





# "Falling off the wagon": older adults' experiences of living with frailty in rural arctic communities

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#### **ABSTRACT**

Most populations around the world are ageing. The proportion of older adults in the population is larger and is growing more rapidly in rural communities than in urban areas. Longevity increases the risk of frailty. Our aim was to explore how single-living frail older adults experience living with frailty in everyday life in rural Arctic areas. Over eight months, we conducted a series of three interviews with eight older adults identified as frail by home care services in two rural municipalities in northern Norway. We conducted a thematic analysis. We generated three themes. Frailty as a dynamic phenomenon indicated that the participants' experiences of frailty varied over time. Frailty as part of old age referred to the findings that many participants tried to adapt to the changing circumstances, while others found it more challenging to accept the experienced limitations. Frailty in a rural Arctic context concerned the findings that the rural Arctic environment affected the participants' experiences of frailty due to its long, snowy winters; long distances between communities and municipal centres; and out-migration. Our results demonstrate that frailty is a consequence of the interplay between ageing persons and their physical and social environments.

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# Introduction

Most populations around the world are ageing. The proportion of older adults in the population is larger and is growing more rapidly in rural communities than in urban areas [1–3]. In Norway, the proportion of older adults over the age of 80 living in their own homes with the provision of municipal health and care services is increasing [1,4]. Policies encourage older adults to "age in place", that is, to continue to live in their own homes and communities [5,6]. Generally, this is viewed as beneficial for older adults and is also considered costeffective [3]. Increasing age can lead to illness, disabilities and the need for help and support from health and care services [7,8].

"Frailty" is a concept often used to describe older adults' reduced capacity to maintain physiological homoeostasis to stress and the subsequent risk of developing disease when something out-of-theordinary occurs [9,10]. In some literature, frailty is referred to as a medical condition involving the failure of physical and biomedical functions, and the physical aspects rather than the social and psychological aspects of frailty are emphasised [11,12]. However, this biomedical understanding of frailty has been challenged, and the necessity to include both psychological and social aspects in the understanding of frailty has been emphasised [13,14]. Other literature defines frailty as a condition in which older adults, over time, perceive themselves and are perceived by others to be physically, mentally and/or socially impaired [13-15]. In Norway, there is currently no consensus on how to identify frailty in individual older adults [16].

In this study, we consider frailty to be something that older adults experience themselves and that is affected by older adults' relations and the environments in which they live. Given our acknowledgement of the interplay between an older person's physical and psychological conditions and his or her physical and social surroundings, we suspect that older adults' experiences of living with frailty are shaped by the rural Arctic environments in which they live. Many rural communities are characterised by long geographical distances from other communities and municipal centres, outmigration of the younger generations and insufficient staffing of community health and care services [17].



Moreover, Arctic communities are characterised by a harsh climate involving long, dark winters.

Our aim in this article is to explore how single-living frail older adults experience living with frailty in everyday life in rural Arctic areas in northern Norway.

# **Background**

Many older adults prefer to live in their own homes and communities for as long as possible, even in old age and with poor health [3,18-21]. However, not all older adults want to live in their own homes as long as possible [22-24]. Nonetheless, health care authorities have conceptualised ageing in place as a necessary and attainable goal [3,24].

Increasing longevity raises the risk of frailty. The subsequent progression may be fast or slow [7]. Clegg et al. [9], estimated that between a quarter and half of all older adults aged 85 years or older have some degree of frailty. The international literature on frailty is extensive and focuses particularly on clinical definitions, screening tools, diagnostics and severity measures, and ways to modulate and predict frailty [9,12, 25-27]. The cognitive and social domains have been considered in more recent frameworks [11,28]. Tomkow [29], noted the importance of drawing attention to the links between socioeconomic conditions and health inequalities and emphasised that frailty is not merely a matter of individuals' health choices. Based on qualitative interviews with community-dwelling frail older adults, Lloyd et al. [30], demonstrated the complex individual and social factors that contribute to the experience of living with frailty in later life, such as how a person manages to adapt to increasing losses and challenges and to reintegrate his or her sense of self into a cohesive narrative.

In a study involving home-dwelling frail older adults, Nicholson et al. [31], demonstrated that experiences of frailty were related to imbalanced and accumulated losses over time, including in physical capacity, social status, and contact with family and friends. The study also showed that older adults had a great capacity to deal with challenges in their daily lives related to accumulated loss and that they received little help from others in dealing with such challenges. Andreasen and Sørensen [32], examined how frail older adults experienced everyday life one week after discharge from the hospital. The study showed that the transition to the home was perceived as unsafe and troublesome, especially among the frailest older adults. In particular, contact with the health care system created frustrations and concerns, but physical disabilities, loneliness and inactivity were also problematic. Van Campen [33], argued that there is a belief that frail older adults with loss of physiological and mental reserves also have reduced quality of life. Experience of quality of life, however, is linked to how frail older adults experience and relate to everyday life in their own homes.

In rural areas, living at home with frailty may represent particular challenges. Many rural areas are characterised by out-migration. Younger people often move to cities or other more urban areas to obtain education or employment. Consequently, the proportion of older adults in many rural municipalities is increasing [1,3,22], and many older adults have few family members living close by. This makes having contact with and receiving help and support from family members challenging. In addition, increased age means that other social networks are reduced and that older adults themselves have less capacity to maintain social relationships [3]. Settlements in rural municipalities are often scattered and located long distances from each other. Long distances pose a challenge for home-based health and care services, and the provision of sufficient care in people's homes may be impossible [34]. Moreover, the geographical distance to the nearest hospital and specialist health services are also long. Consequently, frail older adults may feel unsafe if they become ill and need specialist health care [3].

Richardson et al. [35], argued that it is important to gain knowledge of older adults' own perspectives on frailty. Although previous research has explored older adults' experiences living with frailty, few studies have explored frailty in rural contexts.

# Method

To explore how single-living frail older adults experience living with frailty in rural Arctic areas, we used a qualitative, longitudinal design involving a series of three interviews conducted over a period of eight months. A qualitative longitudinal design provides the opportunity to understand both stability and change and what influences these processes [36,37]. By listening carefully during interviews and by reading the interviews thoroughly afterwards, the researcher can "follow up on loose ends" in subsequent interviews. Moreover, repeated interviews provide opportunities for the participants and the researcher to build a sense of mutual understanding and respect [38].

The study was conducted in two rural municipalities in the northernmost county of Norway. The municipalities have populations of 6000 and 2000, respectively. The areas are characterised by scattered settlements located far from each other and from municipal centres. Northern Norway is characterised by short summers and long, snowy winters, as well as the Polar Night, when the sun is below the horizon for several months.



# Recruitment and participants

Municipal managers appointed personnel from homebased health and care services who assisted in the recruitment process. The appointed personnel assisted with the recruitment of participants fulfiling the following inclusion criteria: the person was identified as frail by the home care services, was aged 80 years or older, lived alone in her or his own home (not an assisted living facility), received home care services, and could give informed consent. We asked the appointed personnel to strive for diversity among the potential participants with regard to gender, residency close to or far from municipal centres, proximity to family, and the amount of home care services used.

The home care services personnel distributed written information about the study to potential participants. The participants returned the signed consent forms in postage-paid envelopes directly to the first author. After receiving the signed consent forms, the first author contacted the participants by phone to make appointments for interviews.

Eight persons, including six women and two men, were included in the study. Their ages ranged from 82-93 years at the first interview. All participants were widowed with children and currently lived alone in their own homes. Some had lived alone for several years, whereas others had lived alone for fewer years (from three to 30 years).

#### Interviews

The first author conducted a series of three interviews with the eight participants over a period of eight months, from June 2019 through February 2020. In a longitudinal study of frail older adults, there is a risk that some participants will not be able to participate throughout the period for various reasons [36,37]. However, in this study, all participants participated in all interviews. The interviews were conducted in the participants' homes. In the periods between the interviews, the first author maintained phone contact with the participants approximately once a month.

The interviews varied in length between 50 and 100 minutes. In total, 26 hours and 28 minutes of interviews were conducted and audio recorded. Thematic interview guides were used in all interviews. The first interview was the most comprehensive, and the participants were invited to talk about their lives and their current life situations. The interview guide consisted of a broad and open introductory question (Could you please tell me about your life? You may choose where and when to start), followed by several bullet points that suggested possible themes for the interviews, such as childhood, adulthood, family life, working life, changes in life, significant others, old age, and frailty. The subsequent interviews focused on the participants' current everyday lives, the past, the future and any changes in their life situations between the interviews.

# Ethical and methodological considerations

The Norwegian Center for Research Data approved the study [reference number 508120]. The participants received written and oral information about the overall purpose of the research and were assured of the confidentiality of their participation. The participants provided written informed consent at the outset of the study and oral consent at the subsequent interviews, and they were informed about their right to withdraw from the study without stating a reason [39]. None of the participants withdrew from the study. Although the home care service personnel initially assessed the participants and determined that they had the capacity to give informed consent, the first author ensured that the participant understood who the interviewer was, why the interviewer was there, and the purpose of the conversation at every interview.

We were aware that working with personnel from the home-based health and care services in the recruitment might be problematic because of the relationship of dependency between the potential participants and the health care services personnel. The written information for the participants specified that their decision to decline or withdraw would not have any consequences for the home care services they received. This point was also explicitly stated by the personnel and by the first author at all interviews. The signed consent forms were returned directly to the first author. Consequently, the home-based health and care services had no information about who chose to participate and who chose not to participate.

This study involved relatively few participants and was conducted in a specific geographical context. Moreover, we have no information whether the participants were identified as frail in the specialist healthcare services. Inclusion in the study was solely based on (a) the homecare services' identification of the persons as frail, and (b) the participants' own perceptions of themselves as frail. We have probably not reached home care services users affected by frailty to the extent that they could not or would not participate in a series of three interviews. Our results must be read and applied considering these limitations.

# **Analysis**

The first author transcribed and anonymised all interviews. We conducted an inductive thematic analysis in six steps, as described by Braun and Clarke [40], of all transcribed interviews.

All authors read the interviews. The first author conducted the initial analysis, and the co-authors contributed to the further analysis and refinement of the themes.

The transcribed texts were read several times. The first author examined each interview individually using a process that involved the purposeful search for and coding of segments related to the participants' experiences of living with frailty. The search for patterns and contradictions in the data set involved recursive back-and-forth movement between the data set and the coded segments [41]. The codes were collated into potential themes and subthemes. The themes were identified across the interviews to shed light on similarities and differences. Then, the themes were revised, named, revised again, and renamed through discussions involving all co-authors. The naming of the themes was finalised during the writing process. The analysis was conducted manually in Word and OneNote with the aid of mind maps. The selected quotes from the interviews were translated from Norwegian to English by the first author in collaboration with the co-authors. All quotes were translated as literally as possible.

The preliminary results were presented and discussed with a user group consisting of two older adults, one family member of a frail home-dwelling older adult, and a registered nurse from the home-based health and care services. The user group provided important input for the analysis. The group members' feedback on the comprehensibility of the themes and the selected quotes from the interviews resulted in further revisions and refinements of the themes. Moreover, the group members' description of their personal experiences provided important context for the analysis.

#### **Results**

Through the thematic analysis of the data, we generated three themes: frailty as a dynamic phenomenon; frailty as part of old age, including the subthemes physical and mental decline, letting go, accepting the need for help, and being alone; and frailty in a rural Arctic context, including the subthemes climate, long geographical distances, and societal changes.

## Frailty as a dynamic phenomenon

The longitudinal approach provided us with the opportunity to study changes in the participants' life

situations throughout the interview period. Some of the participants experienced improvements in their situations between the first and the second interview and declines in the period between the second and the third interview. Some of the participants were admitted to hospital or nursing homes for short or long periods during the interview period. The longitudinal approach also provided us with the opportunity to interview participants in different seasons.

One of the participants in the study described frailty as follows:

"It's almost as if you have fallen off the wagon. Then, you become frail" (7).

The statement indicates that this participant considered frailty to be a final and permanent condition. However, other data indicated that the participants experienced frailty to be a less permanent condition. The participants described their experiences with "falling off the wagon" and then "getting back on". Some of the participants' stories concerned being "frail" for short or long periods associated with specific ailments or illness. One participant with chronic obstructive pulmonary disease (COPD) said,

"I cannot walk without pauses. There are limitations. But if you take it easy, it's okay. Resting is allowed" (8).

Some had been hospitalised several times as a consequence of relapsing pneumonia:

"This year, I have been very ill with pneumonia. I was almost in the reach of death. I was just waiting. [...] I was in the hospital. Then, I got life back" (1).

These experiences were associated with long-lasting illness and ailments. Additionally, more acute conditions were associated with experiences of frailty.

Some participants reported experiences of frailty associated with fractures of an ankle, arm, or hip. These participants had been admitted to the hospital or nursing home until they could manage at home again. These participants felt more "frail" after these incidences, although the fractures were medically Accommodations in the participants' homes, such as moving the bed from the second floor to the first floor or the instalment of an elevator, made it possible to return to life at home. Hence, such accommodations reduced the participants' experiences of frailty.

Several of the participants had experienced "recovery" after short or long periods of being "set back". Their stories demonstrated that frailty was not experienced as a "one-way", progressive process. Rather, they experienced "frailty" as dynamic and as something they had to cope with in the individual "here-and-now situation", as expressed by one of the participants:

"I take one day at a time. I do not speculate about the future, how things will develop. You know, you get older.



And everyone is getting one day closer to death every day" (1).

# Frailty as part of old age

The participants' stories demonstrated an acceptance that old age in itself meant that they could no longer live in the same way as they had earlier in their old age. One of the participants stated,

"Getting a good night's sleep and may be resting for an hour a day can make you feel better again [...] The body demands more rest. Because after I turned 90, I have to say, that in my 80s, it was nothing. But after I turned 92, and I will turn 93 by the summer, going to bed for an hour does very well" (3).

Another participant stated,

"You just have to accept it. You cannot do all the things you did when you were young. You just have to admit it" (6).

## Physical and mental decline

The participants reported physical changes that caused limitations in their everyday lives. Some were afraid of falling, e.g. "It's a struggle to stay on your feet" (7), whereas others talked about pain and becoming tired more quickly. Several participants explained that they coped with pain by starting the days with painkiller pills or liniments.

Several of the participants made a distinction between physical frailty and mental frailty. Some linked frailty primarily to bodily changes:

"So frail ... I don't associate it with the brain. I think of the body in general. Yes, when you have to use a walker, that it is frail, but not to the same degree as when you are in a wheelchair" (8).

Others associated frailty with mental changes: "Frailty will come the day I no longer remember, when I start messing up" (6).

## Letting go

The participants' stories concerned tasks or skills that they had mastered but also those that they eventually had to let go of. Some of the participants said that they no longer could use the phone and that they often dialled the wrong number. For some of the participants, driving a car, being mobile and getting around on their own were highly valued. For example, one of the participants stated,

"The day I have to give up my driver's lisense will be difficult, but I'll probably be so foolish by then that I do not realise that I'm missing anything" (6).

Meanwhile, others had quit driving and were glad to leave this responsibility to others. Several of the

participants' stories concerned not being able to go out when they wanted to and no longer being able to walk or ride a bike when they wanted to:

"You know, when you can't walk properly, you sit here. If the weather is good, I have no chance of getting out for a walk or something. I am sitting here like a criminal. I just sit and look at the wall" (7).

## Accepting the need for help

For some of the participants, frailty was associated with having to accept more help from others, as expressed by one of the participants:

"Those who are in the nursing home and need help with everything are frail. When you are frail, you don't achieve anything. When you cannot manage yourself at all. It's bad to be so frail, but I know I will get more help, then" (3).

Many expressed gratitude for the help that they received:

"I felt like I was just starting to get a little frail, so it was so good to get help" (3).

Some did not want much help from home care services:

"No, I said, I do not want them here three times a day" (1).

Some participants had a daughter, a son, or a grandchild who lived nearby. They preferred to have help from relatives.

"I find it difficult to ask for help. I get help from my children when I need it. They are the ones who have arranged it so that I can live at home" (5).

However, other participants wanted help from home care services rather than relatives and referred to public care services such as home care or nursing homes when they talked about the help they received.

## Being alone

Several of the participants' stories concerned being alone. For some, not having someone to talk to was experienced as a loss: "Not having someone to ask, if only, what day it is" (7). Others expressed that they had come to terms with the fact that this was what life had become: "No, I do not miss people so much now. I am used to being alone. Everything is a transition" (1).

# Frailty in a rural Arctic context

Several of the participants' experiences of living with frailty were clearly related to the rural Arctic context in which the participants lived. Several of the participants' stories demonstrated that their experiences of frailty were associated with the climate, long geographical distances of their communities from municipal centres, and societal changes.



## Climate

The interviews were conducted over a period that included both the winter and summer seasons. Overall, life was easier for the participants during summer. Activities that helped reduce the experience of frailty, such as driving and moving outdoors with a walker, were more challenging in the winter. Long, snowy winters could make it difficult for the participants to go outside. For example, one of the participants described "a fight for life" (7) after a fall in the snow while he was shovelling his outdoor steps.

During long, snowy winters, roads can be closed for longer periods due to heavy snow or avalanches. This could be challenging for the participants when medical care was needed, and in acute cases, helicopter transportation was necessary. Narrow roads and long distances to the doctor's office and the nearest hospital could contribute to the participants' experiences of frailty:

"I was like parcel post. Yes, when the road was blocked, I had to stay with my son. Then, I was there until I was going home and was hospitalised again. You know, I did not feel sick then, but I told him, 'Try calling the doctor's office so I can get a check-up before I go home'. And the doctor panicked. Because, I thought, if the road was blocked when I was at home, there were no alternatives" (1).

Access to help and support from family members could also be limited in periods with closed roads:

"In the winter, I get isolated. they [the relatives] can't come here in all sorts of weather" (2).

Limited access to both professional and informal help and support due to heavy snowfalls and closed roads clearly contributed to the participants' experiences of frailty.

## Long geographical distances

All participants received help from home care services. In some district municipalities with large geographical distances to rural communities, home care services cannot offer sufficient help in people's homes, and older adults who need extensive help are encouraged to move closer to the municipal centres. Many of the participants in the study wanted to stay at home for as long as possible and expressed that living in their own homes reduced their experience of frailty: "Yes, you know, I think that means everything. Because here, I am familiar with all my things; I know where everything is. And being at home is something special" (3). Others had accepted that they eventually would have to move: "I want to live at home as long as I do not need more help. When I need more help, I want to be where there is help to get" (5). Some of the participants wanted to move to a care home or nursing home because they felt alone, and they hoped that the opportunity to socialise with others would make them less frail: "I want to go to the nursing home, just to be with people" (2).

The combination of an ageing body and the long distances of the participants' homes from municipal centres reinforced their experiences of frailty, particularly when they needed acute health care. For example, one of the participants experienced an acute haemorrhage so intense that she needed help from family members to call for an ambulance:

"Because there was no pause in the bleeding, I could not call the ambulance. It lasted so long before they arrived" (1).

In some district municipalities, home care services cannot provide help at night. Other services that could help people continue living at home may also be limited in rural areas. For example, one of the participants who applied for a support person was instead offered a place at the nursing home. When distances are long to the home care services office, security alarms may be connected to the nearest neighbour, who may also be an older person. Moreover, the distance to the nearest neighbour may be long.

## Societal changes

The participants' stories also concerned changes in society that contributed to their experiences of frailty: "You know there is something new almost every day. And they think old people should be able to keep up with that. And they close down everything that we used to use somehow" (1). The closing of the local bank or postal office and the transition to digital solutions made the participants dependent on help from children, grandchildren, or others to perform tasks that they had previously mastered. The introduction of payment via apps on public transportation and changed traffic were other examples of societal changes that contributed to the participants' experiences of frailty. In many rural municipalities in northern Norway, the only road is a motor road without sidewalks. One participant said that he no longer could walk with a walker along the narrow busy road. Due to his impaired hearing, he could not hear the traffic, and as a consequence of his unsteady gait, he was unable to stay on the side of the road. He described an episode when he was almost hit by a trailer truck because he could not move to the side of the road quickly enough. This example demonstrates that the interplay of bodily changes and changes in the environment contributes to experiences of frailty.

Several participants had limited opportunities to receive help from neighbours because all their previous neighbours had moved, making life different than in the past, "when there were people in the houses, and when people often stopped by each other" (1). Several of the participants in the study reported that their children

had moved to more urban areas and thus could not provide the necessary help and support in daily life. All participants expressed concern that people in the community no longer visited each other and treated each other in the same way as previously. At the same time, the participants acknowledged that their own frailty limited their social interaction with others: "I want to ao for visits, but I cannot leave" (2). This finding demonstrates how the combination of physical impairments and changes in the local culture contributed to the older persons' experiences of frailty.

The participants were concerned that people did not visit each other to the extent they did before. They talked about previous days when the unity of the family and the unity of the local community were strong in times when it was necessary to help each other cope, as expressed by one of the participants:

"And if something happened, they came running. It could be a cow, or it could be a child. No, they helped each other. It was never that they did not have time" (1).

## Discussion

Our aim was to explore how single-living frail older adults experience living with frailty in everyday life in rural Arctic areas. In this study, we consider frailty to be related not only to changes associated with ageing and health issues but also to the environment in which older adults live. One of the participants in the study used the metaphor of "falling off the wagon" to describe his experience of frailty. "Falling off the wagon" can be understood as a consequence of the shift in "the balance point between an individual's resource pool and the challenges faced" [42, p. 230]. Our results show that such shifts in the balance point result from an interplay between age and healthrelated changes and contextual challenges. Frailty, conceptualised as a result of the interplay between changes that come with age and contextual challenges in the environment, can be experienced regardless of whether a person lives in a rural or urban environment. However, this interplay becomes particularly evident when the person's surroundings are especially demanding, as they are in rural Arctic areas. The rural Arctic environment is characterised by a harsh climate, long distances between communities and municipal centres, and out-migration. Many rural communities have also undergone major changes in recent years, such as the closure of local post offices, banks and convenience stores [17]. Such changes affect older adults' experiences of frailty. Our results show that for older adults living with frailty in rural Arctic areas, the balance between an individual's resource pool and the challenges faced can be shifted because the environment places great demands on the individual's resources. Moreover, many older adults in these areas lack resources such as family and social networks due to out-migration and the long geographical distances from their communities to other municipal centres.

Our results show that frailty is a dynamic condition. Over time, the participants experienced becoming increasingly frail. This was partly a result of changes in their health conditions. For example, the participants shared experiences of "being almost in the reach of death" and then coming to life again. Several of the participants in our study reported repeated admissions to hospitals or nursing homes. According to Andreasen and Sørensen [32], transitions between hospital and home can be considered unsafe, especially for the frailest older adults. Issues of concern were physical disability, inactivity, loneliness and constraints in handling daily life. Contact with the health care system also created frustrations and worries. Our study shows that external conditions, such as the climate and season, also affect people's experience of frailty. Higgs and Gilleard [43, p. 15] suggested that "frail people are seen - at least by others - as being permanently at risk". Our study shows that the risk changes with the seasons. Although all participants in our study were "permanently at risk", the risk was experienced to be greater during winter. Moreover, our results are in line with those of Manthorpe and Iliffe [44], who emphasised that frailty is not a state of inevitable decline [God's waiting room]. Our results are consistent with those of Nicholson et al. [45], who demonstrated that frailty is a "fluid state" in which older people "balance both loss and capacity in their everyday lives" [p. 1431]. The participants in their study experienced loss and uncertainty but also had "considerable capacity to create daily routinised practices to anchor themselves and sustain connections within their imbalance" [p. 1431].

Our results demonstrate that the participants considered frailty to be a part of old age. This finding is in line with the findings of Lloyd et al. [30], that older adults referred to age-related degeneration to explain their circumstances. They also found that the participants were able to make sense of their circumstances by considering old age combined with other events or illnesses. Puts et al. [46], claimed that frailty may be perceived by older adults as both a state of impairment and disease and a condition with negative social and psychological consequences. Not surprisingly, the frailty label may be rejected or resisted as individuals struggle to maintain a positive self and postpone an identity crisis [47]. The participants in our study, to a greater or lesser degree, considered the changes they experienced to be a result of increased age. Several tried to adapt to the changes, while others found it more challenging to accept the limitations that growing older had created. Our results are in line with those of Lloyd et al. [30], who described frailty as both biographically anticipated and potentially biographically disruptive depending on how the older adults managed to adapt to increasing challenges and losses and to reintegrate their senses of self into a cohesive narrative. Nicholson et al. [31], conceptualised frailty as a state of imbalance in which older adults "experience accumulated losses whilst working to sustain and perhaps crate new connections" [p. 1172]. Core to Nicholson et al.'s [45], understanding of frailty is creativity, conceptualised as "the capacity to connect to their changing circumstances and adapt within the ambiguity and disconnections of being frail" [p. 1178]. Our study shows that it was not only changes in the older adults themselves and their relationships that created challenges and experiences of loss. The rural Arctic environment had an impact on participants' ability to adapt and access social relationships, such as through the long, snowy winters; long distances between communities and municipal centres; and out-migration.

Despite living in sometimes demanding rural Arctic environments, most participants in our study wanted to continue living in their own homes and communities for as long as possible. This finding is consistent with previous research [3,18-21]. Gillsjö et al. [48], found that older adults perceived home to be the place they could not imagine living without but also the place they could be forced to leave. Studies have demonstrated the importance of everyday routines to maintain a balance between resources and demands [30,45]. The home is often "filled with everyday routines". When one's home is located in rural Arctic areas, however, the balance point can be shifted, and the home becomes both an anchor and a challenge.

There is little research that deals exclusively with frail older adults living at home in rural areas; however, Munkejord et al. [22], demonstrated such challenges. Several participants in their study did not want to live in their own homes, even with extensive municipal health and care services. The condition of the home and its location mattered. In addition, dimensions such as one's own physical and mental health, access to informal care from relatives and one's own social networks and relationships were important [22]. In a study in northern Norwegian municipalities, Blix and Hamran [34], showed that long distances to reach rural areas made it difficult to provide adequate public homebased care and that the extensive care needs of people living in these areas in combination with the long geographical distances acted as drivers to move older adults out of their homes and closer to the municipal centres where the health care services were located. Several participants in our study also expected that they would have to move from their own homes in the future as a consequence of increased care needs and the need for social contact. Interestingly, none of the participants included the harsh climate and the long winters in their processes of "residential reasoning" [cf. 49]. According to Nicholson et al. [45, p. 1431], prevailing theoretical understandings of frailty and services for frail older adults "engage with the physical frail body rather than with the person in the context of their identity and their relationships" [45, p. 1431]. Our study further expands the understanding of frailty by integrating the significance of the environment.

## **Conclusion**

By interviewing frail older adults in rural Arctic environments, we demonstrated that frailty cannot be understood solely as an individual trait or condition. Rather, our results showed that experiences of frailty are shaped by the interplay between the ageing person and the physical and social environment in which the person lives. These results have implications for how we plan and design services that are appropriate for this group. Individual tailoring of services or person-centred care cannot be based only on knowledge about the individual. The planning and shaping of services must also be based on knowledge about the physical and social environment in which the individual lives. To tailor services for older adults who live with frailty in rural Arctic areas, more research involving this population is needed.

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No potential conflict of interest was reported by the author(s).

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