No One Left Behind: Building Inclusive, Community-Led Emergency Management for

Ageing Demographics

Caitlin Cowan

ESMS-4900 Bachelor of Security and Emergency Management Studies Capstone

Justice Institute of British Columbia

Professor Bettina Williams

December 1, 2024

Author Note

This paper was submitted on December 1, 2024, for the Bachelor of Emergency and Security Management (ESMS-4900) Capstone Project, taught by Bettina Williams, and is 6,480 words.

Abstract

Older adults (65+) are increasingly vulnerable to disasters, a risk amplified by the rapid growth of this demographic in Canada and the diminishing capacity of social systems to provide adequate support. This paper explores community-based mitigation measures to enhance disaster preparedness and social capital for older adults, anticipating that both social and governmental resources may become increasingly limited. A literature review was conducted to identify evidence-based interventions and key themes related to disaster preparedness among older adults. Findings synthesize academic insights to propose several interventions, including a local emergency leadership corps, intergenerational and peer resilience partnerships, and a community currency volunteer program, emphasizing that these initiatives should prioritize participatory decision-making, with older adults engaged as equal participants in measures that support their safety. The study concludes with recommendations for further exploration of these interventions and a broader examination of identified knowledge gaps related to the disaster preparedness of older adults.

Keywords: older adult, disaster preparedness, community resilience, social capital

Table of Contents

No One Left Behind: Building Inclusive, Community-Led Emergency Management for Ageing Demographics

As populations age, communities increasingly struggle to provide adequate support during crises, particularly for older adults. These individuals are often left behind during emergencies due to insufficient resources, strained support systems, and a lack of preparedness tailored to their needs. This study explores how community resilience and social capital can be strengthened to support older adults during emergencies, given the limitations of public sector resources and based on the premise that older adults are better prepared to respond to and recover from disasters when their social networks are strengthened. This study will focus on "older adults," typically defined as individuals aged 65 and older, examining community-based approaches to augmenting disaster preparedness. As the premise of this research is that government-funded measures are insufficient to meet the growing needs of an ageing population, the study will focus on efforts that are non-publicly funded and aimed at an audience of local communities, community leaders, volunteers, civic-minded individuals, and non-government organizations, recognizing that the demand for care will only increase as the population continues towards a geriatric majority. These "grassroots" initiatives are typically informal, rely on community resources, and focus on addressing immediate, local needs based on first-hand knowledge of the community's challenges and strengths. This study analyzes academic literature to offer evidence-based, community-level interventions that enhance disaster preparedness for older adults without reliance on government infrastructure. The findings aim to inform and guide communities and stakeholders in creating collaborative programs that bridge preparedness gaps, fostering safer, more resilient communities for ageing populations.

Background

In Canada, the ratio of seniors to working-age individuals is projected to rise sharply, putting added pressure on healthcare, social services, and pension systems. This "dependency ratio," meaning the number of dependents (typically those under age 15 and over age 65) to the working-age population (usually ages 15-64), is predicted to rise sharply over the next three decades. In 2019, the dependency ratio stood at 50.5 dependents per 100 working-age individuals but is projected to increase to 61 by 2031 and 67.8 by 2068 due to declining fertility rates and an increasing number of retirees (Statistics Canada, 2019, 2021). A higher dependency ratio means fewer working-age individuals supporting a larger retired population, potentially straining incomes and living standards. Without sufficient working-age or paid individuals to support older adults, community and social-based initiatives may become central to providing localized support and maintaining social cohesion as the country faces these demographic challenges.

Another factor is the rise in disasters due to growing extreme weather events and natural hazards across Canada, exposing more communities to intensifying floods, wildfires, extreme heat, droughts, coastal erosion, and storms (Public Safety, 2019). These events disproportionately affect older adults, who face the highest mortality rates during disasters due to inadequate emergency planning (Public Health Agency of Canada, 2008; Public Safety Canada, 2019). In addition to exclusion from disaster preparedness efforts, seniors often experience worse outcomes due to physical and cognitive vulnerabilities, social isolation, limited mobility, and reduced access to resources. Social isolation represents a major issue, with fewer than 13% of older adults reporting having more than five individuals to rely on during an emergency (Public Health Agency of Canada, 2008). Social isolation and the failure to sufficiently support older adults in disaster preparedness is exemplified by the record-breaking heatwave in British Columbia in June 2021, which led to approximately 434

deaths of individuals aged 70 and above. Factors such as older age, along with material deprivation (like lack of air conditioning) and social deprivation (such as limited social networks), played a significant role in these fatalities (Henderson et al., 2022).

This combination of factors, including the growing proportion of older adults relative to working-age individuals, the rising frequency and severity of disasters, and the inherent vulnerabilities of older adults, represents the heightened and growing risk of adverse outcomes for this demographic if action is not taken. Historically, Canada has relied on immigration to offset demographic challenges. However, recent policy shifts aim to reduce immigration levels to alleviate pressures on housing and social services (Fuss & Globerman, 2020). This reduction may exacerbate issues by limiting workforce growth. Addressing this demographic shift will require not only a larger workforce in formal healthcare and caregiving roles but also innovative care models, enhanced community-based services, and increased support for unpaid caregivers. Without augmentation of the working population, there is a risk that government support will be insufficient in adequately spearheading disaster preparedness efforts that safeguard older adults. Slow or insufficient government action often leaves vulnerable populations without adequate support, highlighting the need for community-driven initiatives. While the last few decades have experienced a reliance on government oversight for emergency management, there is an ongoing shift back to a focus on community resilience (Shaw, 2013). This demands further exploration of effective interventions that can be implemented at the community level, largely independent of government support, to fill critical gaps in disaster preparedness.

Research Question

This study explores how community resilience and social capital can be strengthened to support older adults during disasters, given the limitations of public sector resources. It aims to answer the question: "What approaches can be taken to build and leverage

community resilience and social capital to support older adults more effectively during emergencies?" The study will focus on community-led initiatives, analyzing their effectiveness and the role of grassroots efforts in enhancing resilience. By examining academic articles, this review will identify key themes and strategies that communities can adopt to bridge the gaps in disaster preparedness for older populations. To explore this main question, this study will also seek to identify "What specific community-led initiatives have proven effective in increasing the disaster preparedness of older adults?" This question aims to uncover practical examples of initiatives that have succeeded in improving older adults' knowledge of disaster preparedness, strengthening their social networks, and including older adults in disaster preparedness planning and initiatives. Identifying and analyzing successful programs will highlight models to replicate or adapt for Canadian communities.

The results of this study aim to empower volunteers, community leaders, non-government organizations, and concerned citizens with solutions that can be leveraged without reliance on federal or provincial/territorial government intervention. By examining evidence-based, community-led initiatives that can be implemented independent of formal support systems, the study aims to provide actionable recommendations for increasing resilience among older adults, providing communities with the tools to strengthen disaster preparedness through localized, sustainable efforts.

Theoretical Perspectives

This study is grounded in theories of community resilience and social capital, which assert that robust, interconnected communities are better equipped to respond to disasters and provide necessary support, especially for vulnerable populations like the elderly. Social capital refers to the networks, relationships, and norms that enable individuals and groups to work collectively and support one another, particularly in times of need (Shaw, 2013). It encompasses the resources accessible through connections within and between groups, which

can facilitate cooperation, trust, and the exchange of information. Social capital is often divided into three types: bonding (strong ties among close-knit groups), bridging (connections between different groups), and linking (relationships with institutions or individuals in positions of power) (Aldrich, 2014; Putnam, 1995).

Research has found that communities with higher levels of social capital have better survival rates after natural disasters and that social connections and infrastructure significantly shape resilience, disaster outcomes, and recovery (Aldrich, 2014; Nakagawa & Shaw, 2004). Research also posits that social capital, like other forms of capital, can be intentionally developed and maintained (Nakagawa & Shaw, 2004). Social capital theory provides a framework for understanding how networks of relationships contribute to resilience by facilitating trust, cooperation, and support among community members. For older adults, social capital can be a critical resource, particularly in emergencies where formal support systems may be strained.

The concept of community resilience is complementary to social capital theory as both assert that positive disaster outcomes rely on the strength of the relationships and capacities between people and amongst a community. Community capital denotes the collective resources, strengths, and capacities of a community to adapt and recover post-disaster (Cutter, 2008). This perspective recognizes that a community's disaster resilience relies not only on its infrastructure, environment, and institutions but also on the capacity of its people to adapt and absorb to changing circumstances.

Community resilience theory posits that communities have inherent capacities to respond to, recover from, and adapt to crises through their social, economic, and physical resources. This approach underscores the shifting focus from an infrastructure-centric approach to the fundamental roles of people and community in building resilience (Shaw, 2013). Historically, disaster management has been dominated by top-down approaches,

emphasizing centralized control. However, recent trends highlight the importance of community preparedness and the active involvement of local institutions, both formal and informal, in disaster risk reduction. This perspective aligns with the evolving understanding that effective disaster prevention requires integrating local knowledge and fostering community resilience. This concept of community capital as critical to resilience is well summarized by Shaw:

> It is rather difficult to continue the disaster risk reduction as a stand-alone activity. To enhance the resilience of the communities, it needs to be merged with the daily needs, which are related to welfare, social protection, and health-related activities. (2013, p. 356)

For older adults, community capital theory emphasizes the importance of community structures and shared resources in enhancing their safety and well-being during emergencies while shifting the narrative away from the misconception that responsibility rests solely on government institutions.

Research Design and Methodology

Research of relevant literature began by identifying key terms such as "ageing," "older adults," "social networks," "disaster preparedness," "emergency preparedness," "social capital," "community," and "community resilience". Searches were conducted using the JIBC Library system and Google Scholar, resulting in an initial pool of over 8,000 articles related to older adults and disaster preparedness. The search was then refined using inclusion and exclusion criteria.

The inclusion criteria focused on articles containing terms like "older adults," "ageing," "geriatric," "aged 65+," "disaster preparedness," "emergency preparedness," "social capital," "social network," and "community". The date range was limited to the past 20 years (from 2004 to the present date) to reflect contemporary perspectives in disaster research.

Eligible studies specifically targeted non-institutionalized older adults (65+) in community settings to address disaster preparedness among individuals likely lacking formal support. Only empirical studies, case studies, literature reviews, and qualitative or quantitative research from peer-reviewed sources or reputable organizational reports were included to ensure reliability. Included studies needed to examine community-level interventions, particularly those driven by grassroots or community-based efforts.

Exclusion criteria removed literature related to COVID-19, healthcare, or mental health, as these studies often focus on medical interventions or are specific to institutionalized older adults. This research instead focuses on older adults living independently, who may lack formal support and thus benefit from enhanced disaster preparedness. Literature centred on policy or legislative recommendations was also excluded, as the research premise is that government measures alone may not meet the growing needs of an ageing population. Instead, the study prioritizes grassroots initiatives, emphasizing low-cost, community-driven approaches led by community members, leaders, or non-government organizations rather than provincial, territorial, or federal governments. Studies that did not specifically target older adults (typically aged 65 and above) or were unrelated to disaster or emergency preparedness were excluded to ensure a focused examination of the target demographic and topic. Due to the limited availability of studies specific to Canada, geographic location was not applied as a filter. This process resulted in a final selection of approximately 280 articles.

A total of 25 articles were selected for abstract and literature review, each highlighting various approaches to building and leveraging community resilience and social capital to support older adults during emergencies. These articles focus on the importance of social networks, community engagement, community-based measures, and collaborative interventions in supporting older adults. Of the 25 articles, 17 providing practical findings to

address the unique needs of older adults during emergencies were selected for further review and analysis.

Literature Review

Several themes emerged from the analysis of the literature which provide insight on community-based approaches to support older adults more effectively during emergencies. These include the value of strengthening informal social networks, engaging older adults in community planning, leveraging the life experience of older adults, and advocating for community-based approaches to disaster preparedness.

Strengthening Social Networks

The literature emphasizes the role of social capital and informal networks in increasing disaster preparedness. These networks, consisting of family, friends, neighbours, and community members, often serve as first responders, providing immediate assistance during emergencies and allowing individuals to receive warnings (Aldrich & Kyota, 2017). They also support older adults in disaster preparation, locating shelter and supplies, and obtaining immediate aid and initial recovery assistance (Aldrich & Meyer, 2015). Howard et al. (2015) and Breen et al. (2024) found that strong connections within neighbourhoods facilitated resource sharing and support during crises between older adults. Similarly, Kawachi et al. (2020) refer to social capital as a type of "informal insurance" that community members can rely on during crises, finding that tightly knit communities are more effective in mobilizing assistance to those in need, even before first responders arrive.

Social and geographic isolation amongst older adults is frequently highlighted as a risk that can be mitigated through strengthened social networks (Aldrich & Kyota, 2017; Bogdan et al., 2024; Wistow et al., 2015). Breen et al. (2024) found that the social capital of older adults contributed to the formation of therapeutic communities, groups where individuals support one another, fostering social bonds and collective action during recovery

efforts. Ashida et al.'s (2017) findings underscore the importance of personal emergency support networks for older adults, particularly in rural areas where public resources are often limited.

While literature generally examines social capital's role as a whole in providing more positive outcomes for older adults, Kawachi et al. (2020) note that strengthening social networks needs to be incorporated into disaster mitigation, not just disaster preparedness, reinforcing that adequate preparedness is not siloed from other resilience-building activities. Brockie and Miller (2017) warn that over-reliance on bonding capital (social ties among close-knit groups) can lead to isolation from the broader community, the implication being that interventions may need to go beyond building older adults' immediate networks to proactively strengthen connections between different groups and relationships with institutions or individuals in positions of powers. These findings suggest that these informal networks are central to disaster preparedness and call for measures to encourage the development of informal support networks that include friends, neighbours, and local community members.

Leveraging Life Experience

The next theme frequently highlighted in the literature is the value of incorporating older adults' valuable life experiences and knowledge to inform disaster preparedness strategies. While many studies tend to frame older adults primarily as vulnerable populations in disaster contexts, these articles provided recommendations on how older adults actively contribute to disaster preparedness through their experience and relationship-building. This perspective challenges the narrative that older adults are merely vulnerable, instead highlighting their potential as active contributors to community resilience. Howard et al. (2015) emphasize that older adults are often seen as "at risk" rather than as assets who can mobilize social capital and support their communities during disasters. This perspective limits

the understanding of how older adults can play a proactive role in disaster preparedness and recovery. Madsen et al. (2019) assert that communities need to reframe how they view older adults, shifting away from a deficit-based narrative to one that acknowledges their valuable economic and social contributions. They found that older adults contribute to their resilience and that of their communities through their stories, interactions, and relationships and provide leadership and economic benefits through activities such as volunteering.

Similarly, Brockie and Miller (2017) challenge the assumption that older adults are inherently vulnerable to disasters. They found many older adults displayed strong resilience, drawing on their life experiences and previous disaster exposures to cope. This aligns with Breen et al. (2024), who observe that older adults possess unique life experiences and knowledge that can be leveraged during disasters. They found that older adults' long-standing connections and familiarity with the community allowed them to mobilize resources effectively and support one another, thus enhancing the overall recovery efforts. These individuals hold insights from past disasters, which contribute to better preparedness and planning for future events.

This position is broadly supported in the literature, including Howard et al. (2015) and Wistow et al. (2015), who found that the experiences of older adults not only enhance their resilience but also serve as a resource for educating and supporting others in the community. Bogdan et al. (2024) mirror this stance, noting that the lived experience of older adults can provide valuable insights into effective preparedness strategies and community resilience. Aligning with these findings, Rauhaus and Guajardo (2021) encourage initiatives that promote sharing knowledge. The literature challenges the narrative of vulnerability, instead promoting the active role of older adults in community resilience. These findings indicate that approaches to increasing the preparedness of older adults should be participatory and engage older adults as valuable contributors rather than unempowered victims or burdens.

Community Engagement and Participation

Recognizing the valuable contributions and insights of older adults, the research also advocates for the inclusion of older adults in community planning and decision-making processes. Howard et al. (2015) found a significant desire among older adults to participate in local disaster planning and decision-making processes. Participants expressed frustration at feeling excluded from formal planning despite their willingness and capacity to contribute. Older adults are capable of taking on leadership roles within their neighbourhoods, such as organizing local disaster preparedness initiatives or serving as points of contact for information dissemination. Bogdan et al. (2024) note programs that encourage participation, such as community workshops and local committees, can empower older adults to take active roles in disaster preparedness and response and can lead to more effective and tailored communication and resource distribution, as their unique needs and preferences are better understood. This aligns with literature findings, which demonstrate that communities with a history of collective action and social capital are better equipped to respond to and recover from disasters (Nakagawa & Shaw, 2004). Kawachi et al. (2020) found that the "doing" aspect of social capital, through engagement and participation, strengthened community ties. Rauhaus and Guajardo (2021) promote that this participatory approach not only empowers older adults but also helps build a sense of community ownership over disaster preparedness efforts.

On the theme of increasing older adults' community engagement, Aldrich and Meyer (2015) suggest practical initiatives, including time banking and community currency systems, which incentivize volunteerism, as effective methods for building social capital and enhancing community resilience. In time banking and community currency systems, participants earn credits for performing community services, such as working in communal gardens, which they can redeem for various services like moving assistance or discounts at

local businesses (Lasker et al., 2011; Lietaer, 2004). Such systems have been particularly successful in Japan, where they not only foster volunteerism and strengthen community ties but also provide essential support services for the elderly population (Aldrich & Meyer, 2015). These systems, which increase community engagement, leading to higher levels of social support, provide models for the development of interventions. Literature findings suggest that engaging older adults in community planning, decision-making, and community initiatives leverages their valuable insights and leadership potential while strengthening social capital and fostering a sense of shared ownership.

Community-Based Approaches

Acknowledging the limitations of public support systems, the literature advocates for community-based approaches to supporting older adults through both interventions aimed at disaster preparedness and those to enhance social and community networks.

The PrepWise program examined by Ashida et al. (2017) serves as a model for community-based interventions for improving disaster preparedness among older adults by increasing their number of emergency contacts. Jaboob et al. (2022) conducted a study of a similar program aimed at enhancing disaster preparedness for older adults by helping them identify additional support network members. The intervention led to increased disaster management self-efficacy, as participants who had more people they could rely on in emergencies showed greater improvements in their confidence and preparedness. Howard et al. (2015) and Bogdan et al. (2024) recommend similar interventions, such as community groups focused on disaster preparedness, allowing older individuals to connect and collaborate on planning efforts. Suggested approaches also included those for "buddy systems" to enhance older adults' access to support during emergencies, where members can check in on each other and provide mutual aid (Bogdan et al., 2024; Rauhaus & Guajardo, 2021). Kim and Zakour (2017) suggest an intervention model where community groups

identify vulnerable individuals and provide emergency information through social networks to enhance older adults' disaster preparedness.

While some literature calls for preparedness-focused efforts, other recommendations focus on promoting community initiatives that foster social connection, thereby indirectly increasing community resilience. These include recommendations for initiatives that promote social events, community gardens, and local gatherings that can create spaces for interaction and relationship-building (Ashida et al., 2017; Wistow et al., 2015). Aldrich and Meyer (2015) promote focus group meetings and social events as a way to increase trust and social cohesion. Involvement in these initiatives can also serve to increase community engagement through fostering a "sense of place" (Kawachi et al., 2020; Madsen et al., 2019). This sense of place fosters feelings of mutual trust and dependence, increased awareness of disaster management, and volunteer opportunities and responsibilities, which in turn support disaster preparedness (Aldrich & Meyer, 2015). Another example demonstrating how embedding older adults within larger social networks can improve their sense of belonging and efficacy in disaster situations is the Ibasho program in Japan, explored by Aldrich and Kyota (2017). The Ibasho program, which translates to "one's place," encourages older adults to engage in leadership activities and participate in a supportive social network. By providing a physical space for various community activities, Ibasho reduced social isolation, fostered connections among residents, and empowered the elderly to take active roles in their communities, thereby enhancing overall community resilience. Sugiyama et al. (2022) found similar results in their examination of third places, finding they can play a role in building social connections for older adults. Their review found that the presence of easy access to community facilities, local businesses, and green spaces was conducive to social interaction among older residents and may contribute to the development and maintenance of social networks.

While the literature emphasized the participation of older adults in community-based measures, Aldrich and Kyoto (2017) noted a challenge in engaging older adults, as many saw themselves as individuals to be cared for rather than active participants. To address this, during their research, a concerted effort was made prior to initiation to establish a new community norm. Aldrich and Kyoto (2017) found that a sense of efficacy was crucial for civic engagement; individuals who felt their voices were valued and impactful were more likely to participate in public meetings, vote, and provide feedback. These findings offer practical intervention models that can be adapted and applied to various community contexts.

Discussion

The research provides observations and recommendations that have been synthesized into several practical interventions and considerations aimed at enhancing disaster preparedness and strengthening social networks for older adults. By focusing on community-based approaches, these strategies offer actionable steps to improve their inclusion in preparedness efforts. Through fostering connections and promoting active participation, these interventions aim to build resilience and ensure that older adults are supported effectively within their communities.

Proposed Interventions

Three interventions based on literature findings have been developed that provide potential mechanisms for increasing the disaster preparedness and social capital of older adults. These interventions are intended to be implementable at the community level without government intervention or requiring significant costs. These interventions can be adapted, initiated, and maintained by community leaders in collaboration with the older adults they serve.

Local Emergency Leadership Corps

The first proposed intervention is a local emergency leadership corps for older adults, which provides an organized framework to actively engage this demographic in disaster preparedness while leveraging their life experience, community knowledge, and existing social networks. This initiative aligns with literature findings that emphasize the importance of integrating older adults into community disaster planning and decision-making processes to improve preparedness and resilience (Bogdan et al., 2024; Howard et al., 2015). By positioning older adults as leaders within their neighbourhoods, the Corps fosters a sense of ownership over local preparedness efforts, making them advocates for safety and resilience while enhancing their own self-efficacy and sense of purpose (Aldrich & Kyoto, 2017).

The Corps functions through older adults organizing into teams that take on leadership roles in their communities to increase disaster preparedness. The Corps could engage in practical activities such as organizing workshops and training sessions tailored to the needs of their communities, including emergency kit preparation, creating evacuation plans, and providing first aid and CPR training. They could coordinate communication and information dissemination, acting as liaisons between residents and emergency services to ensure timely and accurate communication and establishing neighbourhood communication networks, such as phone trees or social media groups, for rapid information sharing. Activities could consist of conducting local risk assessments by mapping neighbourhood vulnerabilities, such as identifying residents with mobility challenges, coordinating neighbourhood emergency drills to practice evacuation routes and response procedures, and organizing mock disaster scenarios to test readiness and identify gaps in plans. The Corps could become a hub for older adult preparedness and advocacy, contributing to inclusive emergency plans that address the needs of older adults and collaborating with local governments to ensure their needs are considered in broader disaster planning.

By actively participating, Corps members would be recognized as valuable contributors, which reflects shifting the narrative from older adults as passive recipients of care to empowered, essential contributors to community resilience (Madsen et al., 2019). This approach also draws on the principles observed in the Ibasho program, where older adults took on leadership and engagement roles that fostered community resilience and reduced isolation (Aldrich & Kyota, 2017). It also supports the development and strengthening of informal social networks, as Corps members would collaborate with other residents and community groups, thereby expanding their connections and creating additional social support systems. This ties to the research, which consistently reinforces the importance of these networks in emergency preparedness, where strong community ties facilitate resource sharing, information dissemination, and mutual aid (Aldrich & Meyer, 2015; Breen et al., 2024). In this way, the leadership corps would also indirectly enhance disaster resilience by reducing the risk of social and geographic isolation often experienced by older adults (Bogdan et al., 2024; Wistow et al., 2015). This intervention offers a cost-effective, grassroots approach to enhancing disaster preparedness for older adults while addressing the shortage of working-age individuals by leveraging the desire and capacity of older adults to contribute to their communities.

Intergenerational and Peer Resilience Partnerships

The second proposed intervention is for intergenerational and peer resilience partnerships, or a "buddy system," where both older adults of the same age group and individuals from different age groups form supportive partnerships to check in on each other, share resources, and provide mutual assistance in preparation for and during emergencies. This approach embraces the therapeutic community model, where mutual support fosters a sense of belonging, purpose, and empowerment (Breen et al., 2024). Intergenerational pairing connects older adults with younger community members (e.g., teenagers, college students, or

young professionals) to exchange knowledge and skills. Older adults contribute mentorship in areas such as career development, problem-solving, and interpersonal relationships. They share historical knowledge, passing down traditions, stories, and community history to preserve cultural heritage. Younger community members benefit by learning practical skills like gardening, sewing, and financial literacy, as well as receiving tutoring and guidance. In turn, older adults are supported by younger counterparts through assistance with technology and providing support with tasks requiring physical capabilities. In the context of disasters, this partnership fosters mutual support, with older adults contributing their time, experience, and leadership, while younger members can leverage their technical expertise and physical capabilities to support their older partners. This intervention reflects the findings of Rauhaus and Guajardo (2021), highlighting the value of inclusive, intergenerational approaches in disaster recovery.

Peer partnerships among older adults provide mutual support by creating a system where individuals have someone to rely on and check in with regularly. By fostering connections, these partnerships ensure that individuals have a network of trusted peers, increasing the number of emergency contacts, reducing social isolation, improving access to assistance and information, and strengthening community ties while enhancing overall resilience. These partnerships could be created through community programs that facilitate regular social gatherings, pair individuals with complementary needs or interests, and provide opportunities for shared activities and mutual support.

Incorporating both peer and intergenerational connections strengthens informal social networks and bolsters self-efficacy among older adults. Research highlights that these support networks, especially among neighbours, facilitate the sharing of resources and information, making them valuable for preparedness and response (Aldrich & Kyota, 2017; Ashida et al., 2017). By allowing older adults to act as both providers and recipients of support, the buddy

system fosters self-efficacy, which is a key factor in civic engagement and proactive participation. Engaging in these roles helps older adults feel more capable and confident in managing emergencies (Aldrich, 2017). It acknowledges the role of older adults as active contributors and the value of their life experience and local knowledge, which can greatly enhance community preparedness and recovery efforts (Howard et al., 2015; Madsen et al., 2019). The buddy system also strengthens the sense of responsibility within the community by encouraging frequent interaction, shared preparation efforts, and mutual support. By creating an environment where older adults can rely on both peers and younger members of their community, this initiative builds a tightly knit network that promotes overall resilience, readiness, and the well-being of all community members.

Community Currency Volunteer Program

The final proposed solution draws inspiration from community currency and time banking initiatives, where participants earn credits for volunteering and community involvement, redeemable for services or goods within the community (Lasker et al., 2011; Lietaer, 2004). The literature frequently highlights older adult isolation and a sense of diminishing value (Aldrich & Kyoto, 2017; Bogdan et al., 2024; Wistow et al., 2015). Through participation in a community currency volunteer program, older adults not only strengthen their social networks but also maintain and renew their role as active contributors to the community. Older adults can engage in activities that are either specific to disaster preparedness or general community tasks. For instance, they could provide practical support such as home repairs, gardening, and transportation. They could also offer educational opportunities like tutoring and mentorship. Credits could be earned for caregiving services such as childcare or eldercare and providing companionship or emotional support to isolated individuals. Older adults can contribute to broader community initiatives by participating in community clean-ups, organizing or participating in arts events, performances, or workshops,

assisting with event planning, coordination, or outreach efforts, and supporting local non-profits or community projects with clerical work or fundraising. By engaging in activities that directly support disaster preparedness, older adults could earn credits for attending preparedness workshops, helping organize emergency drills, or participating in local resilience-building projects. In return, they could earn time credits or community currency to access services like personal care, home maintenance, transportation, or tech support.

This approach promotes volunteering among older adults by offering tangible rewards for community participation, helping to break down the common perception of older adults as passive recipients of care (Aldrich & Meyer, 2015). Instead, they become valuable contributors to the community. By actively participating, older adults would naturally build and strengthen their social networks. These networks would serve as support systems during a disaster, as older adults would have trusted contacts to rely on for information, assistance, and resources (Kim & Zakour, 2017). Furthermore, consistent engagement in community activities enhances self-efficacy, making participants more likely to feel confident in their ability to manage during a disaster and more likely to seek proactive ways to prepare (Aldrich, 2017).

Elder-Informed Approaches

A key takeaway from the literature is the importance of elder-informed approaches, moving beyond prescriptive measures and perceptions of them as passive or incapable. Before initiating proposed solutions, older adults' perspectives should be elicited on initiatives intended for their benefit. Engaging older adults in the planning and design phases of preparedness programs not only ensures that solutions are tailored to their unique needs but also fosters a sense of ownership and relevance (Bogdan et al., 2024; Howard et al., 2015). Studies highlight that building self-efficacy among older adults and empowering them to see themselves as capable contributors to community resilience is a critical factor in

achieving meaningful participation (Aldrich & Kyoto, 2017). Thus, before implementing

solutions recommended by the research, communities should prioritize consultations with

older adults, inviting their input on program design and encouraging active roles in

preparedness efforts. Such engagement strengthens both the program's effectiveness and the

older adults' confidence in their ability to support and protect themselves and others during

emergencies (Ashida et al., 2017; Rauhaus & Guajardo, 2021).

Limitations

This study has several limitations that impact the generalizability and practical

applicability of its findings. Firstly, the scope of the literature reviewed was limited, with

only approximately 20 studies assessed, many of which included small sample sizes (e.g.,

Ashida, 2017, with 27 participants) and were based on self-reported data. Self-reported data,

as noted by Aldrich (2017), can introduce biases, particularly when responses are influenced

by cultural factors, as many of these studies were conducted in Japan or other regions with

distinct social dynamics. Consequently, these findings may not fully capture the Canadian

context or reflect the experiences of older adults in other cultural settings. Additionally, this

research did not directly examine the cost and resource requirements for implementing the

community-based disaster preparedness strategies reviewed. This omission makes it

challenging to determine which strategies would be most feasible or sustainable in practice,

particularly in resource-constrained settings. The study also assumed that communities have

both the interest and capacity to adopt these strategies without assessing specific community

resources or the potential for private-public partnerships that could support such initiatives.

Moreover, while social capital is broadly recognized as beneficial in disaster contexts,

it was challenging to measure the direct impact of increased social capital on disaster

preparedness outcomes. Although existing studies often suggest that higher social capital

correlates with improved outcomes, there was limited evidence showing how specific

interventions translated into tangible improvements in disaster preparedness or support during emergencies. This limitation highlights the challenge of linking the theoretical benefits of social capital directly to practical results in disaster scenarios. Lastly, the research exhibits a bias towards non-governmental, grassroots initiatives, potentially overlooking the role and capacity of governmental entities in disaster preparedness. This assumption could skew perceptions of community versus government responsibility and capacity, making it important to consider a balanced approach that accounts for both public sector involvement and community-based efforts.

Despite these limitations, the study has notable strengths, as it is grounded in principles of social capital and community resilience, offering a valuable foundation for future research and practice among scholars, decision-makers, and community leaders. It synthesizes theoretical perspectives and current research that can be further developed and provides important insights into disaster preparedness for older adults, an area that has received limited scholarly focus.

Recommendations

The research identifies several knowledge gaps requiring further study. It also recommends further exploration of proposed interventions with an emphasis on participatory decision-making that includes older adults as equal participants in disaster preparedness.

This study reveals substantial knowledge gaps in the research on disaster preparedness for older adults, particularly in Canada, especially under the escalating impacts of climate change (Bogdan, 2024). While research generally acknowledges the vulnerability of older adults in disaster scenarios, few studies address their emergency support networks, particularly in rural areas where social isolation is prevalent (Ashida, 2017). This focus on older adults who are already integrated into networks overlooks those who are socially isolated and, thus, more likely to experience adverse outcomes during disasters. Another

primary gap is the limited availability of statistically significant findings due to small sample sizes and the narrow cultural or regional focus of many studies, such as those conducted in Japan. This restricts the applicability of insights to the Canadian context, where unique social and demographic factors are at play.

Additionally, reliance on self-reported data introduces potential biases, which may affect the reliability and validity of findings on older adults' preparedness. The underrepresentation of intersecting vulnerabilities, such as ethnicity, Indigenous identity, gender, sexuality, health, and socioeconomic status, was also not well represented in the literature. Limited research explores how these factors impact older adults' preparedness and resilience, leaving a gap in understanding how disaster preparedness efforts can be tailored to meet the needs of diverse and marginalized populations. Additionally, existing studies tend to frame older adults mainly as vulnerable, passive recipients of support rather than active contributors to community resilience, overlooking the role they could play in supporting preparedness efforts.

Future research should focus on assessing the feasibility, cost analysis, outcomes, and efficacy of the proposed interventions discussed, including the local emergency leadership corps for older adults, intergenerational and peer resilience partnerships, and volunteer community currency programs. It should also explore effective ways to introduce these initiatives to communities, particularly within a Canadian context, to determine their cultural and practical suitability. Further study should include assessments with older adults to evaluate their interest, likelihood of participation, and perceived usefulness of these measures. Additionally, research should gather older adults' input on specific interventions they would find helpful and explore ways to better include them in initiatives designed to support their safety and well-being. Addressing these areas will bridge existing knowledge

gaps, informing the development of more inclusive and effective disaster preparedness strategies.

Conclusion

While a future shortage of working-age adults presents challenges for disaster preparedness, the research suggests that older adults themselves hold significant potential as active participants in these efforts. There is an untapped resource within the older adult community, as they demonstrate both a willingness and ability to contribute to their preparedness and support their peers when engaged effectively. Community-level initiatives that increase social capital and empower older adults to take part in disaster preparedness without waiting for policy or economic shifts present a practical approach to strengthening resilience. By implementing interventions such as a local emergency leadership corps, intergenerational and peer resilience partnerships, and community currency volunteer programs, community leaders, non-government organizations, and volunteers are equipped with evidence-based approaches to proactively safeguard their more vulnerable members and foster stronger social networks.

This study calls for future research to address key knowledge gaps by incorporating larger, more diverse samples, especially focusing on isolated individuals. It also highlights the need to prioritize participatory decision-making, ensuring older adults are equal contributors to initiatives supporting their safety and well-being. However, certain limitations, including small sample sizes, participant selection bias, and limited cultural representation, restrict the generalizability of existing findings. Further research is needed to bridge gaps and provide empirical support for the proposed interventions. Despite these limitations, this study offers a roadmap for actionable, community-based strategies that enhance the preparedness and resilience of older adults, setting the foundation for continued exploration and improvement.

References

Aldrich, D. P. (2014). Social capital in post disaster recovery: Strong networks and

    communities create a resilient East Asian community. *Resilience and Recovery in*

    Asian Disasters, 19–34. https://doi.org/10.1007/978-4-431-55022-8_2

Aldrich, D.P., & Kyota, E. (2017). Creating community resilience through elder-led physical

    and social infrastructure. *Disaster Medicine and Public Health Preparedness, 11,*

    120-126. https://doi.org/10.1017/dmp.2016.206

Aldrich, D.P., & Meyer, M.A. (2015). Social capital and community resilience. *American*

    Behavioral Scientist, 59, 254 - 269. https://doi.org/10.1177/0002764214550299

Ashida, S., Robinson, E.L., Gay, J., Slagel, L., & Ramirez, M.R. (2017). Personal disaster

    and emergency support networks of older adults in a rural community: Changes after

    participation in a preparedness program. *Disaster Medicine and Public Health*

    Preparedness, 11, 110-119. https://doi.org/10.1017/dmp.2016.197

Bogdan, E., Krueger, R., Wright, J., Woods, K., & Cottar, S. (2024). Disaster awareness and

    preparedness among older adults in Canada regarding floods, wildfires, and

    earthquakes. *International Journal of Disaster Risk Science, 15,* 198–212.

    https://doi.org/10.1007/s13753-024-00555-9

Breen, K., Ru, S., Vandeweghe, L., Chiu, J., Heyland, L.K., & Wu, H. (2024). "If somebody

    needed help, I went over": Social capital and therapeutic communities of older adult

    farmers in British Columbia floods. *International Journal of Disaster Risk Science,*

    15, 290–301. https://doi.org/10.1007/s13753-024-00558-6

Brockie, L., & Miller, E. (2017). Understanding older adults' resilience during the Brisbane

    floods: Social capital, life experience, and optimism. *Disaster Medicine and Public*

    Health Preparedness, *11*(1), 72–79. https://doi.org/10.1017/dmp.2016.161

Cutter, S. L., Barnes, L., Berry, M., Burton, C., Evans, E., Tate, E., & Webb, J. (2008). A

place-based model for understanding community resilience to natural disasters.

Global Environmental Change, *18*(4), 598–606.

https://doi.org/10.1016/j.gloenvcha.2008.07.013

Fuss, J., & Globerman, S. (2020, September). *Canada's aging population and long-term

projections for federal finances*. Fraser Institute.

https://www.fraserinstitute.org/sites/default/files/canadas-aging-population-and-long-

term-projections-for-federal-finances.pdf

Henderson, S. B., McLean, K. E., Lee, M. J., & Kosatsky, T. (2022). Analysis of community

deaths during the catastrophic 2021 heat dome. *Environmental Epidemiology*, *6*(1).

https://doi.org/10.1097/ee9.0000000000000189

Howard, A., Blakemore, T., & Bevis, M. (2015). Older people as assets in disaster

preparedness, response and recovery: Lessons from regional Australia. *Ageing and

Society, 37*(3), 517-536. DOI:10.1017/S0144686X15001270

Jaboob, S., Thompson, L., Ilavarasan, A., & Ashida, S. (2022). Change in older adults' self-

efficacy to handle disasters after a preparedness program: Role of social networks.

Innovation in Aging, 6(Suppl.1)*,* 728 - 728.

https://doi.org/10.1093/geroni/igac059.2654

Kawachi, I., Aida, J., Hikichi, H., & Kondo, K. (2020). Disaster resilience in aging

populations: Lessons from the 2011 Great East Japan Earthquake and Tsunami.

Journal of the Royal Society of New Zealand, *50*(2), 263–278.

https://doi.org/10.1080/03036758.2020.1722186

 Kim, H., & Zakour, M. (2017). Disaster preparedness among older adults: Social support,

community participation, and demographic characteristics. *Journal of Social Service

Research*, *43*(4), 498–509. https://doi.org/10.1080/01488376.2017.1321081

Lasker, J., Collom, E., Bealer, T., Niclaus, E., Young Keefe, J., Kratzer, Z., Baldasari, L.,

    Kramer, E., Mandeville, R., Schulman, J., Suchow, D., Letcher, A., Rogers, A., &

    Perlow, K. (2010). Time Banking and health: The role of a community currency

    organization in enhancing well-being. *Health Promotion Practice*, *12*(1), 102–115.

    https://doi.org/10.1177/1524839909353022

Lietaer, B. (2004). Complementary currencies in Japan today: History, originality and

    relevance. *International Journal of Community Currency Research, 8*, 1-23.

    http://dx.doi.org/10.15133/j.ijccr.2004.005

Madsen, W., Ambrens, M., & Ohl, M. (2019). Enhancing resilience in community-dwelling

    older adults: A rapid review of the evidence and implications for Public Health

    Practitioners. *Frontiers in Public Health*, *7*. https://doi.org/10.3389/fpubh.2019.00014

Nakagawa, Y., & Shaw, R. (2004). Social capital: A missing link to disaster recovery.

    International Journal of Mass Emergencies & Disasters, *22*(1), 5–34.

    https://doi.org/10.1177/028072700402200101

Public Health Agency of Canada. (2008). *Building a global policy framework to address the*

    needs and contributions of older people in emergencies.

    https://www.canada.ca/en/public-health/services/publications/healthy-living/building-

    a-global-framework-address-needs-contributions-older-people-emergencies.html

Public Safety Canada. (2019). *Emergency management strategy for Canada: Toward a*

    resilient 2030. https://www.publicsafety.gc.ca/cnt/rsrcs/pblctns/mrgncy-mngmnt-

    strtgy/index-en.aspx

Putnam, R. D. (1995). Bowling alone: America's declining social capital. *Journal of*

    Democracy, *6*(1), 65–78. https://doi.org/10.1353/jod.1995.0002

Rauhaus, B. M., & Guajardo, J. M. (2021). The practice of youth inclusion in community

    planning and resiliency: The case of post-hurricane Harvey. *Journal of Health and*

    Human Services Administration, *44*(1), 67–85. https://doi.org/10.37808/jhhsa.44.1.4

Shaw, R. (2013). Incorporating resilience of rural communities for proactive risk reduction in

    Shikoku, Japan. In N. Kapucu, C. V. Hawkins & F. I. Rivera (Eds.), Disaster

    resiliency: Interdisciplinary perspectives (pp. 355-358). Routledge.

Statistics Canada. (2019, September 30). *Annual demographic estimates: Canada, provinces*

    and territories, 2019. https://www150.statcan.gc.ca/n1/pub/91-215-x/91-215-

    x2019001-eng.htm

Statistics Canada. (2021, September 29). *Annual demographic estimates: Canada, provinces*

    and territories, 2021 analysis: Population by age and sex.

    https://www150.statcan.gc.ca/n1/pub/91-215-x/2021001/sec2-eng.htm

Sugiyama, M., Chau, H.-W., Abe, T., Kato, Y., Jamei, E., Veeroja, P., Mori, K., & Sugiyama,

    T. (2022). Third places for older adults' social engagement: A scoping review and

    research agenda. *The Gerontologist*, *63*(7), 1149–1161.

    https://doi.org/10.1093/geront/gnac180

Wistow, J., Dominelli, L., Oven, K., Dunn, C., & Curtis, S. (2015). The role of formal and

    informal networks in supporting older people's care during extreme weather events.

    Policy & Politics, *43*(1), 119–135. https://doi.org/10.1332/030557312x655855