-home providers of formal and informal care.

This report reflects the product of a two-staged process to develop a straightforward and concise housing adequacy checklist (HAC) for elderly care recipients receiving long-term care in their place of residence. The underlying objective of this project, funded by the Ontario Ministry of Health and Long-Term Care, was to develop a multi-purpose assessment instrument for housing adequacy. The characteristics of the applicable population are elderly recipients of long-term home care (greater than 120 days) who are functionally independent.

In Phase One of the study, a synthesis of the research literature concerning the functional status of housing was conducted. The result of this review led to the development of a draft HAC. The HAC was designed in order to assess five factors: the physical and material infrastructure of a care recipient's place of residence; the range of amenities; the household geography; the cohabitation arrangements and supports; and the functional behaviour of the client.

In Phase Two of the study, we evaluated the overall utility and feasibility of the draft HAC through a focus group comprised of key informants. The list of focus group participants is found in Appendix A. This final report summarizes the focus group discussion and makes recommendations for a list of preferred factors and suggestions for a Housing Adequacy Checklist.

## **2.0 Phase One**

The first phase consisted of a comprehensive review of both scientific and grey literature on housing adequacy and assessment for the elderly in receipt of long-term home care. We searched a number of databases for articles containing the terms elderly, home care and one of three of housing terms: housing adequacy, home modifications, and housing adaptation. The databases searched included Medline, PubMed, HealthStar, Cochrane Databases, Social Sciences Index, the Ministry of Health and Long-Term Care website, the Canadian Mortgage and Housing Corporation website and the University of Toronto library search engine. In total, we found 20 articles dated from 1988 to present; 5 of these contained an example of a HAC. This work culminated in a review paper: *Development and Assessment of a Housing Adequacy Checklist for Home Care – A Literature Review*. The full paper may be found in Appendix B. Through our literature review, we identified the five factors that have consistently been important in the assessment of an elderly person's place of residence as a site for long-term home care.

## **3.0 Phase Two**

The second stage of the project consisted of a three-hour focus group involving seven key stakeholders representing Community Care Access Centres in Ontario, Ontario

Home Health Care Providers' Association, Ontario Community Support Association, Canadian Mortgage and Housing Corporation, the Ministry of Health and Long-Term Care, and two in-home care provider organizations (Rehab Express and Therapy Plus).

There were three objectives of the focus group:

1. To review the factors used in the development of the draft HAC found in Appendix C (i.e. Are there any missing factors? Is it exhaustive? Are the response categories appropriate to the information acquired?)
2. To weigh the factors against the evaluative criteria (usefulness, feasibility, validity and reliability of the information).
3. To develop a consensus on the key variables within each factor to include in the HAC.

The participants were asked to review and modify the proposed HAC. The background review paper and draft HAC were distributed to the participants in advance of the focus group. Also in attendance were the three facilitators: Dr. Peter Coyte, Andrée Mitchell and Dara Zarnett.

The seven members of the focus group were asked to evaluate the draft HAC through two different exercises. First, focus group participants reviewed the 5 draft HAC factors and scored them from 1 (worst score) to 10 (best score) against 4 criteria: (1) the usefulness in assessing a care recipient's residence; (2) the feasibility of obtaining the information; (3) the validity of the information; and (4) the reliability of the information. Templates for each of the five selected factors were provided to the participants. One person was chosen as a recorder for the group discussion. Second, the participants reviewed, modified and commented on the key variables used in the development of the

draft HAC. A response template was provided to each participant. The templates for both exercises are found in Appendices D and E. The three facilitators circulated amongst the group to observe, provide assistance and take notes. At the end of the session, the templates were returned to the project investigators for analysis.

#### 4.0 Results from Phase Two

In the first exercise, the participants were asked to measure the five factors against the four criteria: usefulness in assessing a care recipient’s place of residence; feasibility in obtaining the information; validity of the information obtained; and the reliability of this information. The following table shows how each factor scored, against the four criteria, on a scale of one to ten, ten being the highest score.

FIVE FACTORS	EVALUATIVE CRITERIA			
	Usefulness	Feasibility	Validity	Reliability
<b>Factor 1</b> – Physical Characteristics and Circumstances of the Home	8-10	8	8-10	8-10
<b>Factor 2</b> – Range of Amenities in the Home	8-10	7-8	6-8	6-8
<b>Factor 3</b> – Household Geography of the Home	8-10	8-10	8-10	8-10
<b>Factor 4</b> – Cohabitation and Supports	8-10	4-6	4-6	4-6
<b>Factor 5</b> – Functional Behaviour of Care Recipients	0	0	0	0

The discussion and rating of each factor is summarized as follows.

#### **4.1 Factor 1 – Physical Characteristics and Circumstances of the Home for Elderly Receiving Long-Term care in their Place of Residence**

Physical characteristics and circumstances of the home include the structural features of the care recipient's residence, such as the condition of the roof, the width of the doorways and corridors, heating and ventilation system, the presence of adequate plumbing, etc. Factor 1 was viewed as a very important factor by the group and was scored quite high against the four evaluative criteria. The participants unanimously agreed that assessing the physical characteristics of the client's home was integral to home care eligibility assessment by a CCAC case manager. They scored the usefulness and the feasibility criteria high, within a range of 8-10.

Home care is usually provided to clients following a physician referral or phone assessment. Thus, by the time a case manager conducts a face-to-face assessment, the client may already be in receipt of home care. The focus group participants agreed that a face-to-face site visit should be performed to appropriately assess the adequacy of the client's home, as various structural characteristics would be difficult to identify using other methods. The validity of the information received on physical characteristics, and the reliability of the information, depends on how the assessment is conducted (i.e. on site or over the phone). The group rated these criteria high, scoring both of them in the range 8-10.

#### **4.2 Factor 2 – Range of Amenities in the Home for Elderly Receiving Long-Term Care in their Place of Residence**

The range of amenities in a client's home may include grab bars, raised toilet seats, and ramps. While the assessment of household amenities were identified by focus group participants as useful measures, the absence of certain amenities would neither preclude eligibility nor limit service delivery. However, it is often difficult for case managers to assess these amenities without the help of the occupational therapists or physiotherapists. Many amenities, such as shower seats, can only truly be assessed when the care recipient is present; for example, a care recipient taking a bath has different needs than when simply recounting to the case manager how they function in the bath.

The focus group participants scored this second factor high against the usefulness criterion with a score of 8 – 10. The feasibility of obtaining the information did not score as high as the previous criterion, as the participants gave it a score of 7-8. Case managers may assess the need for assistive devices; yet, it is usually the occupational therapist, physiotherapist or personal support workers who are better suited at determining what is needed by the client. Case managers should determine the basic necessities for home care. It will be up to the other home care workers to provide more detailed information to the case manager after they have observed the client in their home.

The participants measured this factor against the final two criteria, validity and reliability. Neither criterion scored high, as each score ranged from 6-8. The validity and reliability of the information is dependent on how much information the client provides the case manager, without the latter actually observing the client in action. The case manager can anticipate how the client will act given their housing circumstances, yet their actual behaviour may be quite different. Thus, the validity and reliability of the

information depends on the assessor and the providers of care. Regular reassessment is useful as the regular care providers can offer insight as to what modifications may be useful for the client. The client's must also be taught how to best use the amenities in their home; often, they will have to relearn a new way to perform a basic activity.

#### **4.3 Factor 3 – Household Geography of the Homes of Elderly Receiving Long-Term Care in their Place of Residence**

Household geography concerns the layout of the house (i.e. the location of the bathroom, the bedroom, laundry, etc.) and how the client uses their home. The focus group participants scored this factor high against the usefulness criteria with 8-10. The participants also developed several questions to help measure the layout of the home, such as: Does the client live in the basement, the main or the second floor? Can the client manage stairs in an emergency? Does the client have to pass a furnace to reach an emergency exit? Can the emergency exit route be modified? Can the client get to the bathroom in the middle of the night easily and safely? The participants felt that these questions were important to ask when assessing the home.

The feasibility of obtaining information was given a score of 8-10, as household geography is quite observable. Case managers could undertake a global assessment of the layout of the home that does not depend on the input of home care workers. Therefore, the validity and the reliability of the information also scored a high of 8-10.

#### **4.4 Factor 4 – Cohabitation Agreements and Supports for Elderly Receiving Long-Term Care in their Place of Residence**

Considering the cohabitation arrangements and supports of the care recipient were deemed useful by the focus group participants when measuring housing adequacy, but

difficult to incorporate nonetheless. Cohabitants can include people living with the client, as well as pets, while supports include family, friends and neighbours of the client. The participants gave the usefulness criterion a high rating of 8 – 10. This is a very useful factor in the housing assessment process, yet there are a few issues that warrant consideration. First, there may be an instance of drug, alcohol, verbal or physical abuse in the home, which can lead to an unsafe environment for the care recipient and caregiver. Second, if the clients own pets, the animals may pose a health and safety risk to the client and health care workers. Often, home care workers are forced to care for and clean the animals when the client is unable to do so themselves. Third, is the chance of caregiver burnout. If there is a sole caregiver, then the stress of constant caring for the client may lead to burnout and a reduced level of care provision. Therefore, case managers' should consider these issues in their assessment.

In spite of the usefulness of this factor, the remaining three criteria did not score highly. The feasibility criterion scored between 4-6, as many focus group participants believed that it was difficult to obtain some of the required information. Though case managers may broach the subject of abuse, it is rare that the information obtained from the care recipient will be accurate. For an accurate assessment, case managers will have to alert the home care workers to a potentially volatile situation and ask these workers, in particular the personal support staff who will visit the home most frequently, to comment on the situation. The validity and reliability of the information also scored 4-6, for the reasons stated above. All of the information obtained is from the client, and in many instances, the client may not be totally honest when reporting their home situation.

#### **4.5 Factor 5 – Functional Behaviour of Elderly Receiving Long-Term Care in their Place of Residence**

The functional behaviour of the care recipient concerns the type of impairment, physical, cognitive, auditory, visual, etc., which might affect the client. Though the participants all agreed that this was a useful factor for assessing home care eligibility, it was not deemed necessary for a home adequacy assessment. The focus group participants believed that home care referrals from physicians or hospital staff would have already included an assessment of the care recipient's functional status, therefore, the case manager would already have information on the client's functional behaviour, when conducting a housing adequacy assessment. Therefore, by consensus, this factor will not be included in the HAC.

#### **4.6 Housing Adequacy Checklist Key Variables**

In the second group exercise, participants were asked to critique the key variables included in the draft HAC found in Appendix C, in order to improve this tool. Participants were given a template of key variables, see Appendix E, and were asked to offer their comments. The key variables that were derived from the literature review in Phase One, were critiqued and the participants distinguished aspects that the case manager might assess, those that should be left to specialized health professionals, and those aspects where the task could not be assigned with certainty. From the participants' comments, we were able to create a more efficient and effective assessment tool. This revised HAC is found in Appendix F.

## 5.0 Conclusion

From the results of the study, we were able to develop a concise and potentially effective Housing Adequacy Checklist that might be used by case managers to help them determine housing adequacy for the elderly receiving long-term home care. The focus group participants agreed that of the five factors, only the one dealing the functional behaviour of the client was deemed unnecessary in order to assess the place of residence. The remaining four factors all scored well for usefulness, but the scores varied with the feasibility, validity and reliability of the information. The second focus group exercise allowed the participants to comment on the draft Housing Adequacy Checklist in order to make it more useful and effective. Given the participants varying backgrounds, each had different comments for each variable; yet, the group came to a consensus on what the most important variables were, and which would be more feasible for the case manager to measure. With their comments, we were able to refine the HAC into a more concise assessment tool.

The focus group discussion raised some additional issues worthy of consideration. First, given that the case manager using the HAC will undoubtedly have different skills in assessing the home than a specialist (i.e. plumber, electrician or carpenter), there is the possibility that they might overlook certain health hazards, such as water leakages, rot and mold, which may pose health risks to residents. Mold is a particular health risk for the elderly as they spend almost all of their time inside their home. A client living in an apartment may be able to explore more avenues of help in dealing with mold (i.e. landlords), yet homeowners often face fewer options (Canadian Mortgage and Housing Corporation, “Fighting Mold – The Homeowners Guide”, [www.cmhc.ca](http://www.cmhc.ca)). The Canadian

Mortgage and Housing Corporation (CMHC) does not provide any services where they will remove the mold, yet they do provide publications and research information to assist an individual with mold clean up. As well, the CMHC offers a certification course for Indoor Air Quality (IAQ) Investigators where individuals take a three-day course, and, after an apprenticeship period, become certified by the CMHC as a qualified IAQ Investigator. Individuals can then choose to operate as a business and can be contracted by homeowners to investigate their home for a fee (Canadian Mortgage and Housing Corporation, “Indoor Air Quality”, [www.cmhc.ca](http://www.cmhc.ca)). Mold poses a serious risk, and all of the focus group participants agreed that it should be included in the HAC.

Second, there are many aspects to housing assessment, which would be better assessed during the course of a in-home visit by a health care provider. When the case manager assessed the home, they should simply focus on the client’s basic needs to receive home care. The need for grab bars, raised toilet seats or shower seats is much more easily assessed when the home health care provider can see the client in action. Therefore, several detailed modifications initially included in the HAC, have been omitted, as it is not necessary for a housing adequacy assessment.

Third, there is the question of who will pay for any required home modifications. In several instances, the elderly client may choose not leave their place of residence or not want to pay for home modifications, even if their housing is inadequate. The CMHC offers financial assistance to help low-income elders who wish to remain in their home, pay for home adaptations in the form of a forgivable loan of up to \$2500. The loan does not need to be repaid provided the elder continues to occupy their place of residence for at least 6 months following the completion of their work. The eligibility conditions for

this assistance are that the individual is 65 years and older; has difficulty with daily living activities as a result of aging; the total household income is below the general income limit in the area (the income limit in Toronto is \$35,000 yet this limit varies from area to area); and, the dwelling unit to be adapted is a permanent residence. There are many elders who do not meet these criteria and require home modifications, thus it becomes their responsibility to pay for any home modifications. The client may choose to not pay for home modifications and not leave their home, resulting in the refusal of home care. Even though this is a dilemma, it is difficult to include this issue in the HAC.

The focus group discussion was an integral aspect to this study as many issues were raised, which were initially unknown to the study investigators. After taking these matters into consideration, a simple, all-encompassing housing assessment tool was developed through input from the focus group participants that may aid in the assessment of housing adequacy of elderly home care recipient.

## **APPENDICES LISTING**

- Appendix A: Focus Group Participants
- Appendix B: Literature Review
- Appendix C: Draft Housing Adequacy Checklist
- Appendix D: Template for First Focus Group Exercise
- Appendix E: Template for Second Focus Group Exercise
- Appendix F: Final Housing Adequacy Checklist

## **APPENDIX A: Focus Group Participants**

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**APPENDIX B: Literature Review**

**DEVELOPMENT AND ASSESSMENT OF A HOUSING ADEQUACY  
CHECKLIST FOR ELDERLY INDIVIDUALS IN RECEIPT OF HOME CARE**

Literature Review

February 2003

Peter C. Coyte, PhD, Andrée Mitchell, Dara Zarnett

## **1.0 Introduction**

In Canada's aging population, home care is an important setting for health care as it meets the needs of care recipients who wish to stay in their place of residence. However, personal dwellings were not designed to accommodate the long-term provision of health care and support services, hence, housing may result in a hazardous environment for care recipients and their providers. The ability to adapt the physical environment of a client's home to fit their changing needs as they age and develop health problems has become widely recognized as important in long-term care.<sup>1</sup> The home represents safety, security and control, as it provides a means of connectedness to family and community, and maintains the appearance of competence and health.<sup>2</sup> This literature review will focus on the importance of home modifications and effective methods of housing assessment and adaptations.

## **2.0 Home Modifications and Adaptations**

Home modifications are adaptations to one's living environment that are intended to increase the client's ease of using the home and encourage feelings of safety, security and independence. The objective of home modification is to accommodate those with decreased capacity due to a decline in health, by reducing the demands that the physical environment exerts on their daily activities.<sup>1</sup> The outcomes of housing adaptations are in efforts to enhance the client's independent living and improve their quality of life. An accessible and supportive environment is integral in ensuring a high quality of life for elderly clients.

Home modifications can include changes or additions to the structural layout of the home, such as widening doorways; installing special equipment like grab bars, handrails

and ramps; changing the layout of furniture; and adjusting the way the clients use their homes, such as moving to the bedroom to the first floor or changing the use of a room.<sup>2</sup> Benefits of adaptations for the individual include a reduced fear of falling, lower chance of accidents, decreased caregiver burden, improved daily function, enhanced self-efficacy, and improved orientation and awareness.<sup>2</sup>

The Canadian Mortgage and Housing Corporation (CMHC) is Canada's national housing agency and play an integral role in the Canadian housing industry.<sup>3</sup> Their mission, to be 'committed to housing quality, affordability and choice for Canadians' is realized through four key areas: home financing options, research and information transfer, assisted housing and international initiatives. Through leading-edge research, the CMHC aims to improve the quality and affordability of housing. In order to aid Canadians benefit from their housing expertise, the CMHC is Canada's largest publisher of housing information.<sup>3</sup>

The CMHC highlights the standard concept of core housing need.<sup>4</sup> This concept is based on the premise that a place of residence should be a unit in adequate condition (does not require repairs), suitable in size (has enough bedrooms) and affordable (shelter costs less 30% of before-tax household income).<sup>4</sup> A place of residence is in core housing need if it does not meet at least one of the adequacy, suitability or affordability standards and the resident would have to spend 30% or more of their income to pay the average rent of alternative local market housing that meets all three standards.<sup>4</sup> The Canadian federal government, provincial agencies and others that monitor housing conditions use this core housing need concept. There are, however, wide variations in the factors that can lead to an elderly person being in core housing need, which include the severity of

health and activity limitations, living arrangements and socio-demographic characteristics, particularly access to employment and other sources of income.<sup>4</sup>

Although there are various types of home adaptations available, there are still many who would benefit from environmental modifications and who are living without them. In a 1988 study by Soldo and Longino, only one third of individuals with at least one limitation in their activities of daily living, live in homes that have at least one supportive environment feature.<sup>5</sup> Fox further found that severely disabled elderly are less likely to have home modifications than those who are mildly disabled. Fox suggests that these elderly may be unaware of the types of modifications available to them.<sup>6</sup>

Even though an elderly client may know that a certain modification may help them age in place, there are three major reasons for not implementing adaptation. First, the cost of modifications may act as a deterrent for having the work done. The CMHC does offer some financial aid to those eligible seeking home modifications. One program, called the Home Adaptations for Seniors Independence (HASI), offers financial assistance to help pay for home adaptations that can help extend the length of time a low-income elderly individual can live in their home.<sup>7</sup> This assistance is in the form of a forgivable loan of up to \$2500, which the elderly client does not have to repay provided that they will continue to occupy their place of residence for at least six months following the adaptations. Clients who are 65 years of age and older, have difficulty with daily living activities as a result of aging, whose total household income is below the income limit for their surrounding area, and their dwelling unit to be adapted is a permanent residence, can qualify for this aid.<sup>7</sup>

Another form of financial assistance provided by the CMHC is the Residential Rehabilitation Assistance Program for Persons with Disabilities (RRAP-D).<sup>8</sup> This program offers aid to homeowners and landlords to undertake accessibility work to modify dwellings occupied or intended for occupancy by low-income persons with disabilities. The assistance is a loan, all or parts of which may be forgiven. The amount can range from \$18,000 - \$27,000 for homeowners and landlords, depending on the region.<sup>8</sup> In spite of the available financial aid, many elderly will not pay for housing adaptations, for other reasons.

Second, the elderly might not modify their place of residence as they might view such adaptations as a change that will alter the aesthetic value of the home or lead to a reduced resale value of their home. Third, the client's resistance to home adaptations may indicate the person's determination to overcome their health condition or disability instead of accepting the condition.<sup>9</sup>

### **3.0 Housing Assessment: The Five Factors**

There are several reasons why more attention is directed at assessing the level of safety in an elder person's home. As an individual ages, more time spent in the home increases and time spent in the community decreases. The home becomes the centre for activities and the place where, ideally, the elder finds physical and emotional security. A form of housing assessment tool can be in the form of a simple checklist that measures barriers, problems or features of the home which might affect the ability of the elderly client to receive home care.<sup>4</sup> The CMHC developed, in 2002, a comprehensive self-assessment guide for seniors' to determine their need for home adaptations. This guide examines areas such as the accessibility of the home, the ability to move around the

home, how the client uses the kitchen, bathroom, stairs and bedroom, and a variety of other activities of daily living.<sup>10</sup> It is important that a housing adequacy checklist assesses five factors when determining the appropriateness of the client's place of residence for long-term home care. These factors are: (1) the physical characteristics and circumstances of the home of elderly receiving long-term home care in their place of residence; (2) the range of amenities in the home; (3) the household geography and layout of the home; (4) the cohabitation arrangements and supports; and (5) the functional behaviour of the client.

### **3.1 Physical Characteristics and Circumstances of the Home**

The physical characteristics and circumstances of the elderly client's place of residence is an important aspect in housing assessment for home care. The design of the structural environment should support, rather than restrict, a person's daily life. It also allows for the individual to meet physical, psychological and social needs, and promote a sense of well-being and safety.<sup>11</sup>

Common accessibility, mobility and safety issues related to the physical characteristics of the home include hallways and doorways that are too narrow for client passage, inaccessible stairways, poor ventilation and heating. Another issue of great concern, in particular for the elderly, is the presence of mold growing in the home. Mold is indicative of moisture conditions favorable for the growth of fungi, and can cause many problems such as wood rot, structural damage, and health risks. This is a great health risk to the elderly because they spend so much of their time in their home. The CMHC reports that, depending on the type of mold present in the home, the amount, the degree of exposure, and the health condition, the health effects from the presence of mold

can range from being insignificant to causing allergic reactions and illness.<sup>12</sup> The CMHC has published extensively on this issue and ways to deal with the removal of mold.

### **3.2 Range of Amenities in the Home**

Amenities of the home can include, amongst others, grab bars, raised toilet seats, and ramps. Many studies have been conducted that examine household safety issues and the need for adaptations. In Gitlin's 1998 study, it was estimated that there are an average of four environmental problems per elderly household, kitchen and bathroom problems being the most prevalent.<sup>1</sup> Common issues in the kitchen include cabinets and countertops that are too high, inadequate counter space, and the inability to move around in a wheelchair. Bathroom difficulties include the lack of grab bars, low toilet seats and difficulty handling faucets.<sup>1</sup>

In a study cited by Gitlin, LaPlante and colleagues determined that modifications involving alterations to the physical structure of the home or installation of special equipment is less likely to be used and only considered by the elderly as a last resort. They reported that only 18% of those aged 65 to 74 years and 23.5% of those older than 75 years, used a special feature such as a ramp or handrail.<sup>1</sup> The 1992 National Long Term Care Survey of community dwelling individuals aged 65 years and over with activity limitation, noted that the most common modifications are the addition of appropriate lighting (23%), the restriction of living quarters to one floor in order to avoid use of the stairs (18%), the use of lever faucets instead of knobs (18%) and the installation of additional grab bars within the home (17%). Modifications less likely to be used were emergency response systems (9%), the replacement of doorknobs with lever

handles (5%), the conversion of stairs to ramps (4%), and the widening of doorways (4%).<sup>13</sup>

### **3.3 Household Geography and Layout of the Home**

Household geography examines the layout of the home and the way in which the client utilizes their home. Studies indicate that a safe and simple layout of the home will reduce the risk of injury. In 1995, Steel et. al. noted that among the most fatal injuries amongst the elderly, a leading cause of death is from falling, and that 10-15% of falls resulted in a fractures or serious injury.<sup>14</sup> Tinetti, Speechley and Ginter in 1998 determined a group of risk factors for falls, which include the inability to safely maneuver the stairs, the overuse of sedatives, cognitive impairment, lower extremity disability, diminished vision and balance and gait abnormalities.<sup>15</sup>

Other studies show the importance of safe housing environment. A 2000 study by Gill and colleagues, affirms that 44% of falls occurring in the presence of one or more environmental hazards suggests that their elimination might result in a decrease in falls and fewer significant injuries.<sup>16</sup> Housing safety assessments can help identify and eliminate environmental hazards related to the layout of the home, in efforts to maintain a fall prevention strategy.

### **3.4 Cohabitation and Support Networks**

When assessing the place of residence of elderly clients receiving home care, it is important to take into account the presence of cohabitants and the client's support network. In-home assessments must explore the capability of the caregiver as well as the caregiver's interest in the care recipient's treatment plan.<sup>16</sup> An assessment of the care recipient's support network is important to identify the characteristics of the individuals

involved, to determine their actual and potential functions, to assess the stress and satisfaction they experience in the relationship and to determine their openness and expectations for change.<sup>11</sup>

There are four major reasons why it is important to include the caregivers' in the assessment process. First, the majority of elder's receive in-home care from informal or formal caregivers. A study by the National Centre of Health Statistics indicated that most dependent in-home care clients receive help from a type of caregiver. Next, involving a caregiver may increase the patient's compliance with treatment and care plan goals.<sup>11</sup> Third, excessive and unchecked caregiver burden may raise the potential for elder abuse.<sup>11</sup> According to the County Welfare Directors Association of California, the stress of caregiving may create an environment where even the most devoted caregiver might find their responsibility burdening.<sup>17</sup> Therefore, studies indicated that it is integral that the individual's caregiver and support network be considered when conducting a housing adequacy assessment.

### **3.5 Functional Behaviour**

Functional behaviour can act as a non-environmental barrier in the receipt of home care as it can impede accessibility, mobility, activity and safety. Although functional behaviour cannot be eliminated, by adapting the home, the number of barriers associated with the individual's level of independence can be minimized. Common impairments in the elderly are cognitive, visual and auditory. By reinforcing the environment of an elderly person with cognitive impairment with constant reminders to orient the individual to time, place and caregiver identity, it can reduce the person's confusion.<sup>18</sup>

The CMHC conducted a national study in 1988 to determine practical physical changes that can be made to private dwellings to accommodate the behaviour of persons with Alzheimer's disease and the special needs of their caregivers, in hopes of developing helpful and useful ideas for home modifications.<sup>19</sup> Suggestions to the caregiver include the removal of potentially dangerous items, such as knives and medications; fastening carpeting and furniture to the floor; install grab bars, no-slip surfaces to improve traction, raised toilet seats and ramps; mark stairways, windows and doorframes with a contrasting color; and many other forms of adaptations.

An individual with limited visual functioning may be at risk of falling, burns and fires resulting from missing cues from the environment and other such mishaps related to their disability. Issues related to hearing impairment may include the inability to hear the telephone, doorbell, fire alarm or other emergency triggered sounds.<sup>11</sup> Improving both the security and quality of life at home for the elderly with such functional behaviour, can be accomplished by making the environment more structured and predictable. This will therefore enable the individual to have more control over their surroundings.

#### **4.0 Conclusion**

Home care assessments provide an opportunity to instruct elderly on how to maximize their functioning within their own unique environment and adapt it so they can age in place. An adequate home enables an individual to receive long-term care and live as independently as possible. Home modifications may also replace costly personal home care services and ease the need for the individual's relocation to a more supportive environment.<sup>1</sup> It is therefore important to measure the physical characteristics and circumstances of the homes of people receiving long term home care; their range of

amenities; the household geography; the cohabitation arrangements and supports; and the functional behaviour of the individual when assessing an elder persons home environment. Today, more complex and technically sophisticated care is being provided in the home, but we neither know whether the physical and material geography of the home, nor the family circumstances are adequate to cope safely and sufficiently with this change. As studies indicate, by conducting a housing assessment, more clients will thus receive care in an appropriate and adequate health care setting.

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**APPENDIX C: Draft Housing Adequacy Checklist**  
(January 2003)

**Year Residence Built:**

**Care Needs:**

**Medications:**

**Type of Home**

House (Single-Level)

House (Multi-Level)

Apartment/Condo

Urban

Rural

**Outside Home**

Is the entrance to the home accessible and safe?

Is there adequate lighting?

Do stairs have secure handrails?

Is there a ramp?

Are locks on doors accessible?

Is the door easy for the client to maneuver?

Other:

**Inside Home**

Lighting:

Is the overall lighting adequate?

Are there night-lights?

Are light switches easily accessible?

Other:

Flooring:

Is all carpet secured?

Is any carpet torn?

Are floors slippery? Uneven surface?

Other:

Hallways:

Are the hallways wide enough for wheelchair passage?

Are pathways obstructed?

Other:

Kitchen:

Are cabinet shelves too high? Low?

Are counter tops too high? Low?

Is the sink too high? Low?

Do kitchen appliances work?  
Are kitchen appliances safe?  
Other:

Bathroom:

Is the bathroom easily accessible for the client (i.e. can the client and caregiver get in and out)?  
Is there a grab rail in the tub?  
Is there a bath mat inside the tub?  
Is there a bath mat outside the tub?  
Is the toilet seat high enough?  
Are cabinets easily accessible?  
Other:

Bedroom:

Is the bed secure?  
Is the bed accessible for the client?  
Is the bed suitable for the client?  
Is the bedroom large enough for client's equipment and supplies?  
Is the closet easily accessible?

Stairways:

Is the rise between the steps too high for the client?  
Is there a stair lift?  
Is there room for a stair lift?  
Are there handrails?  
Are the steps slippery?  
Is there lighting at the top and bottom of the stairs?

Safety:

Is the telephone accessible to the client in case of emergency?  
Can the client leave the home in an emergency?  
Are there sufficient smoke detectors throughout the house?  
Are there carbon monoxide detectors throughout the house?  
Is there a fire extinguisher?

Layout of the House:

Is the bathroom easily accessible for the care recipient?  
Is the bedroom easily accessible for the care recipient?

Support:

Are there cohabitants in the home?  
Is there a paid caregiver? Unpaid caregiver?  
Other:

**APPENDIX D: Template for First Focus Group Exercise**

<b>Factor 1: Physical Characteristics and Circumstances of the Home of Elderly Receiving Long-Term Care in Their Place of Residence</b>		
Example: How do the structural features of the home affect care recipients' daily activities/ care needs?		
<b>Criteria</b>	<b>Score 1 (worst) to 10 (best), if applicable</b>	<b>Comments</b>
<b>Usefulness</b> in assessing a care recipient's residence.		
<b>Feasibility</b> of obtaining the information.		
<b>Validity</b> of the information.		
<b>Reliability</b> of the information		

**Factor 2: Range of Amenities in the Homes of Elderly Receiving Long-Term Care in Their Place of Residence**

Example: What features are important for outside the home to ensure a safe environment for clients with dementia, device users, etc.?

<b>Criteria</b>	<b>Score 1 (worst) to 10 (best), if applicable</b>	<b>Comments</b>
<b>Usefulness</b> in assessing a care recipient's residence.		
<b>Feasibility</b> of obtaining the information.		
<b>Validity</b> of the information.		
<b>Reliability</b> of the information		

**Factor 3: Household Geography of the Homes of Elderly Receiving Long-Term Care in Their Place of Residence**

Example: What type of layout of the house is important to guarantee a safe setting for care recipients?

<b>Criteria</b>	<b>Score 1 (worst) to 10 (best), if applicable</b>	<b>Comments</b>
<b>Usefulness</b> in assessing a care recipient's residence.		
<b>Feasibility</b> of obtaining the information.		
<b>Validity</b> of the information.		
<b>Reliability</b> of the information		

**Factor 4: Cohabitation Arrangements and Supports for Elderly Receiving Long-Term Care in Their Place of Residence**

Example: How does cohabitation of a care provider or any person affect the delivery of the in-home care?

<b>Criteria</b>	<b>Score 1 (worst) to 10 (best), if applicable</b>	<b>Comments</b>
<b>Usefulness</b> in assessing a care recipient's residence.		
<b>Feasibility</b> of obtaining the information.		
<b>Validity</b> of the information.		
<b>Reliability</b> of the information		

**Factor 5: Functional Behaviour of Elderly Receiving Long-Term Care in Their Place of Residence**

Example: What types of physical impairment negatively and positively influence the ability to receive effective in-home care?

<b>Criteria</b>	<b>Score 1 (worst) to 10 (best), if applicable</b>	<b>Comments</b>
<b>Usefulness</b> in assessing a care recipient's residence.		
<b>Feasibility</b> of obtaining the information.		
<b>Validity</b> of the information.		
<b>Reliability</b> of the information		

**APPENDIX E: Template for Second Focus Group Exercise**

<b>DRAFT HOUSING ADEQUACY CHECKLIST</b>	
<b>KEY VARIABLES</b>	<b>COMMENTS</b>
<b>Outside Home</b>	
Is the entrance to the home accessible and safe?	
Is there adequate lighting?	
Do stairs have secure handrails?	
Is there a ramp?	
Are the locks on doors accessible?	
Is the door easy for the client to maneuver?	
Other	
<b>Inside Home – Lighting</b>	
Is the overall lighting adequate?	
Is there a presence of night-lights?	
Are light switches easily accessible?	
Other	
<b>Inside Home – Flooring</b>	
Is all carpet secured?	
Is any carpet torn?	

Are floors slippery? Uneven surfaces?	
Other	
<b>Inside Home – Hallways</b>	
Are the hallways wide enough for wheelchair passage?	
Are pathways obstructed?	
Other	
<b>Inside Home – Kitchen</b>	
Are cabinet shelves too high? Low?	
Are counter tops too high? Low?	
Is sink too high? Low?	
Do kitchen appliances work?	
Are kitchen appliances safe?	
Other	
<b>Inside Home – Bathroom</b>	
Is the bathroom easily accessible for the client?	
Is there a grab rail in the tub?	
Is there a bath mat in the tub?	
Is there a bath mat outside the tub?	
Is the toilet seat high enough?	
Are cabinets easily accessible?	

Other	
<b>Inside Home – Bedroom</b>	
Is the bed secure?	
Is the bed accessible for the client?	
Is the bed suitable for the client?	
Is the bedroom large enough for client's equipment and supplies?	
Is the closet easily accessible?	
Other	
<b>Inside Home – Stairways</b>	
Is the rise between steps too for the client?	
Is there a stair lift?	
Is there room for a stair lift if necessary?	
Are there handrails?	
Are the steps slippery?	
Is there lighting at the top and bottom of stairs?	
Other	
<b>Inside Home – Safety</b>	
Is the telephone accessible to the client for emergencies?	
Can the client leave the home in an emergency?	

Are there sufficient smoke detectors throughout the house?	
Are there carbon monoxide detectors present in the house?	
Is there a fire extinguisher?	
Other	
<b>Layout of House</b>	
Is the bathroom easily accessible for care recipient?	
Is the client's bedroom easily accessible for care recipient?	
<b>Support</b>	
Are there cohabitants in the home?	
Is there a paid caregiver? Unpaid caregiver?	
Other	

## APPENDIX F: Final Housing Adequacy Checklist

Type of Home:

House (Single-level)  
Urban

House (Multi-level)  
Rural

Apartment/Condo

Year Residence Built:

1. Is the entrance to the home accessible and safe for the client and caregiver?

Yes

No (if no, please indicate the problem – i.e. inadequate lighting, no ramp, no handrails, door difficult to maneuver, etc.)

2. Is the overall lighting inside the home adequate for the client and caregiver?

Yes

No (if no, please indicate the problem)

3. Is the flooring inside the home appropriate for the client's mobility needs?

Yes

No (if no, please indicate the problem)

4. Are the widths of the hallways appropriate for client passage?

Yes

No (if no, please indicate the problem)

5. Are the hallways obstructed?

Yes

No (if no, please indicate the problem)

6. Can the client access the stairways safely?

Yes

No (if no, please indicate the problem – i.e. are the steps slipper, is the rise between the steps too high for the client, etc.)

7. Is the kitchen safe for the client and caregiver?

Yes

No (if no, please indicate the problem – i.e. do kitchen appliances work, is there garbage disposal, etc.)

8. Is the bathroom easily accessible for the client and caregiver?

Yes

No (if no, please indicate the problem)

9. Is the toilet easily accessible for the client and caregiver?

Yes

No (if no, please indicate the problem)

10. Is the bathtub/shower easily accessible for the client and caregiver?

Yes

No (if no, please indicate the problem)

11. Is the bedroom easily accessible for the client and caregiver?

Yes

No (if no, please indicate the problem – i.e. the bed is inaccessible, unstable, etc.)

12. Is the home adequately heated and ventilated?

Yes

No (if no, please indicate the problem)

13. Is there adequate water supply (hot and cold) in the home?

Yes

No (if no, please indicate the problem)

14. Are there any indications of water leaks, rotting or mold in the home?

Yes (if yes, please indicate where and to what degree)

No

15. Can the client independently leave the house in an emergency?

Yes

No (if no, please indicate the problem)

16. Is the telephone accessible to the client in case of emergency?

Yes

No (if no, please indicate the problem)

17. Are there working smoke detectors and carbon monoxide detectors in the home?

Yes

No (if no, please indicate the problem)

18. Is there adequate caregiver support in the home?

Yes

No (if no, please indicate the problem)

19. Are there any known risks to the client or caregiver in the home?

Yes

No (if no, please indicate the problem – i.e. pets, violence, verbal abuse, smoking, etc.)