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Developing a Frailty Care Pathway for Older Adults in Long-Term Care: A Modified Delphi Process

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Article

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Abstract

Objective: We developed a clinical care pathway for the detection and management of frailty for older adults living in long-term care (LTC) homes.

Methods: We utilized a modified Delphi with residents of LTC homes experiencing frailty, their caregivers, and care providers. The pathway was created using existing literature and input from key LTC experts.

Findings: Fifty-two panelists completed round one of the Delphi, and 55.8% of these respondents completed round two. Both rounds had high agreement and ratings. We added six new statements following analysis of round two, and 15 statements were modified/updated to reflect panelist feedback. The final pathway included 28 statements and promotes a resident-centered approach that highlights caregiver involvement and inter-professional teamwork to identify and manage frailty, as well as initiate palliative care earlier.

Conclusion: Implementing this pathway will allow health care providers to adopt screening measures and adapt care to a resident's frailty severity.

Résumé

Nous avons élaboré un parcours de soins cliniques pour la détection et la prise en charge de la fragilité chez les personnes âgées vivant dans des établissements de soins de longue durée (ESLD). Nous avons utilisé un modèle Delphi modifié auprès de résidents d'ESLD fragilisés, leurs aidants et leurs prestataires de soins. Le parcours a été créé à partir de la littérature existante et de contributions d'experts clés en matière de soins de longue durée. Cinquante-deux panélistes ont participé à la première phase du modèle Delphi, et 55,8% d'entre eux ont participé à la deuxième phase. Les deux phases ont donné lieu à un niveau élevé de consensus et à des notes élevées. Nous avons ajouté six nouvelles déclarations à la suite de l'analyse des données de la deuxième phase, et quinze déclarations ont été modifiées/mises à jour afin de tenir compte des commentaires des panélistes. Le parcours final comprend 28 déclarations et prône une approche centrée sur les résidents qui privilégie la participation des aidants et le travail d'équipe inter-professionnel afin de déceler et de prendre en charge la fragilité, et d'instaurer les soins palliatifs plus tôt. La mise en œuvre de ce parcours permettra aux prestataires de soins de santé d'adopter des mesures de dépistage et d'adapter les soins selon la gravité de la fragilité de chaque résident.

Introduction

Frailty is an age-related syndrome of vulnerability to stressors (Andrew et al., 2020; Clegg et al., 2013; Gilmour & Ramage-Morin, 2021; Harwood & Enguell, 2022; Kojima, 2015; Lorbergs et al., 2021) present in 52.3% of long-term care (LTC) residents (Kojima, 2015). It is associated with

increased dependence (Kojima, 2015) and disability (Aranha et al., 2020; Clegg et al., 2013; Kojima, 2015) as well as functional decline (Aranha et al., 2020; Hamaker et al., 2020; Harasym et al., 2020; Harwood & Enguell, 2022; Kojima, 2015; Lorbergs et al., 2021), hospital admissions (Aranha et al., 2020; Harwood & Enguell, 2022; Kojima, 2015), and greater risk of mortality (Aranha et al., 2020; Harasym et al., 2020; Kojima, 2015), among other negative health outcomes (Aranha et al., 2020; Clegg et al., 2013; Gilmour & Ramage-Morin, 2021; Harasym et al., 2020; Harwood & Enguell, 2022). Frailty is on a continuum, with those at higher degrees of frailty being at greatest risk (Aranha et al., 2020; Gilmour & Ramage-Morin, 2021).

However, there is no standard approach to the assessment and management of frailty in Canadian LTC homes (Muscedere et al., 2016). This lack of standardized approach results in suffering, as LTC residents must wait to access services to alleviate symptoms associated with frailty and reduced quality of life (Buckinx, 2017). To reduce this suffering, there is a need to develop a pathway that identifies frailty and delivers resident-centred care to the needs of residents (Boscart et al., 2018; Muscedere et al., 2016; Sussman et al., 2017). Resident-centred care advocates for a resident's care and considers their and their caregivers' desires and wishes for care, including goals of care (Muscedere et al., 2016).

This pathway should start with a systematic approach to the detection of frailty. Once identified, the many effective interventions to address frailty can be selected (Avgerinou et al., 2020; Clegg et al., 2013; Hubbard et al., 2013; Lorbergs et al., 2021). For example, a comprehensive geriatric assessment (Rubenstein et al., 1991), promotion of physical activity/exercise (Freiberger et al., 2016), nutritional interventions (Lorbergs et al., 2021), addressing polypharmacy (Hubbard et al., 2013), and/or palliative care may be appropriate (Kaasalainen et al., 2020).

Any person living with an incurable condition, such as frailty, could benefit from a palliative approach that aims to provide comfort and improve quality of life through person-centred care. Palliative care improves the quality of life of both older adults and their caregivers by relieving pain and other distressing symptoms (Carter et al., 2021; Harwood & Enguell, 2022). Unlike illnesses such as cancers, where the terminal phase is more easily identified, it can be difficult to determine when palliative care should be initiated in frailty (Hamaker et al., 2020).

Our objective is to develop a care pathway to improve the detection, management, and eventual palliation of frailty for LTC residents.

Methods

A modified Delphi process was conducted from March 2021 to October 2021. This method was selected to support the achievement of consensus on issues that are complex and/or controversial (Boulkedid et al., 2011; Hasson et al., 2000; Jones & Hunter, 1995). The Delphi was modified by scheduling a voluntary meeting between rounds one and two, allowing the study team to report preliminary findings and meeting participants to provide further feedback that could be incorporated into round two (Boulkedid et al., 2011). The meeting consisted of the study team and interested panelists (including caregivers). Ethics approval was obtained from the Conjoint Health Research Ethics Board (CHREB20–2212), and informed consent was obtained from all panelists.

Initial pathway development and review

The pathway utilized resources already developed and evaluated (Ahmed et al., 2023; Biondo et al., 2019; Kaasalainen et al., 2020). These resources focused on palliative care and advanced care planning within LTC. They also identified the barriers and facilitators to end-of-life care in LTC homes and what interventions promoted uptake were also considered (Harasym et al., 2020; Harasym et al., 2021). We utilized these resources by adapting them to frailty to better ensure their relevancy. These data, combined with pooled input from international experts and resident-family advisory councils as well as research conducted by the study team, resulted in a series of initial statements ($n = 24$) (Ahmed et al., 2023; Biondo et al., 2019; de Villiers et al., 2005; Harasym et al., 2020; Harasym et al., 2021; Kaasalainen et al., 2020). Initial statements were drafted and organized into five sections to follow the typical order in which organizations approach care and how a pathway should be applied: (i) detection of frailty, (ii) identify resident needs and contributors to frailty, (iii) illness understanding and communicate prognosis, (iv) coordinate care, and (v) manage resident needs and symptoms. Statements were refined through three rounds of feedback from the expert members of the study team (including geriatricians, care of the elderly physicians, LTC researchers, and nurses) prior to inclusion in the draft questionnaire. The draft was piloted with the co-investigators of the study team, and feedback obtained was incorporated into the questionnaire finally used for round one of our modified Delphi process.

Inclusion criteria and recruitment

Using purposive and convenience sampling, eligible individuals were invited to take part in the modified Delphi process. Eligible participants were residents of LTC homes experiencing frailty or persons who knew or cared for LTC home residents living with frailty (Hasson et al., 2000). Specifically, health care providers (e.g., doctors, nurses, health care aides, and allied health care workers), health care leaders (such as managers), policy makers, family/friend caregivers, and resident partners were targeted for recruitment from across Canada. LTC organizations aided in panelist recruitment to promote those with more experience within LTC homes (About Us – Bethany Seniors, n.d.; The AgeCare Difference, n.d.; The Brenda Strafford Foundation Ltd. | Overview, n.d.). Inclusion criteria were broad to maximize the perspectives, experiences, and expertise of potential panelists.

Recruitment of panelists, nationally, consisted of three methods: emailing respective networks via organizations' administration, the study team posting on their Twitter accounts, and snowball sampling (i.e., invited individuals could share with others) (Emerson, 2015; Savard & Kilpatrick, 2022). Posters were sent to potential participants with a direct link or QR code to the survey, allowing for ease of access.

Delphi rounds

We conducted two Delphi rounds, with an additional third round if further consensus was needed. This is based on recommendations from the literature (Boulkedid et al., 2011). In the first round, the developed questionnaire was shared with the enrolled panel. After the first round, panelists received the analysis (i.e., median, range) of the first round, their individual response, and a summary of comments received (Boulkedid et al., 2011).

Our modified Delphi process consisted of two rounds using the electronic platform, Qualtrics (2023) (Qualtrics XM – Experience Management Software, n.d.), for dissemination and response

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collection. Panelists received a link to the survey through an introductory email. Consent was obtained before panelists could proceed to the survey. Next, panelists filled out demographic information, including sex, gender, age group, role, years in role, language (s) most spoken at home, and place of birth. For round one, they then rated statements in the proposed pathway on either a 7-point Likert scale or by choosing "Yes/No" (McMillan et al., 2016). Panelists could choose not to answer a statement and to provide feedback after each statement if they felt it was necessary to add any comments or had other suggestions.

Following the completion of round one, all panelists' feedback on the questionnaire was compiled into a single document and reviewed by another author. All relevant comments and feedback from panelists were highlighted by two authors, reviewed by the core study team, and used to refine questionnaire statements. Feedback was grouped by themes to allow the study team to better understand barriers and facilitators to implementing the pathway. However, no specific analysis method was used to group. The amalgamated questionnaire was then sent to the core study team for editing, revisions, and approval. The core study team feedback was reviewed and finalized. The edited questionnaire provided the statements used for round two. Round one panelists who submitted complete responses were invited to take part in round two.

Invitation to round two included a panelist's signed consent form, their responses to round one, and the link to round two. Round two allowed the panelists to compare the original and revised statement, the median and range of the original statement, and narrative comments from round one. This is in line with the common Delphi procedure methodology, which informs panelists of how their responses compare to the group's (Boulkedid et al., 2011). Panelists first confirmed their consent to participate before rating the round two statements on a 7-point Likert scale or by choosing "Yes/No" to the respective statements. The same process for reviewing panelist feedback was repeated, and the finalized pathway consists of the edited statements. A potential round three would follow the same process as round two.

After each round, group results were reviewed and analyzed using Microsoft Excel (2023), version 2208 (Microsoft Excel Spreadsheet Software | Microsoft 365, n.d.). All communication and surveys were conducted in English.

Consensus process synthesis and pathway creation

To generate the care pathway from round two, we compiled all the feedback and incorporated it into the statements. In addition, median, interquartile ranges (IQR), mean, standard deviation, and range were calculated. Agreement was determined if the median was ≥6 using the 7-point Likert scale and ≥75% for "Yes/No" questions. A draft of the final pathway was sent to the study team for review. The study team recommended edits as per panelist feedback and ratings. Statements with high agreement would be carried into the final pathway, while lower-rated statements would be refined according to the study team recommendations and, finally, added into the final pathway. Once all statements had been reviewed and refined, the final care pathway for frailty was created.

Results

Process overview and panelists

Initial development of the Delphi process included drafting the round one questionnaire, refinement, and piloting of round one before sending it off for panelist recruitment. Rounds one and two followed similar processes of recruitment, followed by analysis and statement refinement and/or clarification. Twenty-three participants were lost between round one and round two for an attrition rate of 44.23%. Supplementary Figure F1 presents a flow diagram of our Delphi process.

Fifty-two panelists completed round one of the modified Delphi process. Among the initial panelists were 14 physicians, 6 family/friend caregivers, and a combination of 32 nurses (including registered nurses, licensed practical nurses, and nurse practitioners), health care aides, managers, and other experts (e.g., social workers, support staff). No LTC home residents took part. The panelists were mostly female (n = 45, 86.5%) and born in Canada (n = 41, 78.8%). Less than half of the panelists were between the ages of 35 and 49 years (n = 22, 42.3%), and nearly a third had over 15 years of experience in their roles (n = 19, 28.8%) (Table 1).

Table 1. Demographics of frailty Delphi process panelists collected at round one

	Number (%)
Total number of completed responses	52
Sex	
Female	45 (86.5)
Male	7 (13.5)
Gender	
Woman	45 (86.5)
Man	7 (13.5)
Age group	
18–34	12 (23.1)
35–49	22 (42.3)
50–64	17 (32.7)
65–74	0 (0)
75–84	1 (1.9)
85+	0 (0)
Background	
Family/friend caregiver	6 (11.5)
Nurse (i.e., RN, LPN, NP)[a]	17 (32.7)
Health care aid	6 (11.5)
Physician[b]	14 (26.9)
Support staff (e.g., manager, researcher)	6 (11.5)
Social worker	3 (5.8)
Years as role	
1–5 years	7 (13.5)
6–10 years	14 (26.9)
11–15 years	11 (21.2)
15+ years	19 (36.5)
Missing data	1 (1.85)
Language(s) most spoken at home	
English only	47 (90.4)
English and another language	4 (7.7)
Other	1 (1.9)
Place of birth	
Canada	41 (78.9)
Other	11 (21.2)

[a]RN = registered nurse; LPN = licensed practical nurse; NP = nurse practitioner.
[b]Includes family physicians, geriatricians, psychiatrists, and other physician sub-specialties.

Round one

Round one consisted of 26 statements and was open from March 24, 2021, to June 25, 2021. It had high agreement with all statements using a Likert scale, receiving a median score of 7. Most statements had an IQR = 1. "Yes/No" statements also had high agreement

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Table 2. Median and interquartile range for each section of the finalized frailty care pathway

Section of frailty care pathway	Median	IQR
Detection of frailty	7	1
Identify resident needs and contributors to frailty	6.5	1
Illness understanding and communicate prognosis	7	1
Coordinate care	7	1
Manage resident needs and symptoms	7	1

levels. Supplementary Table S1 presents the analysis of round one. Written feedback from panelists and scoring range were used to reframe, rewrite, or clarify statements. A summary of written feedback is provided in Supplementary Table S2.

The highest-rated statements dealt with the resident, family/friend caregivers, and inter-professional team in care planning. The four lowest-rated statements (statements 1, 2, 4, and 5) fell within the first section of the pathway, *Detection of Frailty*. However, all of them still received high levels of agreement (median = 7, IQR = 1).

Round two

Round two was sent to panelists on September 7, 2021, and closed on October 25, 2021. It was completed by 29 of the 52 potential panelists (55.8%). In the second round, mid to high levels of agreement to the statements were seen (see Table 2). No statements were dropped from round two. Fifteen statements were modified/updated after analysis and incorporating feedback. Some statements included in round two (n = 28) were edited as required to reflect feedback from round one. Two statements were merged in the *Detection of Frailty* section. Three new statements were added based on the feedback obtained from round one. In the *Illness Understanding and Communicating Prognosis section*, two new statements were added regarding communicating frailty diagnosis and conversations that should occur among health care providers, residents, caregivers, and loved ones. One new statement in the *Manage Resident Needs and Symptoms* section focused on end-of-life care. Supplementary Table S3 presents the analysis of round two.

Pathway development and final results synthesis

The final pathway includes 28 statements under the 5 main sections (see Figure 1 for an overview of pathway and Supplementary Table S4 for the detailed pathway). The detection of frailty section (i) focused on how and when to identify frailty, who should be involved, and when reassessment should take place (n = 6 statements). The identification of resident needs and contributors to frailty section (ii) highlighted the importance of contributing factors to frailty, and how addressing them may reduce frailty severity (n = 2 statements). Section (iii), on communicating accurate information about frailty and its prognosis (n = 6 statements), centred around training and educating staff, residents, and caregivers about frailty and its trajectory. Section (iv) on coordination of care (n = 4 statements) covered when to consult and promote inter-professional involvement. The final section (v) focused on managing resident needs and symptoms (n = 10 statements). These statements included tailoring care plans and addressing symptoms while honoring the beliefs, wishes, and preferences of the resident.

Discussion

A clinical care pathway for frailty in older adults living in LTC homes was developed that spans from detection, identification of resident needs and contributors to frailty, communicating information about frailty and its prognosis, coordination of care, and management of resident needs and symptoms.

Detection and diagnosis

Our study showed a high perceived need for frailty screening and diagnosis (Buckinx, 2017). Panelists agreed that frailty is not currently being systematically detected and diagnosed in a timely manner. This represents a knowledge-to-practice gap in care for those living with frailty, which was evident in the comments received during the modified Delphi process. Using a validated, feasible tool such as the Clinical Frailty Scale to measure frailty would reduce subjectivity and improve reproducibility (Andrew et al., 2020; Clegg et al., 2013; Rockwood, 2005). The detection of frailty could help communicate frailty to other disciplines and then lead to further action, such as addressing and/or mitigating its contributing factors (Muscedere, 2020). Systemic barriers to the detection and diagnosis of frailty exist (Boscart et al., 2018). Moreover, 60–80% of LTC residents have dementia, which complicates prognosis further, as care staff tend to overestimate prognosis in residents with advanced dementia (Payne et al., 2002; Sampson, 2010). Our care pathway recommends the use of an inter-professional care team, working closely with patient caregivers, to help improve the quality of care provided for LTC home residents living with frailty.

Illness understanding and early use of palliative care approaches

We highlight how crucial a shared understanding of frailty is for health care providers, LTC home residents, and family/friend caregivers. Consistent with previous research, we found that education around frailty is needed (Carter et al., 2021; Warren et al., 2022). Providing education and training to staff enables them to provide high-quality care for older adults with frailty and helps support implementation of interventions most likely to be effective (Kojima et al., 2019). Greater residents and family understanding of frailty can also support more informed decision-making (Harasym et al., 2021) and better care plans developed by the inter-professional team, LTC home resident (as able), and family/friend caregivers.

Given the persistent and life-limiting nature of frailty, early discussion of a palliative approach to care is often relevant, though inconsistently undertaken. These discussions about palliative care would, we believe, lead to more informed decisions about care and the importance of both advanced care planning and developing goals of care (Harasym et al., 2021). Panelists agreed that meetings to discuss care should occur at regular intervals and if there is a significant change in a resident's health status.

Management

Once frailty has been diagnosed and inter-professional conversations with residents and caregivers initiated, priorities should focus on adapting care plans, managing resident needs, and addressing symptoms. Interventions specific to the required level of care can take place to support optimal aging and decrease the risk of

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Figure 1. Summary of the frailty care pathway's five sections: detect frailty, identify resident needs and contributors to frailty, illness understanding and communicate prognosis, coordinate care, and manage resident needs and symptoms.

mortality (Gilmour & Ramage-Morin, 2021). Appropriate interventions could include physical exercise, addressing dietary needs, and consultation with other medical professionals uniquely suited to address specific care needs (Gilmour & Ramage-Morin, 2021; Lorbergs et al., 2021). Geriatric medicine/care of the elderly, psychiatry, or palliative care teams should be consulted when there is a need and the resources are available. For example, a comprehensive geriatric assessment delivered by an inter-professional team can assist in identifying contributors to frailty in a given resident, management options for them, and assist in establishing care priorities that can help create a care plan that considers frailty (Clegg et al., 2013).

Limitations

A range of LTC personnel was included in the Delphi to reflect various perspectives, including care partners and health care providers. Residents of LTC homes did not participate. We attempted to share the survey with residents via posters and staff engagement. However, the lack of recruitment was in large part due to virtual recruitment and participation being due to the pandemic. Future studies can mitigate this barrier by providing paper surveys or having a member of the study team administer the surveys. Our recruitment methods tried to reach representative groups through social media and email to cover a diverse population. While we have created a clinical care pathway for frailty in older adults living in LTC homes consisting of a series of statements that have face validity, this pathway has not been validated nor have we addressed the issues that might impede its implementation.

Conclusion and implications

The final pathway promotes a resident-centred approach that highlights caregiver involvement and inter-professional teamwork

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to identify and manage frailty, as well as initiate palliative care earlier. Implementing this pathway will allow health care providers to adopt screening measures and adapt care to a resident's frailty severity. Panelists in our study agreed on the importance of developing a standardized approach to the detection and management of frailty in LTC homes to improve the quality of life of both residents and caregivers. Our study results also emphasize the need to consider a tailored approach for this population on how to plan for, manage, and attempt to decrease the severity of frailty. Incorporating this frailty pathway into already-existing pathways could help to further target and personalize care and provide a more holistic approach to care.

Further work is required to validate the utility of the care pathway, such as peer review and piloting first to understand the feasibility and identify barriers to implementation. Following that, implementation can be expanded and tailored for sites. If results are positive, we propose that this pathway should be integrated into the care offered to LTC home residents with frailty. Adoption of this care pathway will create a baseline that LTC homes and other care providers can refer to when caring for an LTC home resident.

Supplementary material. The supplementary material for this article can be found at http://doi.org/10.1017/S0714980825100123.

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