



Healthy Aging Asset Index: A Novel Approach to Assessment and Intervention

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Abstract: A nurse practitioner-led clinic operating within a seniors' organization required a healthy aging assessment tool with both clinical and social indicators that could be used by multiple types of community workers. The Healthy Aging Asset Index (HAAI) was developed to facilitate healthy aging assessment of seniors and evolved from existing complexity assessments from both the literature and other community organizations. The tool was piloted with a group of 130 moderately frail seniors; seventy-six had the HAAI administered. There was a statistically significant improvement in total HAAI score over twelve months of intervention, indicating reduced vulnerability and improved asset status. The pilot demonstrated that the HAAI exhibits some level of validity for use by multiple community workers to assess healthy aging and may be moderately sensitive to discrete social and physical indicators. Further psychometric testing is being pursued. This article discusses the conceptualization, development, and pilot testing of this new assessment tool.

Keywords: *Determinants of Healthy Aging, Social Prescribing, Interprofessional Care, Frailty Screening, Geriatric Assessment*

Introduction

As the Canadian population ages, the need to understand factors that affect seniors' ability to age in community increases. Neglect of these factors can impede healthy aging and cause a progression to a frail state, increasing risk of institutionalization (acute care and/or long-term care). Healthy Aging is defined by the World Health Organization (2020) as "the process of developing and maintaining the functional ability that enables wellbeing in older age," and the decade spanning 2021 through 2030 has been declared the "Decade of Healthy Ageing." On the other end of the spectrum, the opposite to healthy aging is frailty. Frailty can exist in degrees and is defined as "a medical condition of reduced function and health in older adults" (Canadian Frailty Network, n.d.). Both healthy aging and frailty are difficult to assess and have depended primarily on the use of antiquated assessment focusing solely on physical condition. For example, frailty is often identified by primary care providers who emphasize the impact and control of medical comorbidities that increase complexity of care. Family physicians cite medical complexity in aging individuals as a key reason for high work demand, and frail seniors present with more than the usual "single diagnosis" needed for a successful fee-for-service model (CMA 2016). This complexity has been identified as a key contributor to increased healthcare use; methods to identify those individuals who require

targeted assessments to inform interdisciplinary interventions have been discussed in the literature (Eamer et al. 2018; Huysse and Stiefel 2006a; McCave and Rishel 2011; Mulligan et al. 2020). Assessing complexity and risk in these older adults can help to reduce downstream medical effects (Eamer et al. 2018). However, very little attention is paid to healthy aging and upstream determinants to decrease the risk of developing frailty or worsening frailty.

Primary care providers do not have time to complete formal frailty assessments, and/or comprehensive assessments related to factors affecting a senior's frailty level (CMA 2016; Rasiyah et al. 2021). If seniors do receive assessment and are identified as experiencing frailty, they can wait months for comprehensive geriatric assessments, and longer to receive supports in the community (Rudoler et al. 2019). Current geriatric assessment models typically focus on frailty as a medical condition, weakness, readmission risk factor, or loss. A comprehensive geriatric assessment (CGA) that focuses on strengths rather than on deficits is needed, and this assessment should facilitate integration of services provided by community organizations in collaboration with primary care (Tierney et al. 2020).

The Healthy Aging Asset Index (HAAI) was developed to facilitate an in-depth assessment of seniors' risk factors for functional decline contributing to their risk for frailty and/or worsening of frailty, along with suggested interventions to improve resilience. It was important that the resultant tool addressed both strengths and vulnerabilities of older adults and was not limited to use by medical professionals, allowing for more widespread use within community organizations. The index became a priority in a senior serving community organization in Western Canada, where, ideally, assessment could be completed by anyone serving seniors and administered within the community where most older adults choose to live and recreate. An interprofessional team developed and sought feedback from stakeholders on the newly developed HAAI, which used common language to support early assessment of aging, and recommended interventions geared toward healthy aging. These interventions addressed social and medical needs using both clinical and social prescriptions. The HAAI uses an integrated social prescribing approach that is currently implemented in a limited capacity in Canada. This article describes the conceptualization and development of the HAAI, its piloting within the senior service organization, and how it is being used to direct personalized healthy aging interventions (clinical and social). Finally, plans for future testing and use of the HAAI as well as possible policy implications will be discussed.

Conceptualization and Contextual Development of the HAAI

A new model for senior-focused primary care situated within a community-based senior serving organization, first of its kind in Canada, opened in March 2018. The clinic was unique in three ways; firstly, primary care at the interprofessional clinic was co-developed by seniors and social service staff; secondly, the clinic director was a Nurse Practitioner (NP) and NPs were the most responsible providers; and thirdly, the clinic partnered with a local university's Faculty of Nursing to facilitate scholarship and teaching. Key to the model's implementation was the embeddedness of clinical staff providing primary care within the social service

organization, partnering predominantly with social workers, community navigators, and volunteers on site. The prevailing belief was that a community-based approach to primary care facilitated each professional's participation to their full practice scope, and that this model created a network of support options for older adults addressing a variety of social determinants of health. Through the addition of primary care access on-site, seniors were able to complete financial resource/housing applications requirements, as well as seamless referrals to other community-based organizations that support health. This unique, integrated, community-based approach provided services not previously experienced by older adults in the city's downtown core.

Prior to the clinic opening, the implementation team worked in collaboration with the seniors' organization to develop an evaluation plan to understand the unique impacts of an integrated health and social services model of care delivery as it aligned with a new provincial Healthy Aging Framework (HAF). The HAF influenced strategic planning and served as a framework for the evaluation plan in this senior-serving organization. The HAF incorporated the WHO's Determinants of Healthy Aging to support outcomes, indicators, and interventions (AASC 2019). It was evident from the beginning of project planning that novel tools were needed to understand the nuances of an under-resourced population of older adults, focusing on both medical and social needs. At the time, in-house organizational evaluation measures were focused on quantitative outputs and were not sensitive enough to capture the integrated processes of the new clinic model. The team also wanted to develop a tool that was directive in terms of recommending personalized interventions for specific population needs. The HAAI emerged as a means to meet these needs.

The Healthy Aging Asset Index

HAAI Development

A literature review was conducted, considering scholarly publications and grey literature related to complexity in an older and/or underserved population. The review identified tools relevant to unique aspects of seniors aging in community, such as; polypharmacy (Huyse, Steifel, and De Jonge 2006b; Raïche, Hébert, and Dubois 2008; Wild et al. 2011), occurrence of chronic conditions (Huyse, Steifel, and De Jonge 2006b; Raïche, Hébert, and Dubois 2008; Shukor et al. 2019; Wild et al. 2011), last medical appointment (Healthconnection 2014; Peek, Baird, and Coleman 2009; Raïche, Hébert, and Dubois 2008), substance use (HealthConnection 2014; Shukor et al. 2018; Shukor et al. 2019), and attachment to a primary provider (Peek, Baird, and Coleman 2009; Shukor et al. 2018, Shukor et al. 2019). Several of these tools were deemed insufficient mostly due to a lack of pertinent social assessment indicators and a focus on hospital discharge of older adults (Wild et al. 2011). The most relevant pre-existing tool, a local intake tool from an inner-city non-profit, was selected as the starting point for HAAI development, as it incorporated social vulnerability factors of interest to our work. None of the tools reviewed by the team included a focus on strength instead of

deficit components. A strengths-focused orientation was imperative to the social work team. This approach aligned well with the current practices and values at the organization, which emphasized older adults' capacity, accumulated over years of life, optimized within a support network of family, friends, and care providers. Identifying and working with what seniors bring to their care relationship meaningfully fosters inclusion, validation, and empowerment (Mendenhall and Carney 2020).

The literature review, local intake tool, and the HAF informed the development of the HAAI, with the intent to implement it as a component of all new-client visits to the NP primary care clinic on site. The tool was integrated into the clinic's electronic medical record for easy reporting, and to streamline data extraction that would be used to inform the integrated model evaluation for funders. It was critical, given that implementation of the HAAI aligned with onset of the COVID-19 pandemic, that the tool could be used in person and via telehealth, to facilitate ongoing support for older adults living in community during this crisis. The tool would be used by assessors from both health and social professional groups which meant that it had to be understandable and reliable across different sectors. The HAAI needed to include strengths-based language, focus on a range of both social and clinical determinants, be easy to use, intervention focused, and scoreable to use for evaluation and reassessment plans.

The HAAI incorporates seven categories in alignment with the HAF/WHO's Determinants of Healthy Aging (AASC 2019); scoring occurs in each subcategory and as a total. Scores range from zero to three with scores of zero indicating low complexity without a need to intervene. Scores of one and above in a subcategory trigger clinical and social prescriptions to address vulnerability factors in a similar fashion to the scoring guidance on other complexity tools (Peek, Baird, and Coleman 2009). Clinical prescribing focuses on typical medical needs, for example, referral to a specialist, or prescription optimization. Social prescribing focuses on needs which are not immediately identifiable as "clinical" despite their potential health impact (BMA 2019). These prescriptions include referrals to diet/activity programs, housing or financial supports, community engagement opportunities, public prescription benefit programs, the local safe house, transportation support or mental health and substance use supports. Specifically, the most effective social prescriptions are those which are supported by workers embedded in the community, who have built connections with diverse voluntary, community, and social resources (Tierney et al. 2020). The HAAI total score quantifies the overall resilience/healthy aging assets of seniors living in community.

HAAI Pilot Testing

Initial implementation of the HAAI included assessments for all seniors accessing primary care on site. Assessments were initially completed in person during a health appointment by NPs, NP students, or baccalaureate nursing students who were completing a community nursing placement in the organization. The purpose of this assessment was to provide primary care NPs with knowledge of each senior's potential for healthy aging and possible

deficits which was used to inform individualized interventions to improve seniors' healthy aging trajectories.

The initial sample of HAAs completed within the active clinic setting informed content validation, and changes were made using quality improvement processes directed towards administration and content/language. Feedback from students administering the HAAI highlighted a need for standardized questions for each subcategory, to ensure clarity for the assessor and senior. Nursing students created pilot questions, which were honed over time.

Subsequent HAAI use incorporated these question prompts with social and clinical team members offering further suggestions for iterative improvements. Since social workers (SW) did not have medical experience, the prompts were important to build competence with the tool and prescribing. SW team members suggested adding a column for social and clinical prescriptions to support seniors with specific healthy aging needs/vulnerabilities. As the HAAI evolved through repeated use, additional intervention choices were added to facilitate the progression from issue identification to active management approaches. The HAAI could now be used to inform individualized intervention plans for healthy aging addressing areas of vulnerability, at the same time identifying functional assets and resilience factors. Intervention plans were developed using a case-management approach and supported non-medical staff to enact clinical and social prescriptions connecting the senior to community or health resources. This approach also supported community connectors to take the lead on service coordination for seniors to assist them in healthy aging at home.

Funding was secured in fall 2019 to officially pilot the HAAI with seniors identified as moderately frail. We used the Clinical Frailty Scale (CFS) to identify a group of older adult participants with whom additional screening might be completed. The HAAI was used to assess assets and vulnerabilities related to healthy aging. As previously stated, the HAAI was originally developed to be completed during in-person assessments by NPs or other health professionals in the primary care clinic, but limited access to NPs necessitated revising the assessment for use by other professionals. In retrospect, administration of the tool by different professional types led to a breadth of perspectives during iterative tool development, and a more robust community/social services approach to implementation. The pandemic prompted a pivot to a virtual frailty score (VFS); questions were developed and used to mimic the objective assessment of the CFS. This work is described elsewhere. A newly hired SW was trained to administer both the VFS and HAAI to seniors living in the community via phone and provided navigation support in a Community Connector role which is well described in the social prescribing literature (BMA 2019). The use of the HAAI is not limited to professional SWs, however, and was developed so that non-medical personnel could be involved in frailty screening and intervention. The HAAI was implemented with relative ease by Community Connectors, given the synergy between the holistic, interdisciplinary design of the tool and the relational SW approach.

Over the duration of the pilot testing, 130 individuals were screened using the VFS to identify a quality improvement cohort (those identified as moderately frail). Older adults (\geq

50 yrs. of age) identified as moderately frail ($n = 92$) were offered the opportunity to receive a HAAI assessment. Seventy-three seniors completed the HAAI with a Community Connector, leading to a shared intervention planning exercise. This project group was reassessed with the HAAI at three, six, and twelve months of the intervention (see Figure 1). Frailty screening using the VFS was repeated at six and twelve months allowed measurement of change in scores over time and facilitated analysis of the tool’s effectiveness in improving function and reducing the HAAI scores of seniors within the improvement group.

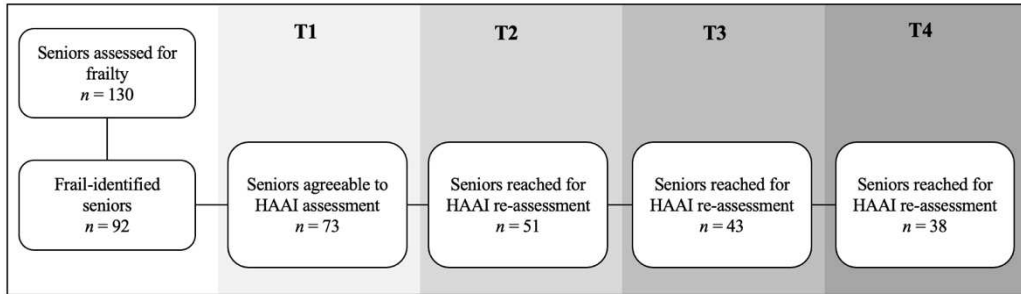


Figure 1: Number of Assessments by Assessment Timepoint

Further work during this pilot project included the addition of standardized interventions for asset development to support the senior in healthy aging efforts in the community. The addition supported non-medical professionals to identify and implement a wide range of interventions, either clinical or social, contributing to conversations that could facilitate diverse preventive supports. This practice, facilitated by the HAAI, builds on the concept of a social prescription as a structured system of referring people to a range of non-clinical services while leveraging the community-based sector to support individual needs. The emergence of social prescribing as a health solution arises from the realization that 80 to 90 percent of peoples’ health depends on adequate food, education, employment, income, and relationships with others (Mulligan et al. 2020). In traditional social prescribing models, Community Connectors are consulted by clinicians, referrals are activated by medicine and flow to the social sector. However, there is no indication that activating social prescribing from the social sector to medicine is less valid or effective.

The purpose of the HAAI is to expand the system’s capacity to assess complex needs (social and clinical) of older adults and identify interventions to address issues contributing to increased frailty. Additionally, the HAAI is meant to optimize the assessor relationship to ensure that interventions align with a senior’s current goals and assets. Use of solutions-focused coaching and motivational interviewing (Chapin et al. 2016) may contribute to the HAAI as a collaborative tool that facilitates active partnership. Interventions can be implemented in early stages (Peek, Baird, and Coleman 2009) reducing vulnerability to frailty. Frailty prevention may be an underutilized approach as SW interventions are often reactionary, designed to be implemented if needed (Rishel 2015). Conversely, the HAAI was

developed to shift beyond the reactionary to a philosophy which focuses on long-term wellness—a preventive approach for which many SW professionals have advocated (McCave and Rishel 2011). Prevention during social need may come across to individuals as abstract, yet the HAAI's interventions were designed to establish forward-looking supports and trigger regular reassessment of assets—a strength of the tool in real-use scenarios.

Results

Initial data obtained from the pilot testing of HAAI implementation are promising. Assessment and reassessment scores showed overall improvement in the HAAI score over time. Reassessment of individual's scores at three, six, and twelve months allowed for identification of high need areas, or areas with significant function reduction, yet also highlighted assets for each senior. In addition, aggregate scores obtained over the project supported high-level evaluation and program planning, which may bring benefit to larger groups of older adults served by the organization.

During the pilot testing, the quality improvement cohort of moderately frail individuals engaged with the Community Connector to assess their aging assets and vulnerabilities. This assessment informed the development of interventions intended to improve the functional status of the seniors, with the goal of reducing their level of vulnerability over time. Reassessment of the quality improvement group allowed for measurement of change and contributed to statistical analysis of the HAAI tool.

Overall Statistical Significance and Test Selection

Given the type of data and number of seniors assessed, a regression model fitted to panel data with random effects was most appropriate. Due diligence also suggested statistical models be run using standard ordinary least squares regression, ANOVA, and panel data with fixed effects. Panel data regression is more appropriate than ANOVA in this case as it allows for missing values. Random effects were used to test the significance of client age and gender.

A statistically significant reduction in HAAI score was observed for clients at the twelve-month assessment when compared to their intake score. The reduction is equal to drop of 4.1 points (± 1.49 , 95%CI, significant at the $p < 0.001$ level) in the total, controlling for age and gender. Table 1 presents the regression results for the overall HAAI score. Time, age, and gender together explain about 20 percent of the change in HAAI score within individuals and just under 12 percent of the differences in HAAI score between individuals. When compared to the initial assessment, there is no significant change in HAAI score at three- or six-month time points. Women, compared to men, do not have a statistically significant different HAAI score. When compared to 50- to 64-year-olds, HAAI scores are not statistically different for 65- to 74-year-olds, but they are significantly lower by 6.51 points ($p < 0.01$) for clients aged 75+. The 65- to 74-year-olds did not vary significantly from 50- to 64-year-olds.

Table 1: Variable Regression Coefficients

Assessment Time Point	
Initial	Reference Category
3 months	-0.20069749
6 months	-1.1092864
12 months	-4.1009969 ***
Client Gender	
Female	Reference Category
Male	0.59109606
Client Age Category	
50-64	Reference Category
65-74	-4.0375
75+	-6.51449 **
Constant 19.43909	
*p<0.05; **p<0.01; ***p<0.001	

Lowest and Highest Scoring Domains

Summary means and standard deviations at each time point were produced for each domain; these are reported in Table 2. The highest scoring domains at both the initial and twelve-month time points were Physical Health and Social Engagement. The lowest scoring domains at both the initial and twelve-month month time points were Safety and Security and Personal Well-being.

Table 2: Means, (Standard Deviations), and Number of Observations of Scores by Domain

Assessment Time Point	Mental Health Out of 12 (output line 57)	Personal Well-being Out of 9 (output line 63)	Physical Environment Out of 9 (output line 69)	Physical Health Out of 12 (output line 75)	Safety and Security Out of 6 (output line 81)	Social Support Out of 9 (output line 87)	Social Engagement Out of 9 (output line 93)
Initial (n=73)	1.9863 (2.1180)	0.8356 (1.3334)	2.2602 (1.9438)	4.8082 (2.757)	0.9863 (1.3070)	1.3288 (1.1792)	3.3151 (1.8773)
3 mo (n=51)	1.8627 (1.6373)	0.7254 (1.1150)	1.8627 (1.4286)	5.3137 (2.3365)	0.5098 (0.8092)	1.6274 (1.0576)	3.6863 (1.7606)
6 mo (n=43)	2.1395 (1.6559)	0.4186 (0.8517)	1.8372 (1.3961)	5.2790 (1.8939)	0.3953 (0.6226)	1.5349 (0.9089)	3.5116 (1.4699)
12 mo (n=38)	1.7105 (1.4870)	0.3421 (0.8146)	1.3421 (1.0469)	4.5789 (2.3782)	0.3158 (0.5745)	1.2632 (0.9497)	2.2105 (1.4733)

Changes in Domain Score over Time

Table 3 summarizes regressions done for each domain score at each time, accounting for client gender and age. Statistically significant decreases in score occur at all time points after the initial intake in Safety and Security, an overall 0.6382 decrease in score. Personal Well-being and Physical Environment see statistically significant decreases from six months on. Mental Health and Social Engagement see significant decreases only at the twelve-month mark.

Males did not vary significantly from females on any domain. Where age varied significantly, it showed lower scores for older age groups compared to 50- to 64-year-olds. The 65- to 74-year-olds and 75+ year-olds had statistically significant lower scores in Mental Health, Safety, and Security, and Social Engagement. Seventy-five+ year-olds also had statistically significant lower scores in Physical Environment.

Table 3: Summary of HAAI Regression Fitted to Panel Data with Random Effects, Decomposed by Domain

	Domain						
Variable	Mental Health (out of 12)	Personal Well-being (out of 9)	Physical Environment (out of 9)	Physical Health (out of 12)	Safety and Security (out of 6)	Social Support (out of 9)	Social Engagement (out of 9)
Time Point							
Initial	ref	ref	ref	ref	ref	ref	ref
3 mo	-0.0798	-0.0987	-0.3304	0.2025	-0.3821***	0.3407*	0.2264
6 mo	-0.0862	-0.3292*	-0.4923**	0.1095	-0.5625***	0.2896	0.0515
12 mo	-0.4807*	-0.4945**	-0.8170***	-0.4639	-0.6382***	0.0533	-1.2147***
Client Gender							
Female	ref	ref	ref	ref	ref	ref	ref
Male	-0.4678	-0.0483	0.3332	0.1360	0.0708	0.3954	0.2673
Client Age Category							
50-64	ref	ref	ref	ref	ref	ref	ref
65-74	-1.6795**	-0.1844	-0.8233	0.4291	-0.8358**	0.2233	-1.1505*
75+	-1.9816***	-0.2394	-1.8825***	-0.4730	-0.9145**	0.0549	-1.0425*
Constant	3.5441***	1.0098***	3.1871***	4.7363***	1.6647***	1.1038***	4.1188***

* p<0.05; ** p<0.01; *** p<0.001

Discussion

Data collected during the HAAI pilot project prompts thoughtful consideration of the following results. First, the HAAI was able to capture social and clinical needs of a moderately frail population. Assessments were completed by both healthcare and social work providers using both in-person and virtual methods. Second, the HAAI detected changes in scores over time in response to clinical and social prescribing, albeit the time required to see these changes was longer than anticipated. Finally, the highest scoring HAAI domains at both the initial and twelve-month assessments were Physical Health and Social Engagement and the lowest scoring HAAI domains at both the initial and twelve-month assessments were Safety/Security and Personal Well-Being.

Enhancing the capacity to screen older adults, especially those experiencing frailty, for the potential of functional decline is even more important as the number of individuals in this group increases (Mino-León et al. 2017). Our study presents the development of a new tool (the

HAAI) that demonstrates promise in capturing both the social and clinical needs of this important population. Both health and social workers were engaged in the development and administration of the HAAI. This type of care model, which supports management from both the community and social sectors, has the potential to reduce costs and improve workforce stability. Previous research highlights the importance of effective measures in the primary care sector; those interventions embedded in the community can help to reduce pressure on higher levels of care such as hospitals and supported living environments (Mino-León et al. 2017). Policy changes targeting primary prevention in community organizations through the engagement and utilization of multiple providers may have a greater likelihood of reducing future functional decline and costs at the individual, community, and system levels.

Modern healthcare reform has moved the care of older adults out of facilities and into the community, but services that were present in facilities are less accessible in the community. The social determinants of health increase medical comorbidity, amplifying issues with the social determinants of health (Wilson, Holt, and Greenhalgh 2001). Accurate assessment of complexity, as it interacts with the social determinants of health, is critical such that interventions optimally enhance function across domains.

The HAAI detected changes in individual scores over time. However, statistically significant improvements in HAAI scores required longer term engagement between the connector/link worker/navigator and the older adult. One reason for the time required to change of scores could be related the relative importance of the therapeutic relationship, a particularly important aspect to working with older adults in the social sector (Todd 2017). Relationship building takes time, to allow for incremental steps moving toward long-term functional goals. Previous studies suggest that individuals with significant social and clinical needs were more likely to benefit from integrated navigation services such as independent social interventions, a continuous relationship with community support, client-practitioner partnership, and a cohesive approach to the person's needs (Huyse and Stiefel 2006a; Huyse, Steifel, and de Jonge 2006b; Youdin 2014). Data obtained throughout the HAAI pilot project will be used to further validate the HAAI and the process, though more work is needed to definitively demonstrate long term outcomes and return on investment from its implementation.

Finally, the highest scoring HAAI domains at both the initial and twelve-month assessments were Physical Health and Social Engagement and the lowest scoring HAAI domains at both the initial and twelve-month assessments were Safety/Security and Personal Well-Being. This indicates that moderately frail older adults in this sample set had the most vulnerabilities in their Physical Health and Social Engagement domains. In the Safety/Security and Personal Well-Being domains, their scores were low, demonstrating their resilience in these areas. If this trend continues in larger samples, it will provide direction to community organizations in terms of financial investments needed to support these older adults.

Limitations

Several factors limit the current generalizability of HAAI use; however, this pilot project demonstrated promising results. First, the HAAI was initially developed as a self-report tool to be used when conducting in-person assessments. The pivot to virtual assessment had the unintended effect of removing the ability of the assessor to confirm reports during the screening as most HAAI assessments were completed over the telephone. Since the project took place during the COVID-19 pandemic, the pandemic itself could have contributed to various vulnerabilities in the project participants. As well, determinants of healthy aging assessed initially occasionally worsened over time due to external contributing factors.

Second, the development of the HAAI took place iteratively, with the input of multiple interprofessional team members. This process enabled significant alignment of the tool across disciplines and ensured usability and development of a comprehensive intervention list. However, the nature of the assessment necessarily depends on the subjective interpretation of a HAAI conversation by the assessor, which makes establishing interrater reliability difficult.

Third, a larger improvement group was desired and initial project proposals forecast 300 participants, but the closure of the embedded NP clinic and the onset of the COVID-19 pandemic limited access to older adults in the community who might benefit from HAAI assessment. One of the evaluative goals was to determine reliability and validity of the HAAI, but currently, due to the small size of the quality improvement group, psychometric assessment of the HAAI itself is not possible. Analysis showed that, although gender was not statistically significant, men consistently had higher scores on the HAAI. Since there were far fewer men than women in the study, the lack of statistical significance may be related to the small sample size.

Participant dropout rate was higher than anticipated, with documented reasons including lost to follow-up or declined assistance ($n = 12$), mortality ($n = 5$), cognitive concerns ($n = 3$), hospitalization or requiring an elevated level of care ($n = 2$), or relocation away from the local geographic region serviced by the organization ($n = 2$). When stratified by age group, clients aged 65 to 79 had the highest non-completion rate ($n = 12$), followed by 80+ ($n = 8$), then 50 to 64 ($n = 4$). While seniors were informed of the twelve-month follow-up period of services, seniors could terminate their relationship as a service user at any time due to the voluntary nature of community-based programs. HAAI pilot project staff were instructed to make three attempts at minimum, through both phone calls and written letters, to reach seniors for HAAI re-assessment before closing their file. Several individuals ($n = 11$) did not receive a twelve-month HAAI re-assessment as they had accessed the HAAI pilot project for assistance less than one year prior to project completion. Despite project efforts to promote data integrity and to accommodate missing values in statistical analysis (such as using panel data regression with fixed effects), the need to balance the provision of voluntary services with collecting long-term follow-up data in a community setting does pose a unique challenge to maximizing validity.

Implications for Research and HAAI Use

Although the HAAI Pilot Project has been completed, plans are underway to engage in additional work to assess the psychometrics properties of the tool. More specifically, future research will focus on content validity through use of a Delphi process, inter-rater reliability, and construct validation. Recommendations for future research after the tool has undergone more rigorous testing will include more male participants, a control group, and a focus on understanding the effect of HAAI interventions on scores.

Costs in health care are skyrocketing and increasing numbers of older adults accessing care are contributing to these costs. Optimization of community-based approaches to support older adults is essential for the health of our society, the universal wellbeing of older adults, and the affordability of care for this segment of the world's population. Facilitating a shift from medico-centric approaches to care for this population to a more collaborative social based approach to health will require system redesign, and a stronger coalition between medical services and the community-based senior-serving sector. Health system policy at the provincial and national level needs to emphasize and fund primary preventive screening and root cause interventions to control costs. Further to this, incorporating the right professionals to mobilize HAAI assessments from non-medical fields will help to appropriately target social prescribing, and could reduce health system cost overrun. The HAAI is a promising tool to support policy and practice shifts towards social interventions and social prescribing aimed at supporting the desire of many older adults to age in place in community.

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Informed Consent

The author has obtained informed consent from all participants.

Conflict of Interest

The author declares that there is no conflict of interest.

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