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Quality care and support for older people living in rural communities: learning from international models

Guest Editors: Lyn M. Holley and Roger O'Sullivan

Guest editorial

Lyn M. Holley and Roger O'Sullivan

Learning from international models for delivering quality care and support to older people living in rural communities

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Preface

Background. Delivering care for our aging population is a growing challenge in the USA and internationally, especially for older adults living in rural communities. The adequacy of economic and human resources available to serve them is diminishing while the demographic and financial challenges of serving this population increase. Partnerships, although little researched, are often suggested as a way to address needs and pool resources; therefore, this collection of articles brings together interdisciplinary and cross-sectoral qualitative perspectives on new ways of viewing partnerships.

Lead authors in five disciplines from four different nations provide new insights about how to develop partnerships to bring forward more effective and efficient models of care for older adults in rural areas. Spelling and terminology in each article follows the conventions of the country of the lead author.

Each of the manuscripts uses a different lens to assess new approaches to developing and nurturing interdisciplinary and cross-sectoral partnerships, and offers information about how partnerships can be developed strategically to improve care for older rural adults. The foundation for this collaboration was a symposium convened by Lyn Holley and Roger O'Sullivan at the 69th (2016) Annual Scientific Meeting of the Gerontological Society of America; speakers; papers for the symposium were recruited intentionally to present the state of the art of scholarship and practice in this area.

These manuscripts will be of interest to practitioners in any aging-related field that serves rural older adults (e.g. public health, nursing, sociology, rural studies, kinesiology, social work, long-term care management, geriatric medicine and gerontology). Scholars in those fields may be especially intrigued by the article that considers a theoretical frame for practical assessment of these efforts. College students and other learners will find these are valuable supplements to texts about care for rural older adults. Citizen advocates and public administrators may be particularly interested in the optimization of resources enabled through the strategic approaches to partnership that are described.

Articles. The lead article "Research partnerships – embracing user involvement: practical considerations and reflections" by Roger O'Sullivan, PhD, applies research and fieldwork undertaken in Ireland, and practical reflections on designing partnerships to community-based partnerships, cross-sectoral and cross-country partnerships for research and practice. It expands understanding of the theoretical context in which partnerships are designed and operate, and provides insight into the practical questions and considerations that inform decision making on partnerships.

Intentional application of the CARDI model developed by Dr O'Sullivan and others is illustrated in the next article by a case report of development of a successful university program specifically designed to prepare nurse practitioners to provide interdisciplinary acute care to rural older adults. The program provides an important example of how an interdisciplinary partnership could be one answer to meeting the needs of rural older adults. "Interdisciplinary partnerships for rural older adults' transitions of care" recounts conceptualization, funding, organization, methods, and evaluation of the program. The Principal Author Joyce Weil, PhD, MPH, notes that evaluation to date indicates that the program may be useful as a model for interdisciplinary partnerships to

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create new rural adult-gerontology acute care academic programs that prepare nurse practitioners to provide culturally and clinically competent care for rural older adults.

"Strategic partnerships enhance resources for care of rural-dwelling older adults" illustrates how university partnerships with practitioners can inform and improve both theory and practice to address the persistent problems of recruitment and retention of adequate staff in rural nursing homes. The article describes a case in which the CEO of a nursing home partnered with a university to apply demographic analysis and qualitative assessment to identify organizations that could as partners contribute resources critical to meeting staffing needs. Partnerships were developed with a variety of private charities and agencies of local, state and federal governments that provided social services meant to help unemployed persons. Partnerships provided resources that enabled creation of new training and promotion opportunities, and dramatically reduced expense of "temporary staff" that are typically used short-term by long-term care facilities to cover vacancies. The case is described through the lens of the experience of the CEO of a nursing home in rural Nebraska who collaborated with his "alma mater" to identify the potential for and develop strategic partnerships that enabled the nursing home to meet staffing challenges and which produced innovations, perhaps even a complete model worthy to be considered for replication.

Partnerships can be useful in designing and delivering interventions intended to reduce racial disparities in health risk among rural older adults. The article, "Assessment of metabolic syndrome risk factors among rural-dwelling older adults requires innovation: partnerships and a mobile unit can help" reports how Martha R. Crowther, PhD, MPH, Cassandra D. Ford, PhD, RN, FAHA and their community and academic partners collectively amassed and shared social capital to gain access to rural communities where residents are predominantly African Americans with lower social economic status (SES). That access was antecedent to the intervention, which was to use a mobile unit with an interdisciplinary healthcare team to assess risk of metabolic syndrome (MSX), and access to healthcare in rural West Alabama. The partners collaboratively assembled evidence of the racial disparity in health, also demonstrated the effectiveness of this approach (partnering to earn social capital and share information) and intervention (partnering to provide interdisciplinary care and information by way of a mobile unit) to address the disparity.

The Canadian Institutes of Health Research (Canada's federal funding agency for health research) recognized the potential power of partnerships by funding a number of studies through a special program," Partnerships for Health System Improvement (PHSI) in 2013 (www.cihr-irsc.gc.ca/e/39315.html)." The study which is reported in "Impact of a home-based nutrition and exercise intervention in improving functional capacity associated with falls among rural seniors in Canada" describes conceptualization, organization implementation and evaluation of a home-based exercise intervention that is delivered thorough an urban and rural home care network. The goal of the intervention is to improve functional capacity and reduce falls among older adults. Falls are a leading cause and symptom of age-related functional decline. Smaller population and distance from services made rural recruitment initially difficult, but the researchers partnered with community organizations and individuals to utilize the connectedness typical of those small populations in which "everyone knows everyone" to disseminate positive reports about the intervention and develop trust. That experience and the positive evaluation of the reduction of frequency of falls strengthens other indications in the literature (e.g. the article above) that rural context and culture is important to consider in developing the partnership experiences and benefits.

Partnerships often increase resources both in volume and in content. Charles Musselwhite's article, "The importance of a room with a view for older people with limited mobility" reports qualitative research findings that suggest immobile older adults enjoy watching a motion full, changing, world going on outside the reach of their own mobility, and that they interact with it reflectively to create meaning and sense, and relate themselves to the outside world. Findings suggest that those working in health and social care can utilize this inexpensive but powerful intervention by partnering across disciplines even potentially using technology to adjust the environment of the older person so the older person can observe the outdoors.

The US Government administers a nationwide healthcare system for military veterans, the Veterans Administration. The Veterans Health Administration operates a network of 170 hospitals

and 1,061 Community-based Outpatient Clinics that provide a range of medical, surgical, psychiatric and rehabilitative care. However, healthcare for older veterans in rural situations poses particular challenges. The article, "Supporting older military veterans in the rural United States." describes utilization of partnerships within the context of an overview of how the VA has dealt with the challenges of providing care for older rural veterans. VA healthcare is largely concentrated in urban areas, thus limiting rural Veterans' access to VA benefits. These challenges have been addressed by establishing the national Veterans' Health Administration Office of Rural Health to "refine, and promulgate policies, best practices, lessons learned, and innovative and successful programs to improve care and services for Veterans who reside in rural areas of the United States" (38 U.S. Code § 7308, 2006). Based on results of more than 1,700 local pilot projects, two strategic themes became unifying principles for practice in 2016, one theme highlights partnerships with public and private local providers and advocacy organizations as the recommended approach to enhancing services. VA guidance for these partnerships is discussed, and Table I provides the VA "Lessons for Rural Partnership."

Finally, an article by Cassandra Ford describes how a professional association of scholars can be a vital and effective means for dissemination of new knowledge to both researchers and practitioners, who are in positions that permit them to translate knowledge into practical applications. This article discusses the challenges of providing care for older persons in rural circumstances and argues that such associations and their literature help improve the capacity of societies to serve rural-dwelling older adults.

Research partnerships – embracing user involvement: practical considerations and reflections

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Abstract

Purpose – *Academic researchers are increasingly required, and rightly so, to demonstrate the impact of their work beyond the gates of the university. This has led to an increasing focus, especially in response to funded calls, on developing research partnerships that cross disciplines, sectors and borders to help address our grand societal challenges. The purpose of this paper is to set out learning from the work of the organisation the Centre for Ageing Research and Development in Ireland (CARDI) and reflections on how to bring forward effective research partnerships involving users.*

Design/methodology/approach – *This paper is based on reflections and learning from the organisation CARDI which delivered a highly successful programme of interdisciplinary, cross-sectoral and cross-country research partnerships in both rural and urban areas between 2007 and 2015, across the island of Ireland.*

Findings – *Research partnerships that wish to involve users require time, commitment, support, understanding and a willingness to change and be challenged. This paper highlights that there are methodological, philosophical, moral, economic and of course, practical aspects to be considered.*

Research limitations/implications – *This reflective paper is based on a case study from the island of Ireland during the period 2007–2015 working in the area of ageing and older people.*

Practical implications – *The author emphasises that for research partnerships involving users to be successful, they need to not only consider the most effective research methods but also focus on the overarching purpose of the work and adopt an ethos and practice that maximises each partner's knowledge and expertise to their full potential.*

Social implications – *This reflective paper focused on the characteristics associated with partnership success, i.e. communication style, values, philosophy and practice and argues that establishing effective and inclusive partnerships requires time, the appropriate framework and reviewing the process on an ongoing basis.*

Originality/value – *The issue of user involvement in research partnerships requires much more consideration. Researchers, government, funders, businesses and service providers are increasingly recognising the benefits of "user" involvement to help design programmes and services that are most effective. Nowhere is this more important than in planning and delivering services, policy and programmes for our ageing population.*

Keywords *User involvement, Partnerships, Interdisciplinary, Cross-country, Knowledge brokers, Cross-sectoral*

Paper type *Viewpoint*

Introduction

Academic researchers are increasingly required, and rightly so, to demonstrate the impact of their work beyond the gates of the university. This has led to an increasing focus, especially in response to funded calls, on developing research partnerships that cross disciplines, sectors and borders to help address our grand societal challenges. There has been much written elsewhere about the theory of partnerships, as well as models of their development and how to measure their impact. The author will not address these areas in depth but will, rather, focus on the practical considerations when involving "users" in research, especially when designing effective research partnerships in planning for an ageing population.

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This paper is based upon reflections and learning from a programme of interdisciplinary, cross-sectoral and cross-country research partnerships in both rural and urban areas between 2007 and 2015, across the island of Ireland. In summary, the author emphasises that for research partnerships involving users to be successful, they need to not only consider the most effective research methods, but also focus on the overarching purpose of the work and adopt an ethos and practice that maximises each partner's knowledge and expertise to their full potential.

Nurturing research partnerships – across sectors, disciplines and borders

The Centre for Ageing Research and Development in Ireland (CARDI) was established in 2007 and ran until 2015; with the underlying purpose of improving the lives of the growing number of older people in Ireland, North and South, by supporting high quality, policy-relevant research[1].

Recognising the value of pooling of resources and expertise, CARDI sought to encourage and stimulate research that worked across borders, disciplines and sectors in both urban and rural communities on a wide range of issues relating to older people and an ageing society. CARDI's strategy emphasised the importance and benefits of the cross-fertilisation of ideas as well as the utilisation of expertise inside and outside the university. The starting point was that ageing research flourishes when the research community connects with the relevant players from government, the voluntary and community sector, business and older people themselves.

During this period CARDI supported, promoted and facilitated cross-sectoral methods of working which focused on the end use of the research; not just the production of the final research report and resulting journal articles. Part of this process was about maximising the skills and knowledge of partners and, of course, building relationships along the way that could go beyond the timeline of the grant. Creating conditions for greater collaboration and cooperation was a building block of CARDI's work. Through its work and funding programme, CARDI supported innovative and policy focused pieces of research into issues affecting the ageing population on the island of Ireland including topics, such as long-term care, physical activity, rural transport, social exclusion and fuel poverty. A modest funding resource facilitated the delivery of a highly successful programme of work which helped advance all island ageing research, raise the profile of the research community and build connections and cooperation. It also focused attention on the central function of research in improving later life for all citizens in society and the role of older people in driving that work (O'Sullivan, 2012; CARDI, 2015)[2]. The next section will explore partnerships in further detail, theoretically, practically and methodologically.

Why value partnerships

The primary purpose for any partnership is to ensure that the issues at hand are addressed, or solutions identified:

> [Partnerships are formed] where two or more organisations make a commitment to work together on something that concerns them both, to develop a shared sense of purpose and agenda, and generate joint action towards agreed targets. (The Health Education Board for Scotland cited in Boydell, 2007, p. 3).

Terms such as collaboration, cooperation, coalition, network, strategic alliance and partnership are often used interchangeably (Boydell, 2007). However, Fook *et al*. (2011), writing about the Norwegian experience, consider partnership working differently as an approach in that it promotes complementary interests, planning and decision making. Talking about education partnerships for those aged 16+ in England, Dhillon (2005) asserts that partnerships underpinned by mutual values as well as trust amongst key people in the partnership, constitute the "social glue" that holds them together to provide the basis of effective working. Therefore, effective partnerships are more than simply about tackling an issue that can be addressed individually – it is about the process of pooling expertise, bringing together collective knowledge and of course collective rewards.

It is important to recognise that power forms part of any research partnership and has the potential to contribute to a process of empowerment and/or dis-empowerment. The World Health Organization (WHO), in their 2010 report on "User empowerment in mental health – a statement by the WHO Regional Office for Europe", describes empowerment as the process of

taking control, taking responsibility and providing the potential to build capacity. It includes four dimensions: self-reliance, participation in decision making, dignity and respect, and belonging and contributing to a wider community. The authors indicate that "the key to empowerment is the removal of formal or informal barriers and the transformation of power relations […]. Power is central to the idea of empowerment, and one important element of empowerment strategies[…]". When writing on this issue, Foucault emphasised that power is not simply a top down issue but rather a moving one, according to context and timing. He states: "Power is everywhere" and "comes from everywhere" and viewed it as neither an agency nor a structure (Foucault, 1998, p. 63). Furthermore, for Foucault power and knowledge are inextricably related, he regarded knowledge as an exercise of power and power as a function of knowledge. Therefore, in this context power can revolve around the partnership as it can around empowerment, knowledge and expertise.

In summary, effective cross-sectoral research partnerships are focused on more than understanding the issues from a different perspective, or giving people an opportunity to have a say. Rather, it is recognition that those outside academia and one's discipline, possess different knowledge and expertise which can benefit research and can help drive the change the partnership may wish to see happen. Principally, it is about appreciating the diversity of skills and knowledge that are academic, practical, policy based or from the lived experience.

User involvement

> User involvement means to concretely engage users at all stages, to design with them their role throughout the process, to take into account their needs and concerns throughout the whole process […]. This implies the need for sufficient resources, which are not only related to research funding, but also to human support. User involvement implies the sharing of research outcomes with the users who take part in the activities, as well as involving them in the evaluation and eventual follow-up (Futurage, 2011, pp. 85-6).

Similar to the concept of partnership, an array of different words are used to describe "user involvement". Terms, such as engagement, participation and personal and public involvement (PPI) or patient involvement, mean different things and are most beneficial in different contexts. INVOLVE, a National Health Service advisory group, funded by the National Institute for Health Research that supports public involvement in health and social care research, provides a useful distinction:

- User involvement: members of the public are actively involved in research projects. In the health sector, this is increasingly referred to as PPI.
- Participation: describes people taking part in a research study as subjects of the research.
- Public engagement: information about research is provided and disseminated to the public. Activities include science festivals, open days, media and communications. The National Co-ordinating Centre for Public Engagement describes engagement as a two-way process, involving interaction and listening, with the goal of generating mutual benefit (www.invo.org.uk; www.publicengagement.ac.uk).

Although partnerships are rarely contentious, the level and type of user involvement in research partnerships can be. As Murtagh (2014a, p. 11) stated:

> It is important to recognise that user involvement is itself a controversial subject. Critics point to a lack of compelling evidence that it adds value, while advocates are critical of the tokenistic nature of previous attempts to engage older people in research and advocacy.

Nevertheless, researchers, government, funders, businesses and service providers are increasingly recognising the benefits of "user" involvement to design programmes and services that are most effective. Nowhere is this more important than in planning and delivering services, policy and programmes for our ageing population. The issues affecting older people, and indeed an ageing population do not respect departmental, sectoral or indeed geographical boundaries. Therefore, providing effective planning relies on the utilisation of knowledge and expertise from a range of stakeholders especially representative organisations, charities and older people themselves.

In the UK, the New Dynamics of Ageing programme ran between 2006 and 2013 and championed user involvement in research. It was a multi-disciplinary ageing research funding programme that spanned biological, medical, economic and social research, the arts and humanities and related government funding councils. The programme aimed to "build the involvement of older people into its foundations rather than bolt it on at the end" (Harding. n.d.). For example, an Older People's Reference Group (OPRG) was established to advise on the programme, monitor its outputs; help disseminate the outputs from the programme and act as a resource to the programme. The goal of such involvement was to help the research have an impact, influence service, policy and practice[3] as well as attitudes towards older people and by older people themselves (Harding, n.d.)[4].

The promise of effective user involvement is a potential to utilise knowledge, experiences, values, skills and resources to help deliver better outcomes. According to Twocan, user involvement aims to improve research in a number of ways:

- relevance and usability;
- strengthening confidence in validity;
- increasing the likelihood that the research will be used by others;
- increasing the prospects for fundraising; and
- strengthening the advocacy potential (www.twocanassociates.co.uk).

The potential of user involvement for Barnes and Taylor (2009) is that it can help research have a greater impact, produce research that is considered relevant and important by older people and their organisations as well as generate data for advocacy, service delivery and policy and can develop skills amongst older people and NGOs. Bannister and Hardill (2013, p. 2) on the potential role of social sciences to help interpret and address the complex challenges confronting society, state:

> Within the social sciences there are a number of epistemological traditions that have sought to engage with research users such as feminism, participatory research, disability studies and the more recently emerging field of sustainability science. However, many mainstream social scientists have been reluctant or unable to make similar connections. Some have preferred to preserve their "distance" from research subjects, an endeavour to retain a disciplinary integrity wherein scientific knowledge is valued more highly than that derived from policy-makers, service providers or users.

The drive of the user involvement agenda is reflected in Bannister and Hardill (2013, p. 5) who recognise that there are various forms of evidence and knowledge informing the design, delivery or evaluation of public services. Academic knowledge "sits alongside, sometimes in conflict and sometimes in harmony, with the knowledge of policy makers, practitioners and service users."

The CARDI approach to user focused partnerships

The CARDI approach to user focused partnerships combined both pragmatism and ambition – we recognised that the ideal situation and context is rarely present without creating opportunities, incentives and frameworks to make research partnerships happen. The groundwork started in a modest but practical way, first meeting with stakeholders, and then developing a database of research interests of the research community in Ireland, North and South, and subsequently sharing this online on our website, to help facilitate connections and showcase existing work. We developed a strategy that had high level support from key stakeholders and leaders in the community. Throughout the period 2007–2015, CARDI held 60 + events, with over 3,400 participants. Through its grants programme and events, CARDI sought to bridge the gaps between researchers (and their academic institutions) and the consumers of research. Part of CARDI's work included funding collaborative research projects and networks that brought together researchers from different institutions, sectors and disciplines along with the users of research.

The learning from the CARDI approach is especially relevant for those wishing to connect researchers and wider civic society in such partnerships. Time must be taken to lay the

foundations for such work to be undertaken. There must be opportunities and vehicles created to facilitate connections between those undertaking research and those interested in the results of research. And, in terms of those wishing to establish a research partnership with users, it is important to understand the driving force behind such a research partnership. Is it because:

1. One values partnership working as a way to achieve desired goals?
2. One recognises the limitation of one's own knowledge, networks and skills?
3. It is a requirement of the terms of reference of a funding body?

Particularly notable is the stage at which users are asked to participate in a partnership. Adequate timing is key to facilitate input into the research question(s), the research process and how the results of the research will be used. Unfortunately, it is evident where user involvement is an afterthought. Fundamentally, it takes skill to build a group sense of ownership and recognise the appropriate level where partners feel comfortable in participating – however, the benefits can be immeasurable. For example, one of the CARDI funded projects that looked at the issue of elder abuse illustrated how a model for utilising the skills and knowledge of older people as peer researchers reaped great benefits. Older people, in this project, took on aspects of research design, data collection, analysis and dissemination. To increase learning, the peer researchers recorded their reflections of the research process along with other team members (Begley *et al*., 2011):

> The active involvement of the peer researchers provided an additional richness to the design, data gathering and analysis. In the focus group, by connecting with participants, the peer researchers created informal spaces where participants felt more able to speak their minds and share experiences. Their work on the analysis was invaluable in building understanding of the focus group participants' meanings. The peer researchers had first-hand experience of some of the issues, for example being ill and/or needing support. Their reflections on what lay behind particular utterances highlighted social and cultural norms that influenced this cohort of older people, for example, the duty to care for parents. (Begley *et al*., 2011, p. 7).

Such an approach required a recognition of the human, philosophical, ethical, practical and financial side of research partnerships.

User involvement, learning from co-production and consultation

User involvement and co-production and to a lesser degree consultation share elements. Co-production is a way of involving users in designing public services and establishing wider ownership. For Boyle and Harris (2009, p. 11) "Co-production means delivering public services in an equal and reciprocal relationship between professionals, people using services, their families and their neighbours. Where activities are co-produced in this way, both services and neighbourhoods become far more effective agents of change." Co-production, like user involvement in research partnerships, can be achieved through a range of activities, processes and tools (Table I).

Table I Features of co-production relevant to user focused research partnership

Recognising people as assets	Transforming the perception of people from passive recipients into one where they are equal partners in designing and delivering services
Building on people's existing capabilities	Provides opportunities to recognise and grow users' capabilities and actively support them to put these to use within the research and communities
Mutuality and reciprocity	Offering people a range of incentives to engage, which enable reciprocal relationships, where there are mutual responsibilities and expectations
Networks	Transferring knowledge and supporting change
Blurring distinctions	Blurring the distinction between researchers user, producers and consumers of research, by reconfiguring the way research is developed and delivered
Facilitating rather than delivering	Focusing on catalysts and facilitators of change rather than simply research articles

Note: Adopted from Boyle *et al*. (2010)

Writing on the challenges of knowledge co-production, in the context of improving the quality of care, Vindrola-Padros *et al*. (2018) note the driving premise is that there are multiple and coexisting forms of knowledge:

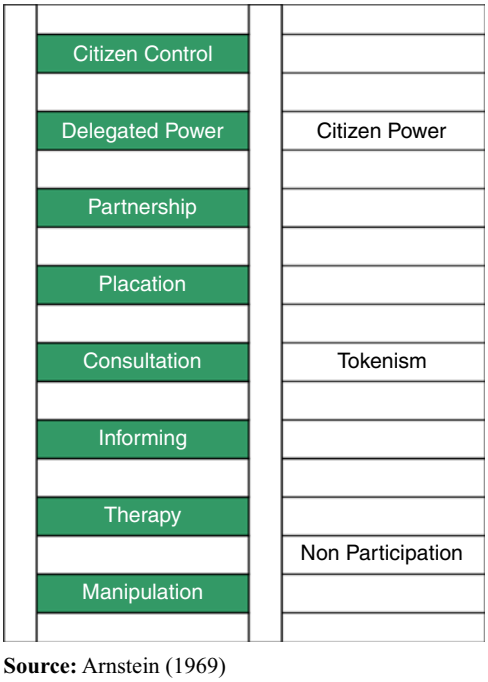
> The underlying assumption is that if knowledge is created through the interaction of these different groups of stakeholders, it will be able to reflect a wider range of perspectives, provide insight into the issues affecting each group, be more relevant to the local context and, therefore, more easily translatable into changes in policy and practice. (p. 1)

Similar to co-production, the reason for undertaking consultations, for example, during policy or service development, is to help generate solutions which may work and gain acceptance. However, like user involvement, this must be meaningful and genuine. Rural Community Network produced a good practice consultation manual and a team of rural consultation facilitators in response to the statutory duty to consult and coined the term "consultation fatigue". The fatigue expressed was in the context of the requirement to consult becoming law with Section 75 of the Northern Ireland Act 1998 (www.equalityni.org). The frustration and fear was that it was tokenistic rather than a meaningful process (Rural Community Network, 2003). We must all take learning that user involvement does not fall foul of the same concern.

Arnstein (1969) identified a conceptual ladder of participation (below) that can be used to assess user focused programmes and partnerships. The ladder presents eight levels – Level 1 is the strongest methodological approach, with more and more power given or shared between the user and the researcher. Level 8 is the weakest, i.e. "manipulating" the user to achieve the outcome desired; "informing" is non-participation; "consultation" can be viewed as tokenistic and partnerships have the strongest opportunity for citizen power (Figure 1).

In short, the better the quality of the practice, the more likelihood the outcomes will be of benefit to a wider number of people. What CARDI strove to bring forward was research that was "with" rather than "about". We envisaged older people, charities, policy makers and services planners working with highly skilled researchers to help prioritise research questions, offering advice as members of a project steering group, commenting on and developing

Figure 1 A ladder of citizen participation



Source: Arnstein (1969)

research materials and being a champion for the results of the research, and the policy and practice recommendations because they felt they owned them and were part of the desired outcome.

Principles of making effective partnerships

An effective and meaningful partnership is much more than involvement in principle, or a name on a document or application form. Partnerships are a two-way process. It is a form of working that requires support and understanding, willingness to change, to be challenged and commitment to the outcome (Folk, 2011). We found that those who viewed a research partnership simply as a way to share information or extract participants' views often missed an opportunity and indeed our funding!

A strong collaborative partnership requires a vision and an interdisciplinary value base focused on utilising the expertise of those inside and outside one's discipline and particularly outside the university gates. To be effective, it must be based upon an ethos where contributions are valued and fostered and reflected in how the research is planned, undertaken and written up. However, it is not simply about getting people involved – rather it is about getting the right team mix. For an application to be successful on paper and in its desired outcome, it is key that there is a logical mixture of disciplines (and personalities) rather than just different disciplines, sectors and older people. It must be a grouping that will advance and actually benefit the outcome of the work and the partners involved.

At its core there must be an ethos that promotes interdependence while respecting individual roles and expertise. Individuals are invited because of their or their organisation's expertise, however, partnerships must focus on the collective benefit of working together. In an ideal situation, getting "buy in" (agreement) should take place from the identification and most certainly at the design stage of a programme. While this is not always possible, it is important to recognise that although in a partnership there are different roles and responsibilities in line with the overall agreed terms of reference, there must be a sense of equity. What is required for success is an approach that focuses on promoting mutual dependency to build a feeling of group ownership and responsibility along with momentum.

Therefore a key element of successful partnerships involves building relationships and working in partnership with service users and older people. This requires an approach that ensures that users can be involved in a way that meets their needs, not just those of the researcher or the service planner. It may seem rather obvious but clearly explaining roles and what is expected of the various partnerships helps to avoid any confusion and disappointment or alternatively maximises valuable involvement, insight and provides opportunities that may otherwise be missed. It is also important to make it clear that the research process takes time to complete in order to ensure that the results are robust and that the research in itself does not necessarily lead to the change partner participants may wish to see.

Of course effective communication, collaborative decision making and a focus on effective team working is essential if a partnership is to work successfully – not just when everything is going well but also when aspects do not go as planned. Building foundations and investing time, especially when planning involvement and supporting people during the project can pay off in the long term! Researchers and funders should be mindful of practical issues and of minimising the cost of involvement for service users – if meetings are organised during the day or within the university then participation may come with a cost. Small things really do matter, for instance: refreshments, travel expenses.

Barriers to user involvement

While practical barriers need to be considered, professional resistance needs to be better understood as well as concerns addressed. Murtagh (2014a), in the report "Building stronger user engagement in age research", sets these out in detail[5]. He found that amongst some groupings there was often a genuine misunderstanding of user involvement. For example, there

was a perception that user involvement would not work in "hard science" but was acceptable for "soft research"! However, the capacity building work from the SPARC[6] programme and KT equal[7] demonstrated that users can practically help interpret "hard science" for everyday usage (Lansley, 2010). Furthermore some funders such as The Alzheimer's Society (Sorensen, 2009) and the Public Health Agency in Northern Ireland have involved service users (families and/or people with dementia) alongside academics in reviewing grants and this model successfully shaped what was funded.

An often-cited concern is that non-academic involvement will interfere with the integrity or the independence of the project. Again, this is a genuine concern but one that can be addressed at the planning stage where clear terms of reference, key terms, areas of responsibility and expertise are agreed by all involved. For CARDI, if there was no added value or no real role, then tokenism had to be avoided. Involvement in research projects and partnerships needs to add value for researchers, older people and organisations involved. If there are unrealistic expectations by or of non-researchers in such a research project, then there is likely to be a less than positive outcome (Murtagh, 2014a; O'Sullivan, 2015). The position of CARDI was that user involvement in research partnership is neither about giving away control of the research process nor compromising methodological standards or high quality publications. It is about focusing on getting the best results and outcome for older citizens and society.

When the worlds of practice, policy, users and research meet in a research partnership – such encounters are not always unproblematic but likewise the potential can also be immense. The starting point for such partnership work, whatever the group, is to recognise and acknowledge different frameworks and how different value bases and driving forces can have an impact upon partnership working – whether it is voluntary, community, public, private or academic. Such recognition has the potential to help shape and inform research questions as well as the direction of the project. However, as Doyle (2009) reflected, the case for user involvement must connect with the practicalities and realities of involvement, for example, how much or what type of involvement do older people actually want?

Lavis *et al*. (cited by Bannister and Hardill, 2013, p. 5) characterise three types of research/user interaction: producer-push, user-pull and exchange:

> The first of these emphasises the active role taken by researchers in communicating the messages from their research; the second highlights the need for potential research users to create an environment whereby research is actively valued, sought and used; and the third ("exchange") outlines models of interaction between researchers and users that emphasise joint actions in the defining, creation, validation and use of research.

Crucially, the key message is that it takes time to build relationships with those you want and need to get involved. This requires investing time – especially when planning the involvement of older people/older people's organisations and supporting them during the life of the project and not just at the beginning. It is important to demonstrate that user's expertise is respected, valued and essential to making the project successful. Sometimes those leading the project or partnership will be required to go that extra mile to ensure that older people and non-government organisations can be involved. Address practical issues at an early stage and remember that "little things really do matter". Honesty and straight talking is the best policy – what is driving the work, why is it being taken forward and what is its desired outcome. This brings us back to clarity about everyone's roles – taking time at the beginning of a project or partnership to explain what is needed from those involved and how they can help. Finally, during the time of CARDI we found it was necessary to remember that some topics can be sensitive/emotional and it was important to be aware of support structures if required (Blackburn *et al*., 2010; Murtagh, 2014a; CARDI, 2015).

Knowledge brokers

During the period 2007–2015, CARDI performed an important role in facilitating knowledge exchange and translation as well as relationship building and brokerage with key stakeholders to help bring about positive change for older people across the island of Ireland. Knowledge brokerage forms an important function in connecting various groupings in the context of

supporting user involvement and developing cross-sectoral partnerships. Glegg and Hoens (2016) state:

> Knowledge brokers [KB] bridge different disciplines and sectors by developing a common language, by fostering interactions between individuals that generate a shared understanding of their issues and objectives, and by reshaping knowledge to improve its meaningfulness and applicability across contexts. From this perspective, KBs move among groups fostering collaborative processes, with the aim of generating new "brokered" knowledge that is more robust and readily applicable within its intended local context (Meyer cited Glegg and Hoens (2016, p. 15)).

CARDI's role and areas of work fell within the five domains for knowledge brokering as set out by Glegg and Hoens (2016):

1. Information manager: sourcing, organising, translating and sharing ageing evidence from research, policy and practice.
2. Linking agent: building connections and relationships between stakeholders – academic, charities, policy makers and older people across Ireland, North and South.
3. Capacity builder: supporting and encouraging skill development, through our funding, workshops, publications and online resources as well as addressing barriers both financial and intellectual (Murtagh, 2014a, b).
4. Facilitators: guiding and supporting connections across disciplines, borders and sectors including an extensive database.
5. Evaluators: focusing on the end use of the research and the desired outcome and impact.

Jackson-Bowers *et al*. (2006) like Glegg and Hoens (2016) view knowledge brokers as making connections between groups of people; building relationships and networks but they add additional dimensions that CARDI also fulfilled: well informed on the issues, seen as trust worthy; high level of credibility; not lobbyists or simple sharers of information.

Evident in this reflected piece is that in the area of user involvement in research partnerships there is a need for organisations like CARDI to help make connections happen, to be agents of change and support, both practically and philosophically. In summary, knowledge brokers are needed to help connect the user with the producer.

Conclusion

The mantra of partnership with users, across and within sectors is increasingly central to governments', businesses' and charities' approaches for developing and delivering services and addressing complex challenges. Unfortunately, all too frequently, insufficient planning, training for those involved and practical considerations are taken into account resulting in a concern from many users that only "lip service" is paid to "partnership working" in place of real involvement[8].

The ideal situation is that each person in a research partnership brings a different set of skills and combined together this evolves into a new way of working and new and meaningful results are achieved. However, in reality partners from different sectors often start with different values, priorities, resources, ways of working and the skill is to bring these diverse contributions together to link to a common goal to achieve positive results. It would be naive to claim that it is easy to establish user involvement partnership model as a way forward but the CARDI experience shows it is worthwhile for all involved.

In CARDI's highly successful funding calls, the two criteria that often caused most difficulty were related to user involvement and cross-sectoral partners. However, it is positive to reflect that as we progressed through the calls, applicants, through our workshops, publications and toolkits became stronger in all the criteria and more mindful of the overall purpose of CARDI and the expectation of researchers and research. Indeed the island of Ireland gained recognition as a place of excellence in ageing research and CARDI was happy to have played our part in that process (CARDI, 2014, 2015).

It is positive that the role of users has moved centre stage in many areas. In the UK, the Research Excellence Framework, the tool used to assess quality and performance has been part of this agenda

with its focus on impact as has the increasing focus of both Government and Charity funders. Government health research funders on both sides of the island of Ireland have committed to strengthening and developing user involvement in research (PHA, 2014, Health Research Board, 2016). Most recently in the UK, a set of national standards was launched, designed to improve the quality and consistency of public involvement in research and aims to provide clear benchmarks for effective public involvement alongside indicators against which improvement can be monitored[9].

In conclusion, this reflective paper focused on the characteristics associated with partnership success, i.e. communication, style, values, philosophy and practice and argues that establishing effective and inclusive partnerships requires time, the right framework and reviewing the process on an ongoing basis. If a research partnership is designed effectively with an agreed outcome, then it has the potential of a "win/win" process with relationships potentially having a much longer life span than a single project. In conclusion, partnerships that wish to involve users require time, commitment, support, understanding and a willingness to change and be challenged.

Below are a set of critical questions to challenge and support you on this journey (Murtagh, 2015; O'Sullivan, 2016a, b).

Questions for NGOs invited to be part of research partnerships:

- Is it clear who the research is for and why you are asked to be involved?
- How useful is the research to you and the older people you work with?
- Have you influence on how your organisation and older people could be appropriately and effectively involved in the research project?
- Have the ethical implications of the research been clearly explained to you; are there risks or potential harm to older people?
- Will there be a specific budget covering your involvement?
- Are you given an opportunity to comment on the methodology?
- Do you, your organisation and where relevant, older people have the skills and resources to participate in the research effectively?

Questions for researchers inviting users to take part in research partnerships:

- Do you view partnerships as bringing added value to your work or rather as fulfilling a criterion to be considered for funding?
- How would you rate your institution's attitude towards partnerships?
- What support is needed from institutions, funders and professional bodies for effective participative partnerships?
- What opportunities/risks are you willing to take to advance a cross-sectoral research partnership?

Notes

1. In September 2015, the Centre for Ageing Research and Development in Ireland became the Ageing Research and Development Division within the Institute of Public Health in Ireland (IPH).
2. An overview of CARDI's work –2007 – 2015 is available at: www.cardi.ie. In 2012, a special edition of Quality in Ageing and Older Adults featured the work of CARDI: Volume 13, Issue 1.
3. Influencing policy and services is multi-layered. However, strong evidence, clearly translated, shared in ways that builds understanding, especially in understanding key stakeholders, networks and the flow of knowledge is crucial (CARDI, 2012; O'Sullivan, 2015).
4. The Older People's Reference Group produced an end of programme evaluation: www.newdynamics.group.shef.ac.uk/assets/files/NDA%20OPRG%20End%20of%20Programme%20Report%20Final.pdf
5. This report sets out a review of user involvement in research, especially that related to age and ageing. It focuses on understanding user needs, the value of involvement and how practice might be strengthened within the age research community in Ireland, North and South.

6. The Strategic Promotion of Ageing Research Capacity (SPARC) was a four year programme of support, funded by government, to "pump prime" funding of new researchers to ageing research, to publicise the outcomes of ageing research and to hold events to illustrate the value of ageing research. www.sparc.ac.uk/. See report www.sparc.ac.uk/media/pdf/SPARC-v8.pdf
7. KT-Equal built upon the work of EQUAL and SPARC initiatives for collaborative interdisciplinary research on ageing – http://kt-equal.org.uk/
8. See improving partnership working to reduce health (www.kingsfund.org.uk/publications/articles/improving-partnership-working-reduce-health-inequalities).
9. www.nihr.ac.uk/news-and-events/documents/Public_Involvement_Standards_March%202018_WEB.pdf

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Interdisciplinary partnerships for rural older adults' transitions of care

Joyce Weil, Gwyneth Milbrath, Teresa Sharp, Jeanette McNeill, Elizabeth Gilbert, Kathleen Dunemn, Marcia Patterson and Audrey Snyder

The authors affiliations can be found at the end of this article.

Abstract

Purpose – *Integrated transitions of care for rural older persons are key issues in policy and practice. Interdisciplinary partnerships are suggested as ways to improve rural-care transitions by blending complementary skills of disciplines to increase care's holistic nature. Yet, only multidisciplinary efforts are frequently used in practice and often lack synergy and collaboration. The purpose of this paper is to present a case of a partnership model using nursing, gerontology and public health integration to support rural-residing elders as a part of building an Adult-Gerontology Acute Care Nurse Practitioner program.*

Design/methodology/approach – *This paper uses the Centre for Ageing Research and Development in Ireland/O'Sullivan framework to examine the creation of an interdisciplinary team. Two examples of interdisciplinary work are discussed. They are the creation of an interdisciplinary public health course and its team-based on-campus live simulations with a panel and site visit.*

Findings – *With team-building successes and challenges, outcomes show the need for knowledge exchange among practitioners to enhance population-centered and person-centered care to improve health care services to older persons in rural areas.*

Practical implications – *There is a need to educate providers about the importance of developing interdisciplinary partnerships. Educational programming illustrates ways to move team building through the interdisciplinary continuum. Dependent upon the needs of the community, other similarly integrated partnership models can be developed.*

Originality/value – *Transitions of care work for older people tends to be multi- or cross-disciplinary. A model for interdisciplinary training of gerontological practitioners in rural and frontier settings broadens the scope of care and improves the health of the rural older persons served.*

Keywords *Public health, Gerontology, Interdisciplinary team building, Nurse practitioner, Rural aging, Transitions of care*

Paper type *Case study*

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Introduction: an increase in older persons living in rural areas

Two trends have brought the issue of rural aging to the forefront in Colorado. First, the population of those 65 years and older is increasing with one in five residents expected to reach this age group by 2040 (Colorado State Demographer, 2011-2015). Second, rural and frontier areas have experienced an increase in growth. Currently, 17 percent of Colorado's population aged 65–84, and 40 percent of the population over 80, live in rural areas. These trends have led researchers to predict the rural population over age 65 will grow to become 21 percent of the total population in 2018 (Colorado Rural Health Center, 2016). State policy makers have framed the discussion of aging in terms of how to best deliver long-term care supports and services and how to implement home and community-based services. They are calling for the development of integrated health care models and teams and for geriatric and gerontological training.

Classifications of rural and frontier are often based on population size and density, adjacency to a metropolitan area and degree of urbanization (Hash *et al.*, 2015). While there is no standard definition for rural in the USA, the US Census defines rural as a cluster of less than 2,500 persons living in a non-urban setting (HRSA, 2017). According to the US Department of Health and

Human Services, rural can also refer to a geographic setting with a farming area that sells at least $1,000 in agricultural products per year. The US Department of Agriculture's Economic Research Service uses a rural-urban continuum and urban influence coding system to define rural areas in relationship to metropolitan areas. These codes are based on population size and density, adjacency to a metropolitan area and degree of urbanization (Hash *et al.*, 2015). Frontier health professional shortages areas have less than six persons per square mile, and "are geographically isolated from population centers and services" (National Rural Health Association (NRHA), 2016, p. 1).

Geographically, the program focuses on rural and frontier regions of Colorado, Wyoming and western Nebraska. Of note, 42 (66 percent) of the 64 counties in Colorado are rural and 44 (47 percent) of the 93 counties in Nebraska are rural. In Wyoming, 74 percent (17 of the 23 counties) are considered frontier, and the remaining are rural with no urban areas (US Census, 2013). This situation "presents a particular challenge for the provision of needed care, and supports the need for a well-trained and sustained clinical and public health workforce prepared to meet the needs of the aging population" (Burman, 2015, p. 1).

Aging in rural Colorado has distinctive issues and presents unique situations in terms of access to health care. While many rural older persons positively identify as rural and see the benefits of living rurally (Weil, 2017), older rural adults have greater rates of physical impairment and frailty and more mobility concerns than non-rural older people (Mattson, 2011; Prasad *et al.*, 2014). Living in rural areas as one ages often means less availability of and access to medical services and a lack of health care providers (Ponzetti, 2003; Milbourne, 2012). Specifically, geriatric specialists are severely lacking in rural and frontier environments. In 2015, the American Geriatric Society (2015) found that the state of Colorado has a geriatrician shortfall; the estimated number of geriatricians needed is 269, but there are only 93 certified geriatricians (America Geriatric Society, 2016). The absence of geriatricians and geriatric care combined with a high patient-to-practitioner ratio reduces access to health and preventative services for rural older adults (Hash *et al.*, 2015; Marshall and VanRaemdonck, 2012).

Many disciplines are calling for interdisciplinary teams as a way to address the complex issues of aging, and this approach is particularly critical to aging in rural places (Young *et al.*, 2011). A CARDI (2009) report defines multidisciplinary research as, "research that involves more than a single discipline in which each discipline makes a separate contribution. Investigators may share facilities and research approaches while working separately on distinct aspects of a problem" (p. 5). According to the CARDI (2009) model, research teams must move through the disciplinary → cross-disciplinary → multidisciplinary → interdisciplinary → transdisciplinary continuum. While a multidisciplinary approach focuses on the dominance of an individual discipline, an interdisciplinary approach focuses on person-centered care and brings the best of each discipline's practice together.

Purpose and principles that informed the work

Interdisciplinary partnerships can improve rural-care transitions by blending complementary skills of disciplines to increase the provision of all-inclusive care. Interdisciplinary teams can exhibit the "importance of professional ambience, attitude, mutual understanding and respect, and written communication within interdisciplinary community health care" (Lavin *et al.*, 2001, pp. 30-31). These teams build upon addressing issues with the varied disciplinary training of each team member that is "too complex for one discipline, or even many sequential disciplines, to solve" (Peters, 2013, p. 1). Peters, commenting about team efforts at the US Department of Veteran's Affairs, adds:

> At the most basic level, effective teamwork depends on the ability of members to determine the overall mission, establish shared and explicit goals, and work collaboratively to define and treat patient problems. Ideally, teams can also learn to accept and make use of disciplinary differences, differential amounts and types of power, and overlapping roles to clarify and evaluate the team's development and effectiveness (2013).

Allied health professions often mention the benefits of a truly interdisciplinary approach. For example, the geriatric interdisciplinary team training (GITT) programs were the goal of the John A.

Hartford Foundation's funding (Fulmer *et al.*, 2005). The American Association of Colleges of Nursing (AACN, 2017) called for "an environment that provides such interdisciplinary educational experiences based on mutual understanding and respect and designed to enhance the practice of each discipline." Public health researchers suggest: "health education specialists play an increasingly important role in promoting health across the lifespan. Learning from our colleagues in other settings and capitalizing on shared competencies and responsibilities is key to public health education and promotion efforts" (Shlafer *et al.*, 2016, p. 166).

Though interdisciplinary team benefits are clear, questions arise about the progress and nature of such teams, which is often slow and underreported (Young *et al.*, 2011). Researchers reviewing outcomes from the Hartford Programs GITT found similar barriers and challenges for geriatric interdisciplinary teams (Fulmer *et al.*, 2005). Other researchers found all team members' roles were not equal, specifically in health care settings (Deschodt *et al.*, 2016).

Despite some difficulties in implementation, designing interdisciplinary teams using the Centre for Ageing Research and Development in Ireland (CARDI) model offers guidance to improve health for older persons. CARDI suggests that teams consist of at least two disciplines, allowing for various perspectives, methodologies and language. The approach can lead to improved solutions that would be impossible without the use of multiple disciplines (O'Sullivan, 2012, p. 9).

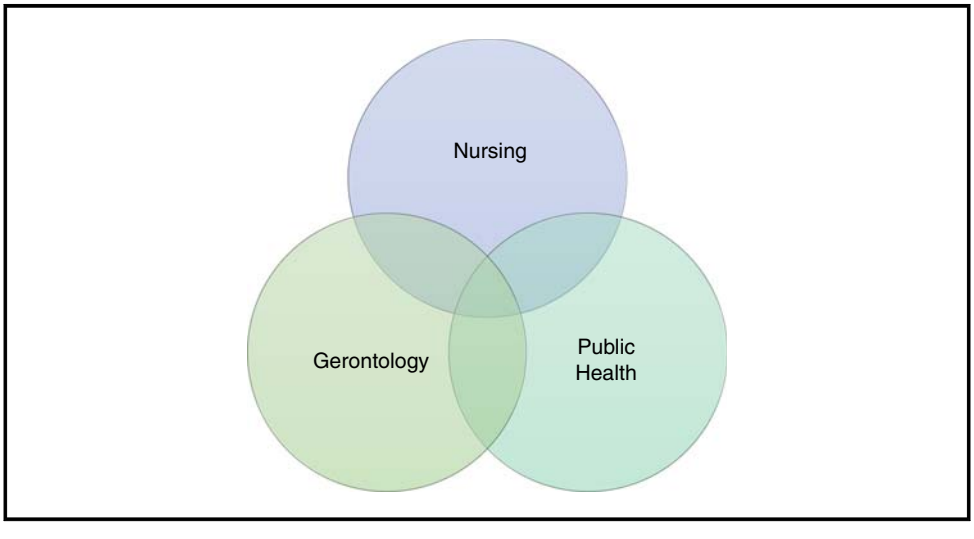
The interdisciplinary collaboration and linkages that are the focus of this case study were formed among nursing, community health and gerontology faculty building upon an inter-professional education (IPE) model and community-engaged framework. The goal of the collaboration was to engage the previously stated disciplines in innovative community-based work on a complex local issue, so that the synergy of the team is better than work done by one discipline alone (Figure 1).

Design and approach

Development of a partnership approach and interdisciplinary team building: a case study

During the Fall 2014 semester, Nursing and Public Health faculty met and planned to develop a community-based course bringing together best practices in community health, nursing and gerontology. The project was led by a doctorally prepared registered nurse certified as an Acute Care Nurse Practitioner with demonstrated competency in clinical practice, managing and teaching in acute care advanced-practice nursing. She previously directed an Adult-Gerontology Acute Care Nurse Practitioner (AGACNP) program and developed a BSN–DNP program. She has collaborated with rural nurses and developed a network of academic-clinical partnerships. Based on a community needs assessment, the team decided to address the

Figure 1 Interdisciplinary partnerships



aforementioned health care shortage in rural and frontier areas by developing an AGACNP program. This program would train eligible and interested nurses from the surrounding community and rural environments to be advanced-practice nurses. This program would prepare graduates to deliver high-quality care across the adult lifespan, with a special focus on the challenges living in rural environments. The program would be delivered online (except for two on-campus one week summer intensive courses), allowing students to stay in their rural environment for both didactic courses and clinical placements.

As the program development progressed, the scope of the project gradually increased. Additional nursing faculty were added to lead online course design and delivery. Public health faculty brought community-health-education knowledge, content and experience with community engagement. These team members brought in the public health discipline's tenets of practice about reducing health disparities and the need to address public health preventative and educational models in the course and curriculum planning. As a way to meet the needs of the rural and frontier older populations, a gerontology faculty member and geriatric nurse practitioner joined the group. This addition was a critical component to addressing transitions of care across the lifespan. These members brought an understanding of both basic and applied research on aging, clinical expertise in geriatric care and the ability to translate research into practice in the community of interest. They ensured that key concepts were included throughout the curriculum, developed gerontological site placements and oversaw geriatric-specific simulation activities. These team members brought knowledge of transitions of care and represented the voices of older persons in rural and frontier areas in the project's planning.

Unique aspects of the actual work

This interdisciplinary AGACNP program was designed with a unique focus on aging populations in rural and frontier environments and improving transitions of care for adults across the adult lifespan. Older persons in rural areas would benefit from geriatric-trained graduates who can address older persons' health across the lifespan, through transitions of care (home, hospital, rehabilitation center, assisted living or nursing home and at end-of-life). The AGACNP program would offer students an understanding of rural culture, resources in the rural environment, and coordination of care transitions and collaboration. For students, the AGACNP program will integrate the rural health setting into clinical course content while increasing content on health care inequalities and cultural competence. At the community level, the innovative academic-practice partnership will expand existing community-based partnerships to engage preceptors who bring their expertise in rural areas and rural culture.

As the scope of the project expanded, there was an obvious need for funding to support new course development, recruit and hire new faculty, expand clinical partnerships, train local clinical preceptors and purchase simulation materials. The group simultaneously pursued both internal and external funding. The university request for proposals supported innovative programs that would expand its capacity to teach new programs, recruit new students and test new pedagogies. At the same time, the Health Resources and Services Administration (HRSA) announced the Advanced Nursing Education Grant call for proposals (HRSA-15-046) in December 2015. The internal proposal, Transitions: Creating an interdisciplinary AGACNP Program, was submitted as a complementary proposal to the HRSA proposal to aid in the program's development. The internal and external submissions were awarded funding in April and June of 2015, respectively. During the grant writing process, the team worked to make connections with clinical and non-clinical sites throughout the aging network, add preceptors to the team and begin formalizing online course creation.

Interdisciplinary course creation

Two events in the creation of a new university-based AGACNP program are discussed as examples of the interdisciplinary team's work. The first is how the team created an interdisciplinary public health course, and the second is the role of the team in designing and implementing a summer intensive, on-campus live simulation and panel.

The Foundations in Public Health for Advanced Practice Nurses course was designed to examine the historical and conceptual basis of public health, with a specific focus on health disparities in elderly and rural populations on both an individual and population levels. This course intended to provide AGACNP students with the knowledge, skills and tools available for the protection and enhancement of the public's health. As part of course planning, the team met in person on several occasions to discuss the course content and coverage of topics. The course was enhanced from an existing course in public health sciences, and content expanded consistently with the baseline public health and clinical knowledge of a registered nurse. The faculty worked collectively to build a comprehensive course content that addressed rural public health and aging and clinical learning. During the process of course creation, a new perspective emerged in how to deliver the content in a deeper, fuller way, than if simply delivered through one disciplinary lens. Public health faculty enriched the discussions with knowledge of unique heath disparities for the target population. Gerontology faculty guided the coursework by providing course content, materials and direction – such as peer-reviewed articles about transitions of care – for integration into the coursework. A nursing faculty member dually trained in nursing and public health sciences, with expertise in the unique health needs of rural populations was ultimately responsible for the design and delivery of the course.

Through team meetings and e-mail correspondence, a syllabus was developed that combined public health core competencies, clinical standards needed for Nursing Accreditation and tenets of the Association for Gerontology in Higher Education for gerontology-based curricula. The interdisciplinary nature was reflected in the course project, where students completed an assignment that investigated a public health issue in a community of their choice. Students were asked to develop a targeted public health intervention to address these issues and each project had to be targeted to older adult or rural populations. Students researched highly relevant topics, such as addressing substance abuse and poor nutrition in the older adults, combating the opioid crisis through improving naloxone access in rural areas and partnering with paramedics in a community fall prevention program for high-risk older adults.

Summer intensive

In 2016, the interdisciplinary team worked to design an in-person summer training curriculum for the first cohort of students. The goal of the course was to create a clinical experience focusing on the management of patients through transitions of care with an emphasis on underserved, rural and older adult populations.

In preparation for the on-campus, summer course, faculty met and designed integrated activities for students around challenges often faced by older adults. These activities focused on older adults both as patients in care and as persons being transferred to community settings to illustrate care transitions. Case studies were developed that reflected all of the disciplines through both face-to-face meetings and e-mail exchanges. The case of Emma Manygoats is an example of the result. The case began as a narrative case study that was then transformed into a scenario to be acted out live with students and faculty as simulated patients. In terms of the case itself, Emma is described as a 76-year-old Navajo woman with diabetes, limited vision and cardiovascular disease. She is a native Navajo speaker and prefers a medical translator to be present at her medical appointments. She lives on a Navajo reservation near the Colorado border, and her son and daughter-in-law live just over the state border in Arizona. Emma uses the DHHS-based Indian Health Services, a federal health care provider, for her basic health needs. She, like many Navajos, incorporates both traditional and western medicine practices as forms of treatment and/or healing.

After group discussion, the team felt it was necessary to expand the case by adding in more clinical simulation and age-based components, and adjusted the case accordingly. Emma's son and daughter-in-law had left the reservation many years earlier and grew more aligned with western medical beliefs. In the case, Emma recently fell in her home on the reservation. Her adult children arrive to find her on the floor with a bumped and bruised forehead, and slightly confused. As this is Emma's third fall in the last two months, her children now want Emma evaluated and treated so she can continue to live on her own on the reservation. Her children

respect Navajo tradition and take some time to consider taking Emma to the Navajo practitioner, but decide to drive the 45 miles back to Cortez to see a "real" doctor in the emergency room.

The goals of this case were to educate students about the importance of shared decision making and patient rights. Students were asked to consider: who has the right to determine the plan of care when the patient presents in this confused state? Students were then asked to explore and plan with Emma and her family in a way that respects and honors Emma's cultural traditions and beliefs, while also addressing her family's concern for the presenting issue. It should be noted that Emma's case is parallel in some ways to that of many refugee or recent immigrant elders.

To coincide with the case study of Emma Manygoats, the team designed a half-day site visit with presentations and resident interviewing at a continuum-of-care facility that is a community partner of one of the faculty. Though the facility was in non-rural area, many of the residents had moved to the facility in town from rural settings and self-define as "rural" or maintain their rural identities (Weil, 2017). The nursing home administrator greeted the students, and the activity director provided a tour. Together, the team matched students with residents, and students worked in small groups to gain confidence working with an older population and performing a biopsychosocial assessment, i.e., an interview with many domains. A memory care specialist led a training session for all students about working with people with dementia and other cognitive impairments in both clinical and community-based settings. A debriefing and journaling exercise for the panel and facility visit was created. Time spent interviewing residents was included toward the course requirement total of 90 hours in transitional-care settings.

In addition to the previously described activities, a panel of experts was organized to meet and speak with the students. Presenters were from settings across the aging network. The panel included people with experience in several disciplines and across the continuum of care. This experts' panel provided students with first-hand experience of working with older adults in rural settings as well as policies and resource options available to them. Experts included those working with community-residing older persons: an executive director of a local Area Agency on Aging, a director of a federally and state-funded Program of All-inclusive Care for the Elderly, and a certified Aging Life Care Professional (for privately funded care management in the community setting). Those with care facility expertise included: an executive director of an assisted living facility, a nursing home administrator (also known as a guide) at the Green Houses (an alternative skilled care facility), an executive director of the only long-term skilled care facility in a rural county in Colorado and a social worker and support services manager for a hospice center, offering both inpatient and outpatient services.

Findings

Challenges and opportunities of partnerships: interdisciplinary team reflections

In terms of practical barriers, the tight timeframe of about one year for the project and program creation necessitated rapid team building. Since the disciplines in this study have not traditionally collaborated in the past at this particular university, blending discipline philosophies, jargon and techniques' focus took time. Mixing the clinical and non-clinical aspects of the program, learning about roles and how to fully partner as a team sometimes led to parallel, multi or cross, rather than interdisciplinary collaboration.

There is a need to work on preceptor development and recruitment in the rural and frontier areas. The need to develop relationships and work with new preceptors as partners highlights the dynamic relationship between team members. Changing staff at community and clinical partner sites and locating possible/potential preceptors is an ongoing process. The AGACNP program's goal is to educate nurse practitioners in this role; however, few AGACNPs exist to serve as preceptors, and those in rural and frontier areas have fewer technology resources available to them for online preceptor training. The existing interdisciplinary team created a survey to assess preceptors' needs in collaboration with a local physician and health education organization practicing in the rural community.

Success factors

The team met five objectives and evaluation markers related to long-term outcomes of the program accomplished through interdisciplinary course creation and the summer intensive activities. The first objective, to increase the number of AGACNP providers prepared to provide leadership and quality care in rural and frontier areas, is underway and is an ongoing part of the project as only the first cohort of students have graduated. The team's summer 2015 intensive course was a major step in achieving this objective. Faculty were prepared in rural content and offered their backgrounds in rural health, so that all students who completed the summer intensive demonstrated rural health knowledge.

The next two objectives focused on the interdisciplinary course creation and revision. The team integrated rural health concepts throughout the AGACNP curriculum in both clinical and didactic courses. This involved revising specialty courses and clinical courses in the master's and doctoral nursing programs to incorporate rural content, concepts and strategies, as well as requiring the interdisciplinary Foundations in Public Health course for all AGACNP students. Course syllabi were reviewed and altered to reflect rural health content in objectives, content and assessments, as needed. This process was also followed to increase content related to health care inequalities, health disparities and cultural humility. As part of their course of study, all students completed a cultural competency measure before starting and at the end of the program that showed improvement in their cultural competency scores.

The final two objectives were directly related to the summer intensive courses. The first of these objectives was to develop and expand existing partnerships with public and private health agencies to incorporate and promote interprofessional education (IPE) and to address health professional shortages and health disparities in rural and frontier areas. The team expanded academic-clinical partnership sites across transitions of care settings by meeting with leaders in the field and site leaders. Collaborative agreements and plans were in place and students were in clinical sites, as scheduled, during their second semester of study.

The second objective met in the summer intensive was to promote skill proficiency in adult gerontology and rural health practice through the use of distance education, technology and IPE modalities. The team worked to prepare students with advanced clinical and critical-thinking skills to work in resource-limited rural environments. Team members developed rural health and gerontology-specific training scenarios for simulation for students. Grant funds were used to purchase equipment, provide faculty training and develop simulation scenarios. Because of the simulated cases and summer intensive interdisciplinary work, students demonstrated improved skill competencies and demonstrated critical-thinking skills in simulation scenarios. These simulation activities received positive feedback from students.

Conclusion

Lessons learned from this work

Forging new partnerships can be difficult; however, the benefits of using an interdisciplinary approach far outweigh the difficulties. Faculty from several disciplines were able to contribute the best practices of their disciplines, while expanding and learning from other disciplines how to design and address problems as they arose. The synergistic meetings and exchange of ideas emphasized the importance of interdisciplinary thinking and exemplified that the whole is greater than the sum of its parts. The translation of ideas across disciplinary jargon took some time and was sometimes a source of humor – as acronyms can have very different meanings in different contexts.

Since this AGACNP is the first of its kind in the region and grant-awarded timelines were tight, the team needed to rapidly plan and carry out tasks for the first time without a prior point of reference. Simultaneously, both university and community practices and partnerships were built and nurtured. In retrospect, more time spent developing professional relationships in both settings would be helpful.

How the rural and frontier communities benefit from this work

Enrolled students successfully participated in all aspects of the program, especially during the aforementioned summer intensive. With this new knowledge, students returned to their home communities (both rural and non-rural) and applied what they had learned. Rural and frontier older adults are at risk of adverse health outcomes due to a lack of professionals trained in geriatrics and gerontology and difficulty accessing appropriate health care services. While the three cohorts of students are enrolled in the program, only three students have completed the summer intensive described. The team could see how they have positively affected the lives of those in their care. Students' reflections show the power of interdisciplinary learning and approach to care. For example, one student reflected on her experience when diagnosing her older, rural-dwelling patient with heart failure. Because of the interdisciplinary program, she:

> […] knew simply telling him about all the changes he was going to have to make would be overwhelming. Instead, I spent over 30 minutes asking him what was important to him and finding out what activities, he knew he could be successful in without becoming overwhelmed. He had a sense of relief in his eyes when he left, knowing he did not have to be perfect and make a million changes at once […]. A lot of times, the geriatric population gets overlooked and they aren't always listened to because of lack of time or because of multiple co-morbidities that can be difficult to treat. Learning about a different way of approaching patients and understanding what their motivations are has helped me time and time again (Cumming Rice, 2016, p. 6).

Although the discussion of program development is specific to one university, area of practice and surrounding communities' needs – the strategies discussed can show how to develop strong interdisciplinary partnerships in order to provide well-rounded educational experiences in differing settings, programs and combinations of disciplines. As students graduate from the program and continue to practice in rural communities, the research of this interdisciplinary approach will widen and fill many gaps to improve the lived condition of older adults in rural settings. Committed interdisciplinary team efforts, from a broad range of disciplines and external partners, are a great benefit to the rural and frontier older adult populations that graduates of the program will serve.

Using examples of course creation, live simulations and a site visit, this case sheds light upon the process of working as part of an interdisciplinary team. Team reflection about lessons learned and ways this project benefits rural and frontier communities can offer guidance to other teams seeking to serve rural older adults. Future research should examine possibilities of other types of interdisciplinary team formation in rural and additional settings where interdisciplinary teamwork could also be useful.

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Strategic partnerships enhance resources for care of rural-dwelling older adults

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Abstract

Purpose – *The purpose of this paper is to disseminate a new model that addresses the urgent social challenge of providing adequate long-term care in rural circumstances through innovative use of existing resources, and to suggest future research.*

Design/methodology/approach – *This paper is exploratory in and is based upon the analysis of qualitative observations (interviews and site visits) framed in the financial and operational records of the facility studied, macro- and micro-level demographics, and the scholarly and practice literatures.*

Findings – *Significant cost savings upon implementation, improvements in quality of care and both worker and client satisfaction were observed.*

Research limitations/implications – *The model has been in operation only one year; the trend has been positive, however, more research is needed to identify its stability and develop a more refined description of its components: while essential features of this innovative model can be applied in any residential long-term care situation, replicating its success is obviously linked with the skill and authority of the director. Evaluation research is currently in progress.*

Practical implications – *The paper suggests budget-neutral solutions to persistent challenges of caring for older adults in rural circumstances.*

Social implications – *Quality and financing of long-term residential care for elders is insufficient and worsening. This model addresses problems central to financing and quality of care by connecting existing resources in new ways. It does not require additional funding or changes in qualifications required for jobs.*

Originality/value – *The model is the original creation of a residential long-term care facility director working with a network of partnerships that he discovered and developed: partnerships include a broad range of organizations in the public and non-profit sectors, and the state university.*

Keywords *Rural, Management, Staffing, Long-term care, Nursing homes, Eldercare, Front-line caregivers, Organization partnerships*

Paper type *Case study*

Introduction and methods

This report has been written by researchers from a public university that was the alma mater of a long-term care facility director who upon graduation and qualification became the director of a rural residential long-term care facility. The director remained in touch with his faculty as he faced old challenges in new ways; faculty supplied information from the literature, demographic analyses and consultation. After almost a year of the director's management of what is referenced herein as the "demonstration facility," the researchers took note of the positive outcomes from the director's unconventional approach to staffing problems; due to the urgency and human significance of these problems, the researchers and the director have developed this report to disseminate information about the novel solutions demonstrated.

Methods used by the director to strategically assess the nature of challenges and to identify resources and structure solutions are described in the body of the text. Evaluation methods used by the researcher/reporters include interviews with the director of the demonstration facility, visits to the facility to observe the facility and interview staff and residents, also interviews with leaders of organizations that are partners in realization of this model.

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Partner organizations are non-profit, and state or federal government organizations and programs operating in the community. The researchers also interviewed the director of another facility who is interested in replicating the model.

Background

One of the most prevalent and obdurate challenges related to population aging in the USA concerns sufficiency of the workforce available to provide long-term care services to older adults, particularly older adults in residential care settings such as nursing homes or assisted living facilities. The most severe shortages in that workforce occur in the occupations of the "front-line workers," those responsible for providing hands-on, daily care and support. The present supply of front-line workers is insufficient to meet the demand for their services, and in future the demand for workers to provide these services is expected to rise to unprecedented levels with the aging of the Baby Boom Generation that in the USA will include more than 60m older adults in 2030 (Colby and Ortman, 2014; Stone and Harahan, 2010; US Census Bureau, 2014). The challenges of satisfying this increasing demand for long-term care workers are compounded as the supply of workers to fill available positions in the caring occupations continues to decrease, especially in rural areas. Despite staffing shortages, these positions continue to be associated with low pay, few opportunities for career advancement, high risk of injury, and the physical and emotional stresses especially related to caregiving (Kelly *et al.*, 2012; Stone and Harahan, 2010; Montgomery *et al.*, 2005).

In rural settings, staffing challenges are even more pressing as many rural areas experience continued out-migration of working-age adults or high unemployment of adults who are unable to accept employment. The skill sets required for the front-line care positions that local employers need to fill are often mismatched with the skill sets of the people available to fill them (Kelly *et al.*, 2012; Stone and Harahan, 2010). In addition to the low pay and other less attractive aspects of long-term care front-line positions rural settings are more likely to lack amenities and services that people employed as front-line workers need in order to work; services such as child care, transportation and insurance coverage.

The costs of hiring replacement staff or using the services of temporary staffing agencies typically are high and noticeably increase employer expenses of operation. Even as operational costs of care facilities are forced upward by staffing instability, the limited number of available residential clients and their limited ability to pay preclude raising prices or increasing staff pay or may even make it difficult to maintain the same total number of staff. Lower or under-staffing on a temporary or permanent basis may in turn lead to a greater number of staff leaving and increased decrements in quality of care (Castle and Anderson, 2011; Stone and Harahan, 2010; Castle *et al.*, 2007). Decrements in the quality of care may decrease job satisfaction of existing care staff, which may further exacerbate staff turnover (Castle and Anderson, 2011), which in turn may lead to increased expenses for replacement of staff and decreased income from clients as acceptability or utilization of services is negatively impacted (Gelfand, 2006). This dynamic in a facility, if uninterrupted, may lead to closure of the facility and diminishment of local resources needed to meet growing demands for care.

Assessment, discovery and development of a model for success

The new director of a rural residential eldercare facility when faced with these typical staffing challenges, utilized partnerships to developed a novel approach that began with an iterative process of quantitative and qualitative exploration.

Initial exploration of challenges identifies staffing as the key

The director first examined the internal metrics descriptive of current costs and quality of operation. He also scanned his internal and external environments to estimate current and future challenges and resources.

The director's analysis of the facility operating budget and personnel records revealed high staff turnover and concomitantly high expenditures for hiring replacement and temporary staff that

are typical of many residential long-term care facilities. The records indicated that costs of staffing turbulence (turnover and recruiting lags that required coverage through payment of overtime) were excessive. Consistent with the literature, staffing turbulence apparently had had a negative impact on occupancy rates and some of the metrics for quality of care. Issues of financial viability had put continued operation of the for-profit facility at risk. The director reasoned that the key to reversing the downward financial trend was to stabilize staffing and avoid the many costs of high staff turnover. Staffing turbulence became the focus for improvement, and of the search for appropriate resources to address the problem.

In partnership with researchers from the state university, the director developed demographic and economic analyses for the area served by his facility that described and forecasted demand for services and supply of care staff locally and within its state and national contexts.

Trapped by circumstances?

In local, state and national contexts, the adequacy of the supply of front-line care workers is diminishing even as the demand for care services is growing and projected to continue to grow. In relation to other areas nationwide, rural areas typically have had proportionately fewer working-age adults (18–64), and more adults older than working age (65+, 85+) as well as more disabled persons.

Demographic analyses were developed in partnership with the director's alma mater. The analyses used government data bases to develop estimates of the number and some characteristics of persons who might be recruited to work as front-line workers (i.e. US Census Bureau Public Use Microdata Area (PUMA). Estimates were used because the county in which the demonstration facility is located is too small to have its own PUMA figures. In the local area of this rural facility, the ratio of front-line care workers per population was similar to the nationwide figure; however, both contexts are considered to be "in shortage" (a category used by the US Department of Labor). In this rural area, however, potential recruitment is constrained as a much larger share of the population is already active in the labor force (either working or looking for work) and the rate of unemployment is exceptionally low. The numbers of unemployed skilled workers needed to fill vacant front-line care positions are not present in that population. Incomes in front-line care occupations are low nationwide, but tend to be even lower in rural areas. Front-line care jobs in all US geographic areas typically have specific skills requirements and rural areas offer little opportunity for learning new skills or job advancement. Many persons who might become front-line care workers leave rural areas in search of better pay and in hope of better career opportunities (Probst *et al.*, 2009; Montgomery *et al.*, 2005).

Findings of the demographic analysis showed that conventional attempts to improve staffing stability through conventional recruitment were counter-indicated by lack of numbers. Attempts to improve staffing stability by offering higher wages were counter-indicated by the need to reduce costs; the current costs of facility operation were unsustainable given the limited incomes of potential new clients in the area.

Qualitative analysis, findings: understanding barriers and seeing possibilities

The director carried out an external and internal environmental scan using primarily qualitative investigative techniques (interviews, direct observation) in consultation with his university advisors. Also analyzed were the documents of the facility, and the websites and documents of potentially relevant external partner organizations (e.g. non-profit organizations and state agencies that worked with people who were persistently unemployed).

Interviews with and observations of the staff employed at the facility revealed reasons for leaving (or intending to leave), reasons for staying (retention) and reasons staff had applied for their jobs originally (recruitment). Reasons for leaving were consistent with other studies reported in the literature and included promise of higher pay or better chances for advancement elsewhere; various dissatisfactions with supervision and management, or with working conditions; and other, personal concerns (e.g. with child care).

Findings about reasons for leaving informed his assessment of current incentives (and disincentives) for recruitment and retention of staff and the search for ways to improve positive incentives.

Interviews with and observation of residents and their families and reports from staff yielded information about key aspects of resident and family satisfaction and dissatisfaction with the facility – most of which were, consistently with the literature, related to staff. Families were concerned about timing, quality and frequency of services provided, and lack of activities for older residents. Examples of concerns include delays in answering patient calls, missed baths, late assistance with getting dressed, too much time in bed and lack of recreation other than television. Having inadequate numbers of staff forces even the most willing front-line workers to spread their services more thinly and work more hours, all of which can increase fatigue and lessen job satisfaction.

The external environmental scan was guided by characteristics of staff needed at the present time and in consideration of forecasts of needs and turnover Findings from the scan identified likely sources of persons in the relevant labor pool qualified to fill jobs. As is typical in rural settings few if any qualified front-line care works were unemployed. Without expansion of the qualified labor pool, the staffing challenges would be intractable. Examination of barriers to expanding the labor pool revealed that many unemployed persons might become care staff if barriers such as unavailability of training or lack of the services they would need in order to participate in training and employment were addressed (transportation; child care). The director then conceptualized the outlines of a model for development of potential workers into qualified staff which guided his identification of potential organization partners.

Removing barriers through strategic community partnerships: the Juanes Model

The director built partnerships in multiple ways, focusing efforts on partnerships likely to lead to staffing solutions, i.e., identification of potential job candidates and removal of barriers to their acceptance of the positions. Findings from the scan of the external environment helped to identify several non-profit organizations and government programs, each of which addressed at least one of the barriers to employment faced by at least a part of the potential labor pool. Key to his efforts was his initial and continuous scan of the environment, which had begun with the examination of the financial records of the facility.

Partners recruited included local or regional offices of the State Department of Labor; State Department of Education, Vocational Rehabilitation (VR) Service, Goodwill Industries and other local non-profit charities including a domestic violence shelter.

Partnerships were developed strategically, first, learning about the programs of potential partner organizations, then meeting individually with a key official, discussing possibilities, and negotiating and developing arrangements through which the program could support potential workers as they entered employment with the nursing home.

The director discovered that, among the programs considered, the state government's Department of Labor (DOL) had the largest amount of money that might be used to support a program to help potential workers attain employment in the nursing home. In the words of the director:

> The money allocated to DOL is earmarked for specific use. The funds we are accessing are designed for individuals between the ages of 17–23 who are not in any type of school and who would otherwise not have the financial resources to attend a training program such as a Certified Nursing Assistant (i.e. front-line worker) training program. Is this money available to someone who is unemployed? The answer is "yes", if they fall within these parameters.

With resources to support their training arranged, the director than proceeded to locate the potential workers. In the words of the director:

> The key to finding the number of unemployed or underemployed workers was to find non-profit organizations within the area that served individuals who fit the parameters of the DOL program. I worked with DOL and they provided me with all the application forms. Once the participants were identified, DOL and I would hold an orientation during which the potential workers filled out an application for employment in the nursing home as well as the DOL form. The forms were then emailed to DOL officials who determined if the potential worker was qualified to receive training supported by DOL funding.

Recruitment took place in several non-profit organizations, including the domestic violence shelters. One key partner organization exists for the purpose of helping persons with limited developmental/ physical disabilities; that assistance includes as part of their process provision of supportive services such as an employment coaching and in some cases public transportation vouchers.

Candidates for inclusion in this model program are extensively vetted by the governmental and non-profit agencies by which they are recruited. Candidates are further evaluated by the nursing home which requires checking of a candidate's previous record, as well as an interview of the prospective employee with the immediate supervisor and an interview with the director; and after employment by close supervision and observance of performance during each "career" stage with particular attention to relationships of the new employee with residents and their families.

Although the location of this "demonstration" nursing home is a rural area, its area and population density are above that which is typical for the normal rural area in this state. Its population density places this state in about the 30th percentile of US states and territories (www.census.gov/data/tables/2010/dec/density-data-text.html). Nonetheless, even given its rural context, this location may have relatively more publicly supported resources than other locations in the state. Decisions about replicability of this model in a particular location should include an environmental scan that pays close attention to the potential for partnering with public programs of governmental or non-profit agencies.

The director wove the network of partnerships into a collaborative effort that is producing an expanded labor pool of front-line care workers through multi-partner provisions of support for the potential workers on a case by case basis. Supports needed by each potential worker might be provided by a different combination of partners.

The fictitious Potentia Goodworker: an illustration of application of the Juanes Model

One hypothetical example of the model could be the fictitious person, Potentia Goodworker. Through implementation of the Juanes Model, Ms. Goodworker may be receiving residential support from the local domestic violence shelter, reimbursement for work-related expenses (transportation and child care) from the state government VR Agency, and a stipend during training from DOL in exchange for an agreement that she would stay with the job for a specified period of time. Training is given in a class at the facility or on-the-job through supervised experience (Training typically is led by facility staff and guided by the state government Department of Education).

The partnerships support creation of workforce entry and advancement opportunities that can function as a sort of "career ladder" that leads to a stable, full-time position as a Licensed Practical Nurse (LPN) and a living wage, for example:

- New employees may begin as trainees in the Certified Nursing Assistant Training Program conducted in the facility. During training they are paid $9.00 an hour (One year commitment is required for participation).
- After completion of the in-house Certified Nursing Assistant Program a participant's hourly rate of pay is increased to $12.00 per hour and they are promoted to full-time work as Certified Nursing Assistants (CNAs) (still under the one year commitment).
- After six months working as a CNA, participants are given the opportunity to participate in the Medication Aid Training Program conducted in the facility. Upon completion of that training, participants are qualified as Medication Aids (MAs) and are offered a $0.75 per hour pay raise bringing them up to $12.75 per hour; another one year commitment is required to participate).
- After another six months as CNAs/MAs the care worker is offered off-site LPN training in exchange for agreeing to stay one additional year as an LPN. When participants qualify, funding of their training and work expenses is accessed through the state DOL and VR (Figure 1) (N.B. The one-year commitments typically are satisfied by six months of satisfactory work after which the employee typically advances to a higher level of job and a new "one year" commitment.).

Figure 1 Advancement opportunities for front-line workers

Providing a Career Ladder through the
Strategic Community Partnerships Model

- After 6 months on the job post-DOL/VR training:
  - Provide CNA training (on-site) to DOL/VR trainees who agree to stay at SNF for one year
  - Promote trainees to CNA/MA status (and wage)
- After 6 months post-CNA/MA promotion
  - Support LPN training (off-site) to CNA/MA from this program who agree to stay at SNF for one additional year
  - Promote CNAs from this program to LPN status (and wage)

Source: Chart design: CM Kelly

For the facility itself, these improvements in employment were "budget neutral," their costs were outweighed by decreases in operating expenses due to decreased expenses of temporary staffing and overtime. Occupancy rate of the facility has also increased and after about four months, the facility had, for the first time in recent history, a "waiting list" of potential new residents.

For the funding partner organizations (non-profits and government agencies), these improvements also were "budget neutral." Each partner organization had funding to support part of each client's needs, however, the funding from one partner was not sufficient to provide all the supports needed by a client in order to successfully join the workforce and become able to support themselves. By using funds collaboratively through partnership with this local employer, organization partners have reported "increased numbers" of clients who could successfully hold a job and support themselves. Partner organizations used their existing funding, but they used it in new ways. Collaboratively the network of partnerships with one employer was able to provide customized support to help individuals enter the workforce as front-line care workers without increasing the budgets of their respective agencies.

Outcomes and results to date

Since its inception in 2016, the Juanes Strategic Community Partnership Model has shown positive results in addressing staffing issues that are classically problematic.

Researchers' observations and findings

After the first year of implementation of the model, researchers from the state university interviewed the demonstration facility director, the director of another facility who is currently considering replication of the model, and officials of community organizations that have partnered with the demonstration facility. The researchers visited with staff and residents about implementation of the model in the demonstration facility during scheduled interviews and unscheduled "walk throughs." They learned that vacant beds had become rare; after the first two quarters of implementation of the model, the facility had a waiting list for beds. Interviews with officials of governmental and non-profit organization partners in the model indicated they had no knowledge of external economic or demographic changes that could account for the change in the facility from having unfilled "beds" to having a waiting list. The then current financial footing of the demonstration facility was sustainable and promising.

Their findings also indicated that:

- the quality of care in the demonstration facility has been maintained or enhanced;
- the supply of front-line care workers has been increased enough to address current and future staffing needs of the demonstration facility;

- people who may not have had the opportunity to work because of personal considerations such as lack of affordable child care or transportation have been employed; and
- Front-line care workers have opportunities for job advancement, hence increased incomes.

Possible future effects of dissemination and replication of the model could lead to nationwide expansion of the pool of home care aides (i.e. entry level front-line workers) through expanded collaboration of employers with public and non-profit assistance organizations. It also could lead to more effective use of government funds allocated for purposes of removing barriers to employment, and to training and possible advancement for persons now under or unemployed.

Through the network of partnerships forged by the director, unemployed persons have increased access to jobs in long-term care, which is a rapidly expanding occupational area (particularly in comparison with other industries in this region). These applicants receive the training required to be employed as front-line care workers at no cost; they are eligible for supportive services during this training; and upon completion of this training they have an opportunity for employment and for advancement along a meaningful career ladder. Employers have a more highly trained labor pool from which to choose when filling these critical staff positions (i.e. workers who provide front-line support for physically and/or cognitively frail residents and clients). Most importantly, older adults in this community benefit from a front-line care workforce that is more stable and consistent, which can increase both the quality of care and the quality of life for these individuals. At the same time, the program is serving the needs of the community partner organizations, facilitating their achievement of their missions of helping their clients attain economic self-sufficiency. All citizens are helped at least a little as existing resources are used more effectively by using existing public funds to achieve the goals for which they were intended.

Sustainability of the model is possible. The population in rural areas is limited. Although the supply of unemployed potential workers is limited, so is the supply of potential nursing home residents. Further, in the demonstration facility's location, if the need for workers were to exceed local availability, outreach to inform people in surrounding areas about the programs and funds available to help them and the employment opportunities available could help meet the need. This model is designed to meet the challenges of rural long-term care in ways that benefit all stakeholders and takes a proactive approach to growing the long-term care workforce by building community partnerships and accessing existing funding. It connects potential staff with an employer who agrees in exchange for one-year retention to train the staff and place them in the job[1]. State programs and non-profit organizations can better fulfill their mandates for relief of unemployment and the unemployed, and utilize their funds more effectively. Providers gain increased access to a trained workforce. For communities, these developments translate into more viable options in long-term care. Front-line care workers who benefit from these programs and leave this facility will have skills that permit them to get continued employment and help meet the growing need for their services.

Conclusion, limitations and recommendations

While limited to one "case" demonstration of a network of partnerships among more than five non-profit and public assistance organizations anchored by one long-term care facility in one fair-sized rural community (population, about 50,000 in 2014), this demonstration has been successful in solving problems of immediate humane and economic significance in new ways. Although encouraging, this report is descriptive and is limited to providing one case example. Funded evaluation research is in progress, but results will not be available for publication before 2019. These practical and cost-neutral approaches are offered for inspection and consideration.

The success of this model suggests that there may be viable options for recruiting and retaining front-line care workers in long-term residential care facilities in rural areas, and that the spiral of ever more costly care can be interrupted. The development and demonstration of this model suggests that long-term care providers can partner with universities or other sources to obtain quantitative customized demographics based on regularly collected public data. In the USA, demographic analysis of US Census data (updated by the Community Population Survey) can

provide information about distribution of elders likely to need care, and the composition of their households which provides a rough proxy for availability of family caregivers, as well as some demographic characteristics of the unemployed. Qualitative analysis within the frame of the statistical analytics supports identifying and forecasting the need for care of older persons in rural settings, and exploration of the barriers to employment of persons who have the potential for and are interested in learning skills and becoming front-line care workers can guide identification of a network of partner organizations that together can provide supports needed for these persons to become employed as front-line care workers. State universities can be useful partners in situating this model in a local context and assessing viability of various options for recruitment and partnership.

Given the uniqueness of each location, decisions about attempting to replicate this model should include an environmental scan that pays close attention to the potential for partnering with public programs of governmental or non-profit agencies.

Since providers of similar services in similar rural contexts face similar challenges, we believe this model can be useful for discovering and accessing local resources that can collaborate to meet previously intractable challenges, therefore, we recommend that the model be widely disseminated and further tested.

Note

1. Employees may leave the program without penalty other than losing the training and other benefits associated with continuation in the program.

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Assessment of metabolic syndrome risk factors among rural-dwelling older adults requires innovation: partnerships and a mobile unit can help

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Abstract

Purpose – *Older adults are at risk for developing metabolic syndrome (MSX). Given the growing rural older adult population and the unknown prevalence rate of MSX in rural communities, the purpose of this paper is to assess the risk factors for MSX among rural elders.*

Design/methodology/approach – *Individuals aged 55+ from four West Alabama rural communities were assessed by an interdisciplinary healthcare team via a mobile unit ($n = 216$). Descriptive analyses and analysis of variances (ANOVA) were conducted to assess the effect of gender, race and community on the number of risk factors of MSX among rural elders.*

Findings – *Results of a three-way ANOVA revealed a significant interaction between gender, age and community on the number of MSX risk factors [$F(16,193) = 2.41$, $p < 0.01$]. Rural communities with lower social economic status (SES) and predominantly African American residents were at higher risk for developing MSX compared to communities with higher SES [$F(3, 68) = 7.42$, $p < 0.05$].*

Practical implications – *Findings suggest low SES rural communities are at risk of developing MSX. Innovative approaches such as mobile healthcare delivery are crucial to providing quality healthcare and preventive health screens to underserved rural older adult communities.*

Originality/value – *Limited research is available on assessing rural midlife and older adults at risk for metabolic syndrome largely due to lack of communication or transportation infrastructure and their history of negative experiences with public institutions. This research demonstrates that these barriers can be addressed.*

Keywords *Gender, Rural, Metabolic syndrome, Mobile healthcare, Older minority adults, Rural health care*

Paper type *Research Paper*

Introduction

This paper reports the approach and results of a study to determine the prevalence of a chronic, debilitating disease (Metabolic Syndrome, also known as Syndrome X or MSX) in a rural population that is difficult to reach and rarely studied. The study is especially significant in view of the growing rural older adult population and the unknown prevalence rate of MSX in these communities. The risk factors for MSX among rural-dwelling older adults aged 55+ ($n = 216$) from four West Alabama rural communities were assessed by an interdisciplinary healthcare team using a mobile unit. Findings of the study indicate this population is at risk, and that the risk is greater for lower SES populations. The success of the approach used in this study suggests an innovative way to place medical screenings and diagnoses within reach of this population, thereby improving opportunities for early detection and action to lessen risk of progression of the disease.

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Rural older adults: an at-risk group for metabolic syndrome

Approximately one in four older adults live in rural communities and the growth rates of older adults in many of these rural areas are rapidly increasing (Crowther *et al.*, 2010; New Freedom Commission, on Mental Health, Subcommittee on Rural Issues 2004). Rural older adults have poorer health and are more likely than urban older adults to rate their subjective physical health as fair to poor (Rogers, 1999). They also have a lower life expectancy, more functional impairments and fewer immunizations and primary care visits than their urban counterparts (Forti and Koerber, 2002). Older adults are at an increased risk for certain chronic conditions that have a greater impact on health and daily functioning, including obesity, hypertension, diabetes and cardiovascular disease (Bennett *et al.*, 2008). Unfortunately, having the aforementioned conditions also puts rural older adults at an increased risk for Metabolic Syndrome.

Metabolic syndrome (MSX) is a well-recognized indicator of health risk factors in older adults. MSX was first described by Gerald Reaven in 1988. He used the term "Syndrome X" to describe a cluster of risk factors that were linked to insulin resistance and put people at risk for cardiovascular disease (Morley, 2004). Today, the terms "Syndrome X", "insulin resistance syndrome" and "metabolic syndrome" are used interchangeably to describe the cluster of risk factors that increase the risk for cardiovascular disease, diabetes, stroke and mortality (Lechleitner, 2008). MSX is determined by measuring four commonly measured clinical criteria: arterial high blood pressure/hypertension, high blood glucose, obesity, elevated triglycerides and low HDL cholesterol. Individuals with three or more of the risk factors described above are considered to have MSX (Grundy *et al.*, 2005).

MSX has garnered a growing interest in public health research in recent years, especially in countries with large, rural older adult populations such as South Korea, Guatemala and Brazil (Gregory *et al.*, 2007; Kim and So, 2016; Velásquez-Meléndez *et al.*, 2007). These studies found women had higher prevalence rates of MSX than men, especially among women over 60 who reported the highest rates of MSX overall (Kim and So, 2016). A recent study conducted by Trivedi *et al.*, (2013) in the USA also confirmed a higher prevalence rate of MSX among rural residents than their urban counterparts. Specifically, they found older age along with other life style health behaviors such as higher cholesterol intake and lower physical activity were associated with increased odds of MSX. Together, these findings show there is a need to further investigate risk factors for MSX among rural communities in order to identify at-risk populations and develop effective strategies to decrease health disparities.

Health disparities of metabolic syndrome in diverse rural communities

It is especially important to study the MSX rates in the Southern region of the U.S. as the presence of health disparities for individuals within this region has been established. Persons living here have a higher risk of developing chronic conditions such as cardiovascular disease (NCCDPHP, 2015). There are more older adults living in the rural South than any other region in the US Older adult minorities living in rural areas are less likely to have access to health services and more likely to have poorer health status (Blazer *et al.*, 1995). Studies suggest that rural older minorities have less control of their hypertension and diabetes, which results in further complications (Collins-McNeil *et al.*, 2012; Ford *et al.*, 2014).

Ethnicity and gender may play a critical role in developing MSX, as some ethnic groups may be predisposed to abdominal obesity or insulin resistance. African Americans may be at a higher risk of developing the syndrome because they have the highest rates of obesity in the USA. Ruland *et al.* (2005) found that African Americans who were obese were twice as likely to have MSX when compared to non-obese African Americans with diabetes, hypertension, and dyslipidemia. However, Ervin (2009) found there was an interaction between race and gender, with African American men having a lower risk for MSX than white men, while African Americans females had a higher risk for MSX than White females. Overall, women have a more increased risk for developing the syndrome than men. Furthermore, women who are depressed are also more likely to have MSX. Research suggests that waist circumference, elevated triglycerides, high fasting glucose and low HDL cholesterol were all positively correlated with depression in women (McIntyre *et al.*, 2007).

Factors contributing to MSX and other health disparities in rural older adults are thought to be a combination of lower educational attainment, income, socioeconomic status and access to care (Rogers, 1999; NACRHHS, 2004; Meltzer, 2008). Mobile health units are considered to be an efficient and effective way to screen for and detect disorders in underserved areas and address issues related to access to care. For example, Rodríguez *et al.* (2006) used a mobile unit to assess body mass index and provide obesity education to residents in urban communities. A study conducted by Alexy and Elnitsky (1998) used nursing students to provide community- and home-based behavioral assessments and health and nutrition screenings to rural older adults. Their interventions decreased emergency room visits and increased the screening rates for immunizations and breast and cervical cancer. Other studies have used health advocates to link community residents to healthcare services and resources.

An integrated healthcare approach to assess MSX in rural communities and the foundations of this model

Collaborations in this project between community and academic partners were established to increase access to care in rural West Alabama. The rural residents in this service area are unique because they live in the Alabama Black Belt. The Black Belt is a term that originally referred to the region's thin layer of rich black topsoil. Beginning in the 1830s, cotton plantations in these areas became Alabama's greatest source of wealth. However, today, the Alabama Black Belt is characterized by high poverty, morbidity, mortality, economic immobilism and insufficient healthcare. The percentages of older adults and African Americans in these counties are well above national averages (US Census Bureau, 2009a), which underscores the need for access to quality healthcare services in rural areas.

The interdisciplinary collaborative model is often embedded in primary care or other organized settings so that the patient is perceived as seeking healthcare in general, not just physical or mental healthcare. It assembles professionals from various healthcare disciplines to provide healthcare to rural communities, such as medicine, nursing, psychology and social work. This model also emphasizes cultural competence – a set of academic and interpersonal skills that allow individuals to increase their understanding and appreciation of cultural differences and similarities within, among and between groups.

An interdisciplinary healthcare team provided free health screenings and behavioral assessments to rural adults through a mobile unit that traveled to rural communities on a monthly basis. Developed through an academic and community partnership with The University of Alabama (UA), the West Alabama Mental Health Center (WAMHC), and the Bristol-Myers Squibb Foundation, the interdisciplinary team was formed from various disciplines including rural medicine, psychology, nursing, and social work. Using a refurbished recreational vehicle (RV) to increase healthcare accessibility, the purpose of the WAMHC Mobile Unit was to help educate individuals in the Black Belt region on their current health status, maintain or improve their health status, and provide referrals to local healthcare practitioners whenever necessary. From March 2007 to August 2010, the mobile unit traveled to rural West Alabama communities to provide free health services to the residents in each city. The mobile unit traveled to a high traffic area (e.g. community centers, shopping centers, grocery stores, and pharmacies) in each service site once per week and provided healthcare services from 9 a.m. to 1 p.m. The mobile unit was staffed by the following disciplines: rural medicine, nursing, psychology and social work. Some services provided included blood pressure screening, glucose screening and mental health screening. All services were voluntary, and the availability of the other/supplementary services varied based on an individual's need for a particular service and the availability of trained professionals to provide the services. Demographic information as well as medication and family medical history were collected for each participant. During each visit, the residents were given a brief report of their health screening results use to monitor their health condition(s) or to follow up with their primary care physicians. The unit also included a private room in the back of the RV for therapy or other highly confidential services such as mental health screenings and HIV/AIDS testing.

Mobile healthcare presents an innovative opportunity for the detection and prevention of mental and medical illnesses that can be easily assessed by simple screening measures.

Moreover, when the medical issues are linked to health outcomes, such as MSX and cognitive impairment, mobile units can help promote both physical and mental well-being among rural older adults.

Significance

Despite the growing interest in investigating MSX in rural communities around the globe, little research has been conducted to assess risk factors associated with MSX in the USA, especially in Southeastern rural communities. To date, the rate of MSX among rural, US elders has yet to be established. This may hamper our ability to deliver effective preventive health services to reduce the prevalence of MSX among rural older adults. To fill the gap in the literature, our study aimed to describe outcomes specifically related to the risk factors for MSX in rural elders, and identify vulnerable rural communities that are at risk for MSX.

Methods

Sample

The study participants were selected from a sample of individuals receiving health screens from the WAMHC Mobile Unit in 2008 and 2009. Participants were aged 55 years and older. The geographic service area for the mobile unit included four rural communities (Akron, Faunsdale, Greensboro and Newbern) which are a part of a largely rural region. Participants were separated into three age groups (55–64, 65–74 and 75–89). We accessed the US Census data to help further explore these findings and discovered that the city of Faunsdale had a higher percentage of White residents (37 percent) and the percentage of residents with at least some college education or above (66.7%) was over three times that of residents in Akron and Newbern. Furthermore, the mean retirement income ($24,100) for older adults in Faunsdale was higher than the other cities, and none of the older residents were living in poverty whereas 13.8 and 42.3 percent of Akron and Newbern residents, respectively, had lived in poverty within the last year. It should also be noted that the Faunsdale residents' mean retirement income and education status were above national averages and the poverty level was well below the national average (US Census Bureau, 2009b, c, d). These differences supported a comparison of the communities to determine differences that were related to SES.

Because the mobile unit made numerous visits to the same site and no identifying information was collected, researchers were concerned that the dataset might contain multiple screenings of the same individuals. In an attempt to account for this and to try to get equitable numbers to make the sites comparable during the analysis, researchers matched participants on gender, race and age between sites. Participants that did not have data required to calculate the metabolic syndrome rate were excluded from the analysis. The final sample consisted of 216 total participants. Informed consent was obtained from all participants in the study. This study was approved by the Institutional Review Board.

Measures

The criteria used to define MSX for this study were modified from the National Cholesterol Education Program's Adult Treatment Panel (NCEP) and the World Health Organization (WHO) definitions (Grundy *et al.*, 2005). Blood pressure was measured using according to JNC VII guidelines. Height and weight were obtained using a calibrated scale. Participants were considered to have MSX if they met three or more of the following criteria: arterial high blood pressure/hypertension (systolic $\geqslant$ 130 mmHg, diastolic $\geqslant$ 85 mmHg) or use of hypertension medication, high blood glucose ($\geqslant$ 110 mg/dL) or use of antidiabetic medication, obesity (BMI $\geqslant$ 30 kg/m2) and elevated cholesterol (total cholesterol $\geqslant$ 200 mg/dL) or use of cholesterol medication. It should be noted that reduced HDL cholesterol levels are commonly used for this risk factor. However previous studies have used total cholesterol measures with the aforementioned criteria to assess for MSX (Ford, 2005; Fröhlich *et al.*, 2000). Hypertriglyceridemia is the fifth and final risk factor for MSX; however, serum triglyceride levels were not collected on the mobile unit and thus this risk factor is not included in the analyses.

Additionally, occasional machine malfunctions, maintenance, and limited supplies reduced the types of screens that were available on any given site visit. For example, calibration of the cholesterol machine and depleted supplies of glucose test strips limited the data available for these two screenings. When these screening results data were unavailable, data on the use of cholesterol and diabetic medications was used in place of these variables (Grundy *et al.*, 2005).

Data analysis

Analyses were conducted using IBM SPSS version 19.0.0. For the descriptive analyses, means (*M*) and standard deviations (SD) or percentages were used to assess demographic and physical health characteristics of the sample. Given the voluntary nature of the mobile unit, complete data for all of the variables for each participant were not available. A three-way ANOVA was conducted to assess the interaction between gender age and site on MSX rates. *Post hoc* analyses were conducted to further explore the interaction between these three variables.

Findings

A total of 216 participants completed the study. As previously mentioned, participants were matched on gender, race and age across sites. Thus, participation from each site consisted of 54 participants (36 male and 18 female). Table I presents the background characteristics and metabolic syndrome risk factors for participants by site and by gender. For participants across all sites, 33.8 percent were found to have high blood pressure, and 42.1 percent of participants were at high risk for diabetes. Additionally, 43.5 percent of the sample population was obese, with a BMI at or above 30, while 31 percent of the sample population was found to have high cholesterol.

Results of the three-way ANOVA are displayed in Table II. Our findings revealed that there was a significant interaction between gender, age and site, $F(16,193) = 2.41$, $p < 0.01$. *Post hoc* analysis using Tukey HSD test indicated the mean number of total MSX risk factors for the Greensboro site ($M = 1.93$, SD = 1.33) was significantly different from both the mean number of risk factors for Faunsdale site ($M = 1.17$, $SD = 1.01$) as well as Newbern site ($M = 1.39$, $SD = 1.00$). A one-way ANOVA was conducted separately on each gender group comparing mean differences in MSX risk factor by sites (see Figure 1). For females, results of the analysis

Table I Background characteristics of mobile unit screen participants – by site and by gender

	Akron		*Faunsdale*		*Greensboro*		*Newbern*	
Demographic characteristics (%)	*Male (n = 36)*	*Female (n = 18)*	*Male (n = 36)*	*Female (n = 18)*	*Male (n = 36)*	*Female (n = 18)*	*Male (n = 36)*	*Female (n = 18)*
Age[a] *(range = 55–89; M ± SD)*								
55–64	44.4	38.9	52.8	33.3	75	50.0	50.0	77.8
65–74	13.9	50.0	33.3	44.4	19.4	33.3	50.0	11.1
75+	41.7	11.1	13.9	22.2	5.6	16.7	0.0	11.1
Race[b]								
Non-Hispanic white	5.6	16.7	38.9	11.1	16.7	5.6	22.2	11.1
African American	94.4	83.3	61.1	88.9	80.6	94.4	77.8	88.9
Hypertension risk factor	27.8	22.2	44.4	11.1	44.4	33.3	22.2	61.1
High blood glucose risk factor	30.6	22.2	52.8	44.4	50.0	44.4	33.3	61.1
Obesity risk factor	33.3	66.7	22.2	22.2	52.8	88.9	38.9	50.0
Elevated cholesterol risk factor	55.6	55.6	11.1	11.1	33.3	50	16.7	22.2
Has MSX	22.2	22.2	5.6	0	27.8	33.3	11.1	11.1
Total no. of MSX risk factors	2.33 0.78	1.86 1.13	1.33 0.89	1.73 1.03	2.17 0.84	1.64 1.14	2.17 0.72	2.09 1.81

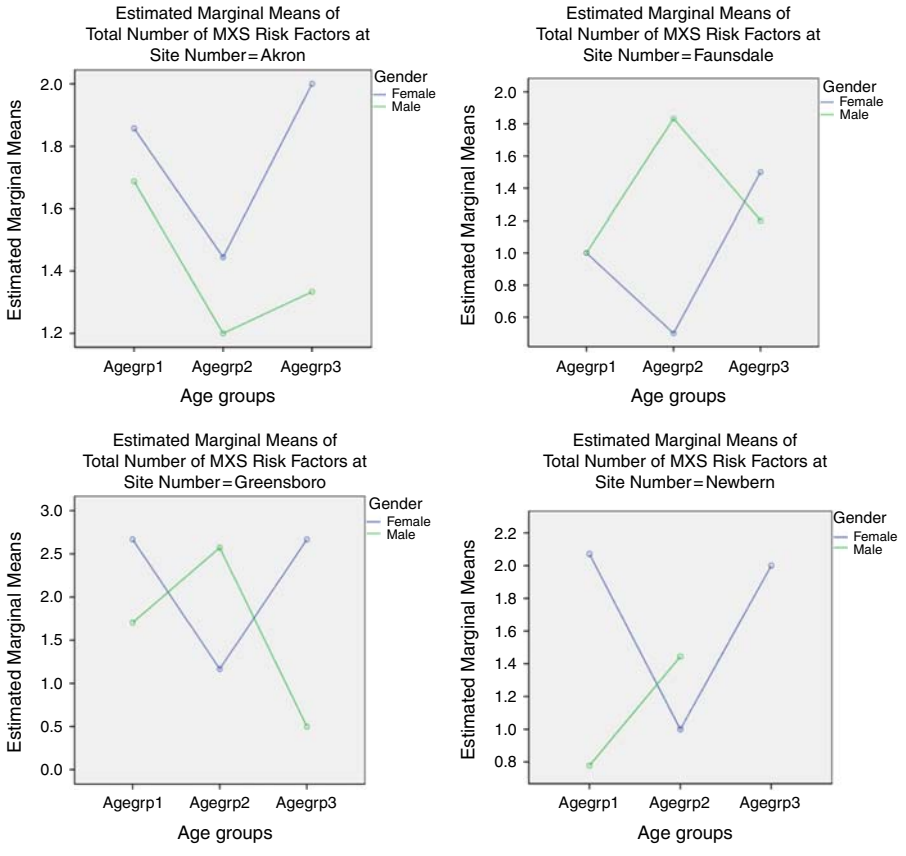
Notes: $n = 216$. [a]Significant difference between sites as determined by *t*-test or Pearson's χ^2 test. [b]Others include Hispanic, Asian/Hawaiian/PI, Alaska Native/AI/two or more races. *$p < 0.05$; **$p < 0.001$

Table II Site × gender × age analysis of variance (ANOVA) for risk factors for metabolic syndrome among rural middle-aged and older adults

Source	*df*	*F*	η^2	*p*
Site	3	2.64	0.039	0.05
Gender	1	2.14	0.011	0.15
Age Group	2	0.57	0.006	0.56
Site × Gender × Age group	16	2.41	0.166	0.00**

Notes: *$p < 0.05$; **$p < 0.01$

Figure 1 Three-way interaction effect between gender, age and site: compared by sites

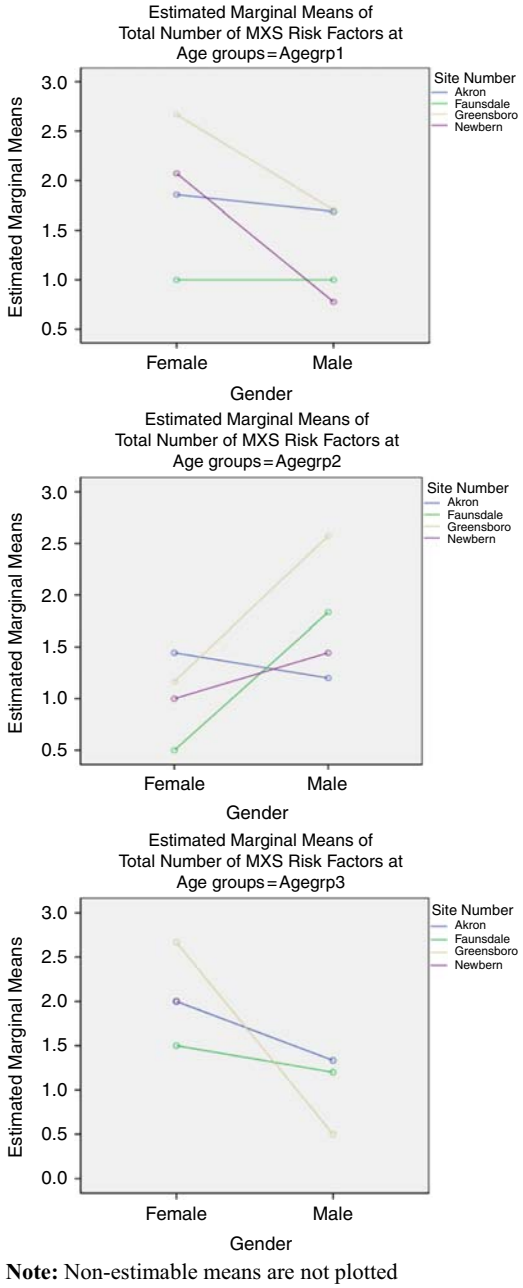


Note: Non-estimable means are not plotted

indicated there was a significant difference between sites $F(3, 68) = 7.42$, $p < 0.01$. *Post hoc* analysis using Tukey HSD test indicated that the mean number of total MSX risk factors for the Faunsdale site ($M = 0.89$, SD = 0.76) was significantly lower than each of the mean number of risk factors for the Akron ($M = 1.67$, SD = 0.84), Newbern ($M = 1.94$, SD = 0.54) and Greensboro ($M = 2.17$, SD = 1.20) sites. There was no significant difference between sites for males.

Furthermore, a one-way ANOVA was conducted separately on each gender comparing age groups (see Figure 2). For females, results of the analysis indicated there was a significant difference in the mean number of total MSX risk factors between age groups $F(2, 69) = 9.80$, $P < 0.01$.

Figure 2 Three-way interaction effect between gender, age and site: compared by age group



Note: Non-estimable means are not plotted

The mean number of MSX risk factors for females in the 65–74 age group ($M = 1.04$, $SD = 0.74$) was significantly lower than the mean number of females in the 55–64 age group ($M = 2.00$, SD = 1.01) and the 75+ age group ($M = 2.00$, SD = 0.63). There was no significant difference between age groups for males. There were also no significant differences between males and females.

Discussion

The study demonstrates the components of MSX can be quickly identified through screenings on mobile units. Furthermore, given the collaborative nature of the mobile unit and the

additional services offered (i.e. medical assistance, treatment referral and psychoeducation), effective treatment to manage metabolic risk factors can be coordinated through this healthcare delivery system. Approximately one in every five individuals in the study sample was positive for MSX, and on average individuals had at least one MSX risk factor. Furthermore, we found that there are significant differences on MSX risk factors within various rural communities. For example, Greensboro residents were more likely to have a significantly higher mean number of total MSX risk factors than residents in Faunsdale, as they had significantly greater numbers of MSX risk factors.

The results of the current study were consistent with previous research suggesting that rural health disparities were linked to educational attainment, income and socioeconomic status (Rogers, 1999; Meltzer, 2008; NACRHHS, 2004). When the individual MSX risk factors were assessed, the rates of hypertension and obesity in this population were striking. Given their high rates of hypertension and obesity, rural Alabama middle-aged and older adults face increased risk of developing metabolic syndrome, which may place them at increased risk for diabetes, heart diseases and stroke.

Not only does MSX impact physical health, but also mental health, such as depression and other negative mental health outcomes. Rural older adults are also one of the greatest at-risk groups for experiencing mental health problems. Furthermore, in many rural communities there are no psychosocial services available to meet the needs of the rural elderly, creating a mental health professional shortage area. Studies have demonstrated that multiple co-morbid medical conditions may increase mental health risks in the elderly, for conditions such as depression and anxiety (Fultz *et al.*, 2003). Discussion of mental health risk associated with metabolic syndrome provides an opportunity to offer depression screening, arrange additional psychological treatment when indicated, and educate rural elders about depression and other mental health topics that are likely to go unrecognized in rural older adults. Mobile healthcare delivery is crucial to providing quality care and education to address the medical and mental health needs of underserved populations.

Study limitations

The study had several limitations. First, data were not available to assess for all five factors of MSX, as there was not a triglyceride screening available on the mobile unit. Therefore, it is likely that the rates of MSX in this sample are underestimated. Second, individual screening results were not available to track subsequent use of the mobile unit after an individual's initial screening. As a result, we could not report independent screening results nor could we track returning participants over time. Finally, because all of the screens were voluntary, missing data resulted in smaller sample sizes for the analyses.

Conclusion

The use of a mobile unit to provide healthcare services to a predominately African American population in the rural Southeast was shown to be an effective means to identify the rates of MSX among older rural populations. The WAMHC mobile unit successfully provided services to rural communities, while developing an academic and community partnership to enhance engaged scholarship and deliver accessible, innovative, and interdisciplinary healthcare. This study reveals the vulnerability of rural Southeastern older adults not only to MSX, but also the underlying chronic conditions resulting from MSX risk factors including diabetes, obesity, stroke and heart disease. It also highlights the importance of adopting an integrated healthcare approach to provide health education and continual monitoring for MSX risk factors in order to effectively decrease health disparities and the prevalence of MXS among rural older adults. Future studies should explore the impact of MSX on cognition in older adults. These studies could explore how to reduce the stigma associated with behavioral health assessments in rural communities. Additionally, developing effective community-based interventions to reduce the risk factors that lead to metabolic syndrome is also recommended.

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Impact of a home-based nutrition and exercise intervention in improving functional capacity associated with falls among rural seniors in Canada

Shanthi Johnson, Bill McLeod, Sabyasachi Gupta and Katherine McLeod

Abstract

Purpose – *A six-month randomized controlled trial was conducted to examine the impact of a home-based nutrition and exercise intervention on functional capacity to prevent falls among rural seniors. The paper aims to discuss this issue.*

Design/methodology/approach – *Men and women (n = 134), aged 60 and older were assigned to one of four groups: exercise, nutrition, exercise-nutrition, and control. Participants in the exercise and exercise-nutrition groups performed a home-based exercise program (Home Support Exercise Program), and the nutrition and exercise-nutrition groups received a liquid nutritional supplement (Ensure®) for six months. Participants were assessed at baseline and six months on functional mobility, balance, flexibility and endurance.*

Findings – *There were significant group differences over time for functional reach and the Timed Up and Go test, with significant differences existing between exercise and nutrition-exercise, and exercise and nutrition groups respectively. Overall, the exercise group out-performed the other groups in terms of functional capacity and psychological well-being.*

Research implications – *Improvement of functional health among rural seniors is achievable through the delivery of a home-based intervention focusing on exercise and nutrition.*

Practical implications – *The study also shows that the effective delivery of an intervention to successfully address a fundamental and persistent problem is possible using existing resources; however, it requires a commitment of focus and energy over considerable time.*

Social implications – *The approach and findings helps seniors to age in place in a rural context. It shows feasibility of delivering a practical intervention in the rural setting through the health care infrastructure of home care.*

Originality/value – *Apart from the rural context, the study was innovative at many levels. Specifically, this intervention addressed a significant health issue (functional capacity, falls and injuries), involved frail rural seniors (often hard to reach through community-based programs), provided a feasible intervention (multiple component exercise program), used existing infrastructure (e.g. home care), and espoused community development principles (active involvement of community partners, researchers, and trainees). As well, the study had built-in mechanisms for monitoring and support through the involvement of home service workers who received training. This approach created a strong research to practice connection (another innovation) and was critical for the credibility of the investigation, as well as the sustainability of the intervention. Another innovation was the inclusion of a population health perspective as the study framework. From the population health perspective, this research addressed several determinants of health in rural and urban areas that include: physical environment (intervention within people's home and rural context), social environment and social support networks (through existing infrastructures of home support workers), health services (availability of health promotion strategy delivered through the health care system) and personal health practices and coping skills (exercise).*

Keywords *Home care, Exercise, Nutrition, Health behaviour, Rural aging, Falls, Functional mobility*

Paper type *Research paper*

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Introduction

Falls are a major threat to the health of seniors in Canada. It is estimated that 20 to 30 percent of seniors experience a fall each year (Bilik *et al.*, 2017; Johnson, 2014; Public Health Agency of Canada, 2014; Scott *et al.*, 2010). While nearly 85 to 90 percent of older Canadians are functionally well and lead an independent lifestyle in the community, the incidence of falls is particularly high among frail seniors (Public Health Agency of Canada, 2014). Approximately 12 to 15 percent of seniors are frail and largely homebound; living in the community, but functionally compromised with many receiving formal home support services (Public Health Agency of Canada, 2010; Roy *et al.*, 2018; Statistics Canada, 2011). Several factors contributing to frailty including mobility limitations, fear of falling and other psychosocial concerns (e.g. loss of dignity with increased dependence) may confine these individuals to their homes or even their rooms (Lee *et al.*, 2018). As such, homebound seniors are more likely to have mobility and other physical limitations and compromised nutritional status (Clegg *et al.*, 2013; Rockwood *et al.*, 1994; Statistics Canada, 2011). This vulnerability arises from a combination of physical, psychological and socio-cultural factors as well as the age-related changes (Blodgett *et al.*, 2016; Johnson and Begum, 2008). Additionally, these individuals are often "hard-to-reach" through conventional community-based or facilities-based falls prevention programs and have a high propensity for falling (Lusardi *et al.*, 2017). The higher incidence of falls, coupled with an increased risk of undernutrition and compromised physical function, make it critical to explore this issue among frail, homebound seniors.

Studies involving frail seniors consistently report a higher prevalence of undernutrition, including less than optimal daily intake of total calories and various nutrients such as protein and calcium (Fávaro-Moreira *et al.*, 2016; Kiesswetter *et al.*, 2013) and that malnutrition is costly (Abizanda *et al.*, 2016). This results in inadequate nutrient intake to meet the needs of physiological systems responsible for balance and postural stability, and thus, creates a predisposition to falls (Bartali *et al.*, 2006; Johnson, 2003).

Few studies have examined the impact of nutritional supplementation on functional capacity and falls among seniors in general (Burke *et al.*, 2013; Wright *et al.*, 2015). Specifically, there have been even fewer focussing on frail, homebound seniors receiving home care. In two older studies, Gray-Donald *et al.* (1995) and Payette *et al.* (2002) found improved nutrition status, but no change in functional capacity after frail community-living seniors received a nutrient-dense liquid nutritional supplement intervention. However, Gray-Donald *et al.* (1995) observed a significant reduction in the number of falls, suggesting that nutritional supplementation may play a role in preventing falls independent of exercise intervention. Recent studies also point to the benefit of nutrition intervention for seniors (Burke *et al.*, 2013; Esquivel, 2018; Wright *et al.*, 2015).

In addition to poor nutritional status, frail seniors experience compromised functional capacities, which are also associated with falls (Bonnefoy *et al.*, 2012; Fletcher and Hirdes, 2002). Although a recent systematic review shows that multi-component home-based exercise reduces fall risk and rates (Gillespie *et al.*, 2012; Giné-Garriga *et al.*, 2014), relatively few studies have focused exclusively on frail, largely homebound seniors and the combined effect of nutrition and exercise on functional capacity associated with falls (Ashworth *et al.*, 2005). An evaluation of the Home Support Exercise Program (HSEP), developed for frail homebound seniors by the Canadian Centre for Activity and Aging, found that four months of participation in the program resulted in significant improvement in functional mobility, leg strength, functional endurance, balance confidence and psychophysical well-being (Johnson *et al.*, 2003). In combination, a nutrition and exercise intervention may be a promising strategy.

Also, while 30 percent of Canada's population and 50 percent of Canada's seniors live in rural and remote areas (Statistics Canada, 2008, 2002), most health promotion interventions remain urban-centric (Jeffery *et al.*, 2014). It is well known that poor health indicators and status contribute to the vulnerability of the older adults to adverse health outcomes such as falls. DesMeules and Pong (2006), in their report *How Healthy are Rural Canadians* confirms that rural residents have poorer health status (e.g. co-morbidities) and identifies other factors (e.g. higher incidences of sedentary lifestyles) that may exacerbate health outcomes, compared to their urban counterparts. At the individual level, studies have shown that health status decreases as one

travels to more rural and remote regions and with vulnerable groups such as older adults most affected (Dandy and Bollman, 2009; Halseth and Ryser, 2006; Mitura and Bollman, 2003). As such, frail seniors living in rural communities may have higher levels of co-morbidities which might predispose them to higher rates of falls and injuries (Bacsu *et al.*, 2012; Johnson *et al.*, 2016). At the community level, the high proportion of out-migration of younger generations has resulted in the concentration of older population in rural areas often leading to social isolation (Dandy and Bollman, 2009). At the systems level, rural areas also experience a chronic and often critical shortage of health professionals including physicians, nurses and other health providers. For example, although rural Canadians represent 30 percent of the population, they are served by only 10 percent of Canada's physicians (Statistics Canada, 2011). Rural communities are also faced with challenges associated with the availability and access to health and social services (Statistics Canada, 2011). Asthana and Halliday (2004) point out that "because rural areas have less chance of achieving economies of scale than their urban counterparts, they must either develop more numerous smaller units (which has significant cost implications) or sacrifice accessibility by accepting large distance between service users and service centers. The latter option routinely transfers costs to patients and carers with consequent equity issues, particularly for 'transport poor' groups such as elderly people." As such, while older homebound adults are more likely to live alone with compromised mobility and are "hard-to-reach" through conventional community-based programs and avenues (Johnson *et al.*, 2003), those living in rural areas may experience a double-burden of the challenges of being homebound and living in rural communities, with the compromised health status, social isolation and limited availability and access to health care and social services, compared to their urban counterparts. Therefore, the purpose of this study was to examine the effectiveness of a validated home-based nutrition and exercise intervention aimed to improve functional capacity associated with reducing falls among frail rural seniors.

Materials and methods

Study population

Participants ($n = 134$) were recruited from the Continuing Care (Home Care) Program in a rural health authority in Canada. Case Managers of the Continuing Care Program screened potential participants for eligibility during their regular client assessment and asked their willingness to participate in the study. Men and women were included in the study if they were 60 years of age or older, able to independently ambulate in their home with or without a gait aid, received home care at least once a week as only those with ADL/IADL deficits qualify for home care in this jurisdiction, and were willing to sign a letter of informed consent. Participants were excluded if they were non-ambulatory, had unstable medical conditions (respiratory, metabolic, or cardiovascular), were receiving palliative care, had an illness that required a therapeutic diet incompatible with supplementation (e.g. renal diet), and/or had advanced cognitive impairment that would preclude them from understanding the letter of information and providing informed consent. The participants were drawn from the rural areas in Nova Scotia which accounts for three percent of the Canadian population and has a population density of approximately 17.2 persons/km^2 (Statistics Canada, 2011).

Procedure

This six month randomized controlled study was approved by the institutional research ethics board and the local health authority ethics board. A priori power analysis identified a necessary total sample size of at least 96 (at least 24 samples in each of the four groups) based on statistical power of 0.80, a minimum effect size of 0.35 for the Timed Up and Go test (TUG) as observed by Johnson *et al.* (2003), and two-tailed α of 0.05. TUG was used for the sample size calculation as it measures functional mobility widly used in clinical guidelines aimed at identifying and addressing risk of falls. Following eligibility screening by the Case Managers, the Study Coordinator used a computer generated randomization scheme to consecutively randomize the 134 eligible participants into one of four study groups: exercise only (EX) ($n = 40$), nutrition only (NTR) ($n = 32$), exercise-nutrition (EX-NTR) ($n = 33$) and no intervention (CNT) ($n = 29$). The Study Coordinator subsequently visited

participants to explain the study protocol and obtain informed consent. A trained researcher, blinded of the group conditions, carried out background, physical, nutritional and psychosocial assessments on all participants at baseline, and again at six-month follow-up. After baseline assessment, a trained researcher visited participants in the intervention groups and provided training and instructions. Assessment and client instructions were completed by different individuals to minimize bias with the assessor blinded to the study condition.

Intervention

Participants in the EX and EX-NTR groups were taught the HSEP in their home by a trained physiotherapist attached to the health region working with seniors and participants in the NTR and EX-NTR groups received instructions regarding the nutritional supplementation (Ensure ®) by a dietitian affiliated with the health region. This HSEP is a validated exercise program developed by the Canadian Centre for Activity and Aging (Johnson *et al.*, 2003) and comprised of 10 simple, yet progressive exercises. The exercises included: walking from room to room; wall push-ups; rising up on toes; toe taps; seat walk; getting up from the chair; leg lifts – front, side and back; reach up, front, to the sides; seated stretching (hamstring) and standing stretching (calves). All exercises, except the seat walk and seated stretching (hamstring), were carried out in a standing, weight-bearing position to facilitate balance training. The program, developed specifically to be carried out in the convenience of participants' homes, did not require special settings, equipment or travel to a research or community facility.

Participants in the NTR and EX-NTR group were provided two 235 ml cans per day of a commercial liquid adult nutritional supplement, Ensure ® High Calcium, provided by the Ross Laboratories (Division of Abbott Laboratories, Montreal, PQ, Canada) for six months. Each can provided 230 calories, 12 grams of protein and 400 mg of calcium. The supplements were gluten and lactose free, and available in three flavors. The nutritional supplements were delivered on a weekly basis to the participants' home to enhance compliance. Participants were encouraged to consume the supplements between meals.

Home support workers (HSWs) from the Victorian Order of Nurses (VON) program who visited the participants on a regular basis as clients, were also trained in the HSEP so they could provide ongoing support and encouragement to the participants in the intervention groups. HSWs also collected a weekly falls calendar from all participants and completed a brief, weekly report on health changes and incidents. The participants, trained researchers (e.g. physiotherapist, dietitian) and HSWs were not blinded given the nature of the intervention.

Measures

Baseline and follow-up background questionnaire. At baseline, HSWs were asked how long they had worked with each participant, which services they provided, and how they rated the client's mobility. Information obtained from participants (or via their HSW, with their permission) included: other formal services used, demographics, diagnosed health problems, medications, nutritional support currently received and use of walking aids. Participants were also asked to rate their overall health (excellent to poor) and whether they needed personal assistance to leave their home. Weekly calendars and reports were used to provide an indication of exercise/nutrition compliance.

Mobility. TUG assessed functional mobility. The participant was asked to rise from a seated position (standard chair with arms), walk at a safe and comfortable pace (with their usual gait aids) to a line 10 feet away, turn around, return to the chair and sit down. After one practice trial, time to complete the test was recorded in seconds. The test location was noted for six-month replication.

Endurance. The six-minute walk (SMW) test was used to assess endurance, following a standardized protocol (Garcia *et al.*, 2015; Guyatt *et al.*, 1985). For this test, the person was asked to walk as far as they could at their own pace, with usual gait aids, stopping to rest if necessary. The route (e.g. up and down the hallway of an apartment or from room to room) was

chosen in advance (using a walking wheel) and replicated at follow-up. The distance walked in six minutes was recorded in feet.

Balance. The Functional Reach (FR) test, developed as a marker of physical frailty, was used to assess balance (Duncan *et al.*, 1990; Weiner *et al.*, 1992). A measuring stick was placed against a wall at the height of the subject's acromion. The participant was asked to stand beside the wall, dominant side with shoulder at the zero (0) mark of the stick, not wearing shoes or socks, and extend his or her arm to determine normal reach (end of third metacarpal: position one), then to extend the arm as far as possible (position two) while maintaining balance (head up, heels on the floor, not contacting the wall). One practice trial was allowed. The participant's best score (difference between positions one and two) of three trials was used for analysis.

Lower body strength. The Sit-to-Stand test was used to assess lower body strength (Csuka and McCarty, 1985). Participants were asked to sit in a straight-backed chair (standard height with arms, positioned against a wall) with their back against the chair, then to stand up and sit down as quickly as possible. Following one practice trial, each participant was asked to perform one sit-to-stand (STS1), followed by five sit-to-stands (STS5) in succession. Use of arms was noted. Time to complete the sit-to-stand test was recorded in seconds and the test began at the initial sitting position and ended at the final standing position.

Psychological measures. The shortened version (10 of the 16 items) of the Activities-specific Balance Confidence (ABC) scale was used to assess balance confidence (Powell and Myers, 1995). Six of the ABC items (e.g. walking on icy sidewalks, using escalators) were not included as participants were unlikely to carry out these activities, as verified during our pilot work. A Likert scale ranging from 0(not at all confident) to 100 percent (completely confident) was used. Participants were instructed to point to a value on an enlarged card or to respond verbally.

Psychophysical well-being was assessed using the 10-item Vitality Plus Scale (VPS), which measures accumulated benefits (e.g. sleep, energy, feeling relaxed, appetite, constipation) of exercise participation by seniors (Myers *et al.*, 1999). Similar to the ABC, the VPS was administered via interview, using an enlarged Likert scale with scores ranged from 10 to 50; higher scores indicated greater well-being.

Statistical analysis

Tests for missing data, outliers, skewness and kurtosis were conducted. Descriptive statistics were computed with continuous variables expressed as means and standard deviations and categorical variables were summarized as counts and proportions. For this study, an intent-to-treat approach was used. The primary outcomes included physical functionality measures (TUG, FR, STS1, STS5, SMW) and psychological measures (VPS and ABC). One-way ANOVA and χ^2 analyses were performed to assess significant group differences in outcomes. The level of statistical significance was set at $p \leqslant 0.05$.

Results

Of the 134 participants, 102 completed the six-month follow-up (76 percent retention rate). At six-month follow-up, the EX and EX-NTR groups had the retention rate of 72.5 ($n = 29$) and 78.8 percent ($n = 26$), respectively. The NTR group had the lowest retention rate (65.6 percent, $n = 21$) and the CNT group had the highest retention (89.7 percent, $n = 26$) at six-month follow-up.

Baseline demographics and general health information are presented in Table I. The mean age of participants was 81 years (SD = 8.03, Age range: 61–98 years), with 83 percent female and 98 percent Caucasian. Approximately 43 percent had college or university-level education and 49 percent described their financial status as easily meeting their needs with money left over. No statistically significant differences were observed among the four study groups for age, sex, ethnicity, or education level. The four groups showed differences with regards to financial situation ($p = 0.005$). The CNT group had the highest proportion (55 percent) of participants who can easily meet their needs with money leftover while the nutrition group had 22 percent of its participants financially barely meeting their needs.

Table I Demographic and health information by group

Variable	*Control (n = 29), %*	*Nutrition (n = 32), %*	*Exercise (n = 40), %*	*Nutrition and exercise (n = 33), %*	*F/χ^2*
Panal A					
Age					1.05
M (SD)	79.7 (9.4)	83.1 (7.2)	80.7 (7.9)	80.4 (7.7)	
Gender					0.46
Female	23 (79.3)	27 (84.4)	34 (85.0)	27 (81.8)	
Male	6 (20.7)	5 (15.6)	6 (15.0)	6 (18.2)	
Ethnicity					8.55
Caucasian	29 (100.0)	32 (100.0)	39 (97.5)	31 (93.9)	
Education level					7.66
Elementary	7 (24.1)	8 (25.0)	12 (30.0)	6 (18.2)	
High school	7 (24.1)	14 (43.8)	9 (22.5)	8 (24.2)	
College/university	14 (48.3)	9 (28.1)	18 (45.0)	17 (51.5)	
Personal assistance required to leave home					9.16
Always	0 (0.0)	3 (9.4)	4 (10.0)	7 (21.2)	
Sometimes	7 (24.1)	8 (25.0)	9 (22.5)	10 (30.3)	
Never	22 (75.9)	21 (65.6)	27 (67.5)	16 (48.5)	
Financial situation					23.78*
Easily meets needs	16 (55.2)	14 (43.8)	18 (45.0)	17 (51.5)	
Meets needs	11 (37.9)	9 (28.1)	18 (45.0)	5 (15.2)	
Barely meets needs	2 (6.9)	7 (21.9)	2 (5.0)	3 (9.1)	
Smoker					1.83
Yes	0 (0.0)	1 (3.1)	2 (5.0)	2 (6.1)	
Current health					26.70*
Excellent	10 (34.5)	0 (0.0)	4 (10.0)	2 (6.1)	
Good	12 (41.4)	15 (46.9)	25 (62.5)	16 (48.5)	
Fair	5 (17.2)	13 (40.6)	10 (25.0)	10 (30.3)	
Poor	2 (6.9)	3 (9.4)	1 (2.5)	4 (12.1)	
Taking OTC meds					3.92
Yes	25 (86.2)	31 (96.9)	34 (85.0)	31 (93.9)	
Number of OTC meds					0.077
M (*SD*)	6.0 (5.2)	6.4 (3.5)	6.2 (2.9)	6.5 (3.9)	
Panal B					
History of Arthritis					
Yes	25 (86.2)	24 (75.0)	35 (87.5)	25 (75.8)	2.98
History of back problem					
Yes	17 (58.6)	16 (50.0)	27 (67.5)	18 (54.5)	2.49
History of fall over the past year					
Yes	14 (48.3)	12 (37.5)	22 (55.0)	16 (48.5)	2.2
History of regular exercise					
Yes	20 (69)	10 (31.3)	24 (60.0)	20 (60.6)	10.40*
Use of Gait Aid					
Yes	8 (28.6)	15 (50.0)	19 (48.7)	18 (54.5)	4.7
Loss of weight in the last year					
Yes	12 (41.4)	10 (31.3)	12 (30.0)	10 (30.3)	1.24

Notes: Panal A: OTC, over the counter. Data based on baseline responses. Percentages based on total *n* for each intervention group. F/χ^2 values represent continuous and categorical variables, respectively. For financial situation data, easily meets needs = has enough money left over after meeting basic needs, meets needs = barely has any money left after meeting basic needs, barely meets needs = barely has enough money to meet basic needs and has no money left over. *$p < 0.05$. Panal B: data based on baseline responses. Percentages based on total *n* for each intervention group. For financial situation data, easily meets needs = has enough money left over after meeting basic needs, meets needs = barely has any money left after meeting basic needs, barely meets needs = barely has enough money to meet basic needs and has no money left over. *$p < 0.05$

In terms of health, most of the participants (98 percent) were taking over-the-counter medications (mean number = 6). Arthritis and back problems were the most commonly reported health problems, which affected 81and 58 percent of participants, respectively. Other, more common conditions included high blood pressure (55 percent), vision problems (49 percent), bladder

control issues (46 percent), hearing problems (40 percent), heart problems (39 percent) and foot problems (38 percent). There were statistically significant differences in health variables across the four groups for self-reported participation in regular physical exercise, which ranged from 31 percent to 69 percent, and overall perceived health rating as excellent, which ranged from 0 to 35 percent ($p = 0.05$).

A high percentage of participants had compromised mobility. Specifically, 46 percent required personal assistance sometimes or at all times to leave their home. In total, 60 participants (44.8 percent) reported using various types of gait aids, with use of a cane ($n = 43$, 71.7 percent) being the most common gait aid. Falls were also common, with 47.8 percent ($n = 64$) reporting experiencing a fall in the past year. The annual fall rates were significantly different ($p = 0.05$) across the four groups ranging from 38 to 55 percent.

The baseline, six-month follow-up and change scores for the functional and psychosocial outcomes are presented in Table II. At baseline, the study groups differed significantly for FR (F (3, 129) $= 2.85$, $p = 0.04$), SMW (F (3, 100) $= 3.70$, $p = 0.014$) and ABC scores (F (3, 128) $= 2.72$, $p = 0.047$). No significant group differences existed for TUG test, STS1, STS5 and VPS score prior to intervention. At the six month post-intervention follow-up, statistically significant changes emerged for the FR test (F (3, 91) $= 2.78$, $p = 0.04$) and TUG test (F(3, 96) $= 2.73$, $p = 0.04$). No statistically significant differences were observed at post-intervention follow-up for the SMW, STS1, STS5, ABC and VPS test. Tukey's *post hoc* tests revealed the change scores from baseline to six months were significant ($p = 0.04$) for TUG test between the NTR and EX groups and for FR between the EX and NTR-EX group.

Discussion

The purpose of this study was to examine the effectiveness of a combined nutrition and exercise intervention on functional capacity and falls in frail rural seniors. Several falls prevention interventions have been reported in the literature, including exercise programs, Tai Chi, environmental modification, use of assistive devices (e.g. cane) and multifactorial approaches (Gillespie *et al.*, 2012). Of these myriad strategies, only exercise interventions have received the strongest endorsement in the most recent guidelines for the prevention of falls in older persons (Gillespie *et al.*, 2012).

To our knowledge, this was the first study to assess the combined effects of a nutrition and exercise intervention, nutrition only and exercise only intervention, compared to a control group on the functional capacity of frail seniors delivered through the existing infrastructure of home care in the rural areas. Apart from the rural context, the study was innovative at many levels. Specifically, this intervention addressed a significant health issue (functional capacity, falls and injuries), involved frail rural seniors (often hard to reach through community-based programs), provided a feasible intervention (multiple component exercise program), used existing infrastructure (e.g. home care), and espoused community development principles (active involvement of community partners, researchers, and trainees). As well, the study had built-in mechanisms for monitoring and support through the involvement of home service workers who received training. This approach created a strong research to practice connection (another innovation) and was critical for the credibility of the investigation, as well as the sustainability of the intervention. Another innovation was the inclusion of a population health perspective as the study framework. From the population health perspective, this research addressed several determinants of health in rural and urban areas that include: physical environment (intervention within people's home and rural context), social environment and social support networks (through existing infrastructures of HSWs), health services (availability of health promotion strategy delivered through the health care system) and personal health practices and coping skills (exercise).

The delivery of the intervention was feasible in rural areas through the existing infrastructure of home care and the intervention was effective. Specifically, significant improvements were seen in group scores over time for FR with significant differences between the EX and EX-NTR groups. The EX-NTR group had the highest percentage of individual improvement in one sit-to-stand and TUG, while the EX group showed greater improvement in the sit-to-stand (5), SMW, VPS score and FR intervention compared to the EX-NTR group (Payette *et al.*, 2002; Gillespie *et al.*, 2012). The EX group showed the highest rate of individual improvement in psychophysical well-being

Table II Changes after six months of active intervention: mean changes within group (baseline six months) and between group differences (determined by ANOVA at $\alpha = 0.05$)

Variable	*Control*			*Nutrition*			*Exercise*			*Nutrition and exercise*			*F*
	Baseline	*six months*	*change*	*Baseline*	*six months*	*change*	*Baseline*	*six months*	*change*	*Baseline*	*six months*	*change*	
TUG	11.55 (3.82)	11.91 (5.05)	0.56 (3.43)	15.40 (7.23)	17.07 (10.38)	2.91 (5.44)	14.05 (6.94)	13.22 (6.93)	−0.31 (3.17)	15.45 (9.42)	16.25 (12.98)	1.77 (4.64)	2.73*
CI_{95}	10.10–13.01	9.52–13.70	−0.85–1.98	12.79–18.01	12.29–21.73	0.36–5.45	11.83–16.27	10.59–15.86	−1.51–0.89	12.11–18.79	11.01–21.49	−0.11–3.64	
Sit-to-stand 1	3.50 (2.02)	3.20 (1.19)	−.34 (2.44)	3.65 (1.34)	3.19 (1.50)	−0.58 (3.09)	4.13 (2.32)	3.78 (2.72)	−0.05 (3.12)	4.30 (3.11)	3.20 (1.80)	−0.63 (2.31)	0.61
CI_{95}	2.73–4.27	2.71–3.69	−1.35–0.67	3.16–4.13	2.51–3.88	−2.02–.87	3.38–4.88	2.74–4.81	−1.24–1.13	3.19–5.4	2.46–3.94	−1.58–0.32	
Sit-to-stand 5	17.30 (4.53)	18.38 (8.93)	1.51 (6.36)	20.92 (7.24)	20.38 (11.69)	1.42 (8.24)	21.88 (8.92)	18.94 (11.38)	−2.33 (6.95)	22.53 (16.64)	19.80 (9.47)	0.26 (7.99)	0.17
CI_{95}	15.58–19.03	14.69–22.07	−1.12–4.13	18.31–23.53	15.06–25.70	−2.44–5.27	18.99–24.77	14.53–23.53	−5.02–0.37	16.63–28.43	15.89–23.17	−3.04–3.56	
FR	29.93 (7.02)	30.41 (7.74)	0.00 (5.68)	24.56 (9.89)	24.90 (9.10)	0.20 (6.05)	25.55 (7.77)	27.89 (8.23)	−0.62 (6.01)	28.81 (9.33)	30.54 (7.16)	4.00 (5.68)	2.78*
CI_{95}	27.26–32.60	27.07–33.76	−2.52–2.52	21.00–28.12	20.64–29.16	−2.63–3.03	23.07–28.03	24.70–31.08	−3.10–1.86	25.45–32.18	27.52–33.56	1.41–6.59	
Six-minute walk	958.90 (400.96)	1,005.54 (406.20)	26.73 (203.12)	642.81 (240.91)	710.65 (277.27)	35.06 (189.33)	778.39 (264.81)	842.10 (253.64)	38.95 (157.05)	778.47 (428.78)	748.35 (555.03)	1.36 (409.39)	2.32
CI_{95}	785.51–1,132.29	834.01–1,177.07	−65,073–119.19	547.51–738.11	568.09–853.21	−65.82–135.95	681.26–875.53	729.64–954.56	−32.54–110.44	593.45–963.89	524.16–972.53	−209.13–211.86	
VPS	3.66 (0.69)	3.61 (0.84)	−1.26 (4.76)	3.29 (0.62)	3.336 (0.59)	−0.20 (4.29)	3.37 (0.62)	3.51 (0.65)	1.14 (3.29)	3.41 (0.75)	3.47 (0.76)	−0.73 (4.52)	0.46
CI_{95}	3.39–3.92	3.26–3.96	−3.19–0.66	3.07–3.52	3.09–3.63	−2.21–1.81	3.17–3.57	3.27–3.76	−0.13–2.42	3.14–3.67	3.16–3.77	−2.56–1.10	
ABC	84.93 (19.56)	85.25 (21.62)	−0.92 (10.97)	69.34 (23.16)	68.49 (25.63)	−4.84 (17.77)	74.62 (20.34)	74.58 (20.06)	−2.47 (10.01)	74.44 (23.70)	75.02 (25.25)	−1.13 (13.73)	2.13
CI_{95}	77.49–92.37	76.52–93.98	−5.36–3.51	60.99–77.69	56.14–80.84	−13.16–3.47	67.93–81.30	66.95–82.21	−6.35–1.41	66.04–82.84	64.60–85.44	−6.68–4.41	

Notes: TUG, timed up and go (measured in seconds); FR, functional reach test (measured in inches); ABC, activities-specific balance confidence Scale (1–100 scale); VPS, vitality plus scale (1–5 scale). Six-minute walk data reported in feet. Sit-to-stand data are reported in the number of seconds taken to complete the required number of repetitions (i.e. 1 or 5). *M*, (*SD*), and 95% confidence intervals are reported. *$p < 0.05$

(VPS) and a high rate of improvement in balance confidence (ABC). Based on these outcomes, we may conclude that, a home-based exercise intervention in frail seniors improved functional capacity and psychological well-being, and reduced the tendency to fall. Our study showed that participants in the EX and EX-NTR groups who participated in the HSEP had improved physical functionality and displayed better performance than other groups for different physical function measures (mobility, lower body strength, and psychological measures) which supports the findings in other studies (Bonnefoy *et al.*, 2012; Giné-Garriga *et al.*, 2014). Nutrition intervention alone resulted in a high percentage of individual improvements in balance (FR) and endurance (SMW), but when provided with exercise, the combined intervention showed better improvements in mobility (TUG), lower body strength (STS1) and psychological measures (VPS and ABC). Nutrition alone as a modality of intervention did not offer substantial improvements and this might be due to unidimentional attention to the multidimentional issue of falls. While nutrition imporvements are needed to improve overall health and functioning, it may not be sufficient without the mechanical and ambulatory impact the exercise programs offer to the muscles and joints. These findings suggest that considering an exercise intervention alongside nutrition may ensure better outcomes in functional capacity.

The study had several strengths including a pragmatic, community-based design and multifactorial intervention involving existing HSWs and their clients in a rural context. In addition, validated questionnaires and measurements were used. Furthermore, study participants were randomly assigned to four groups, which reduced chance of selection bias and confounding. Likewise, participant recruiters were blinded of the study interventions and group conditions and the researcher who conducted the assessments was blinded of the group conditions, reducing the chances of information bias and interviewer bias. Despite these strengths, there were some limitations of the study, including compliance. The drop-out rate in our study may have reduced the statistical power to detect a significant effect of the interventions. A lack of blinding of the participants and some researchers may have increased the potential for bias. Last, our findings may not generalize to non-Caucasian older adults. The study did not directly compare the rural seniors to those in urban areas to examine the rural-urban differences in the delivery and effectiveness.

This intervention research contributed to three significant lessons for the successful delivery of an intervention in the rural context. These included developing and sustaining the partnerships (multiple players and levels; Community-University Research Advisory Group (CURAG) with representation from partners to provide project oversight), capacity development (education/training opportunity for the home care staff via train the trainer model), and implementation of the intervention and evaluation of its effectiveness for seniors receiving home care (client instruction of the exercise and assessments took place by health region staff). The strengths of this model included the relevance/fit of the intervention with priorities of the health region, reciprocity built in to the delivery of the intervention in terms of staff training opportunities as part of the health region's contribution to the research partnership and strong partnership/relationship with the shared management (advisory group). The challenges in the delivery of the exercise intervention included the time required to recruit the required number of seniors in a rural context given the small population size, complex and multilayered intervention required careful coordination of expectations/commitment while balancing the research process to ensure fidelity of the protocol, and the realities of a health system in rural area with program and staff changes. In sum, this approach successfully addresses a fundamental and persistent problem successfully using existing resources; however, it requires a commitment of focus and energy over considerable time.

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The importance of a room with a view for older people with limited mobility

Charles Musselwhite

Abstract

Purpose – *The purpose of this paper is to examine how older people who are almost entirely housebound use a view from their window to make sense of the world and stay connected to the outside space that they cannot physically inhabit.*

Design/methodology/approach – *Semi-structured interviews with 42 individuals were carried out who were living at home, were relatively immobile and had an interesting view outside they liked from one or more of their windows.*

Findings – *The findings suggest that immobile older people enjoy watching a motion-full, changing, world going on outside of their own mobility and interact and create meaning and sense, relating themselves to the outside world.*

Practical implications – *Findings suggest that those working in health and social care must realise the importance of older people observing the outdoors and create situations where that is enabled and maintained through improving vantage points and potentially using technology.*

Originality/value – *This study builds and updates work by Rowles (1981) showing that preference for views from the window involves the immediate surveillance zone but also further afield. The view can be rural or urban but should include a human element from which older people can interact through storytelling. The view often contains different flows, between mundane and mystery and intrigue, and between expected and random.*

Keywords *Nature, Wellbeing, Independence, Environmental perception, Environmental preference, Immobility, Outdoors, Rural eldercare*

Paper type *Research paper*

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Introduction

The growing prevalence and desire of ageing in place has implications for enabling accessible, habitable and meaningful spaces for older people to reside (Iwarsson, 2004). The relationship between home, neighbourhood and community is dynamic and fluid, where the older person is continually reintegrating with places and renegotiating meanings and identity while social, political, cultural and personal landscapes change (Andrews *et al.*, 2007; Wiles *et al.*, 2011). Older people's sense of attachment to home and neighbourhood gives meaning and security, turning houses and neighbourhoods into homes, and space into place (Oswald and Wahl, 2005; Rowles, 1978, 1981; Rowles and Watkins, 1993; Rubinstein, 1989). Often, the home is viewed at a very practical level, as something simply to house the older person, not taking into account how the home is constructed and maintained through connections, attachment and meaning by the older person themselves (see Haak *et al.*, 2007; Sixsmith *et al.*, 2014 for overviews).

Older people are more likely than other age groups to have to reduce mobility which can result in spending more time closer to the home and for some becoming "housebound" in later life is a reality (Musselwhite and Shergold, 2013; Sixsmith *et al.*, 2014). Rowles (1978) discussed how many older people become prisoners of space, where physiological decline and economic deprivation coupled with a rapidly changing society can result in older people physical, socially and psychological withdrawing. Older people then reconstruct their world and have deep

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attachment around a very local space which in many cases, for those very immobile, this is the immediate home environment. Connections to further away places become difficult to achieve in a physical and literal sense, often replaced through recollection, remembrance and imaginative connections (Herbert and Thomas, 1997; Parkhurst *et al.*, 2014). This may be done through reminiscing, using objects, artefacts and photographs, for example (Rowles, 1978, 2000).

Immediately outside the home is a space which has been termed the surveillance zone, a space that parents can allow children to play on their own while observing their activities without physically being next to them, through, for example, a window or an open door (Jacobs, 1961). Rowles (1981) examined how older people use this zone, examining both how they watch others and are watched by others in this space. Rowles (1978, 1981, 2000) stated that this space grows in significance in later life as older people spend more time closer to home, highlighting how it fosters reciprocal social networks and generates a sense of personal identity. Looking out of the window is often cited as important to older people (Dowds *et al.*, 2018; Farmer *et al.*, 2010). This paper builds on this work, examining how people who are almost entirely housebound observe this space through windows from their home, identifying why it is important to them to watch the space and how it helps them make sense of the world and stay somewhat connected to the outside space that they cannot physically inhabit. It is hoped the findings will be useful to health and social care staff working with older people in helping older people identify and engage with such spaces.

Previous research suggests that housebound older people not only value social connections but also view connections with nature as being very important (Dowds, 2016; Dowds and Masthoff, 2015; Dowds *et al.*, 2015, 2018). In Rowles' (1981) work, the surveillance zone offers a connection between the older person and the contemporary world, watching others doing activities they used to do and participating vicariously in jobs that are taking place. Sometimes the surveillance zone offers a mirror to the person's old self, especially if the person has lived in the community for a number of years, where objects enable reminiscence (Rowles, 1981). Rowles (1981) also noted the importance of setting up a space to enable the surveillance to take place. In this vein, being able to see the outside world, through good vision and a window that allow connections to the outside including for example chair to sit in and other props to enable a comfortable position are vital (Rowles, 1981). Consequently, this paper will explore the importance of the view the person has from the window to the outside world to their sense of self and sense of home.

People tend to state preferences for views that have greenery, especially plants and trees, associated with them (Kaplan and Kaplan, 1989; Ulrich, 1983; Park and Mattson, 2008). Dowds *et al.* (2018) noted the importance of observing wildlife, changing colours of the sky and general views people could see from their window. Bringing that outdoors to people indoors has been examined experimentally, where people recover better from surgery if they had a view of trees outside their window compared to a view of a brick wall (Ulrich, 1984). Similarly, reduction in stress symptoms arise when people have natural views compared to urban views, whether in reality or on videotape (e.g. Hartig *et al.*, 2003; Ulrich *et al.*, 1991). There is evidence that virtual reality scenes showing nature are better than still pictures (Valtchanov *et al.*, 2010), and that accompanying the visuals with sounds enhanced stress recovery (Annerstedt *et al.*, 2013). There is some tentative evidence too that virtual natural environments presented to older people living with dementia can reduce stress and negative emotions and increase pleasure (Reynolds *et al.*, 2018).

The view of natural elements (garden or landscaped areas) from home contributes to residents' satisfaction and mental wellbeing (Kaplan, 2001). Kaplan and Kaplan (1989) suggested that people prefer natural scenes that are coherent (unified as an organised whole), legible (extent to how far it can be read and explored without seemingly getting lost), complex (greater number of different elements) and contain mystery and intrigue (contains more information than is visible at present, so long as it does not pose a danger). These preferences are largely found across different contexts and with people with different backgrounds, though older people have been found to display relatively low preferences for very wild natural landscapes which it has been suggested is to do with their greater vulnerability to potential dangers of wilderness areas (Van Den Berg and Koole, 2006). Gehl (2011) suggested that a view from a window in an urban or semi-urban area can enable people to feel a sense of belonging and participation, even at a

distance, which naturally is very important for people who cannot physically engage. Hence in investigating the importance of views of the outdoors, the type of view and how the person narrates and structures the views are important.

Methodology

Design

Given the need to explore emotions and meanings that the view affords on older people's sense of place and attachment, an emergent grounded theory approach was used (Babchuk, 2010), following guidelines from Glaser and Strauss (1967) and Glaser (1978, 1992) where theory is derived from the data. The emergent design chosen for this study favours the original "Glaserian" approach, with a stronger focus on the bottom-up extraction of themes, without predetermined frameworks favoured by Strauss and Corbin (1990).

To achieve the theory, a semi-structured interview took place with 42 older people from the UK who responded to a call through a number of older people's networks across South West England and South Wales asking for people who still lived independently at home, had mobility impairments that meant they did not leave the home more than once a week and had an outside view from home they enjoyed looking at regularly. The researcher is part of a research group that has over 650 older people and older people groups, charities and third sector organisations on a database and willing to be contacted about research opportunities. This enabled the researcher to reach people who ordinarily would be hard to reach, for example, church groups, friendship groups and local community groups acted as gatekeepers to get hold of the participants needed. The interview took around an hour and took place at the interviewee's home.

Participants

The 42 individuals were aged between 70 and 90 years of age and 26 were female and 16 male. All had mobility impairments. In total, 16 lived in urban areas (4 lived in a city), 14 lived in rural areas and 12 suburban locations as defined by the local authority based on ONS (2011) data (and these are indicated in verbatim speech given to illustrate the quotes in the Findings section). Most had lived in the home for a long time (18 had lived there over 40 years, 8 between 30 and 40 years, 6 between 20 and 30 years, 6 between 10 and 20 years and 4 within the last 10 years), 26 were living alone, 22 of them having been widowed or become a widower within the last 3 years, 2 having never married or cohabited and 2 being long time widowers (over 10 years). A variety of health conditions were noted among the participants with most in poor health, for example, although exact illnesses and conditions were not kept, almost all suffered some form of chronic conditions that restricted mobility, half had repository and/or heart problems and all had hearing or sight problems that were difficult to correct. In all, 40 participants received regular visitors (once a week at least, 26 at least every other day and 10 of these every day), 2 saw people less than once every two weeks. All but 2 (who were completely housebound) left the home around once a week, 33 received lifts from family and friends, 5 walked themselves if they were feeling fit enough and 4 used community cars, buses or taxis. Exclusion criteria included older people with a formal diagnosis of dementia and those with severe health conditions, with the motivation for this being not to create additional distress to the participants. However, it is noted now this research has been carried out, these groups could have quite easily take part.

Procedure

People who responded were interviewed at a convenient time in their own home by an interviewer with experience of working with older people on similar topics previously. Ethical permission was sought and granted prior to the research taking place. Informed consent was gained from each participant who had the right to withdraw at any stage up to data analysis and were aware their findings would remain confidential and anonymous, with verbatim speech used to illustrate the findings but with nothing identifiable being reported publicly. Only one interviewer was involved in the data collection and analysis due to time constraints, but it would be recommended for future

research to involve more than one as discussions on the findings and analysis would have been beneficial to shaping the discussion and conclusions. The interview involved collecting background data on age, gender, health, residential background, background of family and friends. Participants were then asked to describe the view they liked *in situ* with the interviewer also observing. The participant themselves picked the view to be discussed based on being asked by the researcher to be shown the window they spend most time looking out from. In some cases (see findings) there was more than one window, the interview took place split between the different windows. Hence, the interviewer would sit with the older person for 30 min or so, while the older person explained the view. Discussion was free-flowing, but the interviewer made sure certain topics were covered including the personal importance of the view to them including discussion of links to health and wellbeing, highlighting the salient parts of the view and discussing whether they tell other people about the view or not.

Analysis

Each interview was recorded with permission of the interviewee and was transcribed verbatim. In each case original transcripts were read and a thematic analysis took place in light of searching for elements, nodes and distinctions that describe expressive and affective notions of the view and relationships to health and wellbeing. Rowles' (1981) paper has been used as a basis for contextualising the findings, for example, the analysis looked for how people set up their space, the surveillance zone as a space of meaning, in terms of vicarious participation in contemporary world and the connections to past events. A process of detection of units of meaning into areas of distinction: general; essential; and relevant and of recurring themes using axial coding was then established and further reduction occurred by selective coding which places the axial coded responses into discrete categories. The analysis leads to reporting as a narrative which represents the knowledge acquired in a human and cultural context. Thus, actual examples of knowledge were included in the form of speech narrative and dialogue highlighting the main outcomes. Of equal importance to the themes is the context within which the themes are being discussed. The themes are presented in terms of visual scene quality, representations of life, story and narratives and in relationship to the changing self.

Findings

The findings suggest that what people pick as an important view from their home does not have to be a traditionally assumed aesthetically pleasing view. Indeed 26 of the 42 participants chose viewpoints with very little greenery, mainly consisting of more urban environments, including factories, schools, hospitals and shops. In total, 30 of the views included some element of observing neighbouring properties' and their behaviour. Most views were accessed at home through a single window in the house, though five did mention they had two or more windows they looked out, with one of these having three windows, two on the same side and one on an alternate side and one having four windows, offering an all-round panoramic view of the neighbourhood. Three participants mentioned having the best view from their garden and one from the balcony, both of which observed from behind the window if the weather was inclement. Length of time at the viewpoint varied between people and varied between different days and could be anything from a few seconds check-up to 3 or 4 hours. There was also a difference for some participants about total immersion in the view, where it became the sole focus and took up almost entire concentration for the individual, whereas for others it was more of a backdrop while doing something else, listening to music, to the radio, ironing or preparing food, for example.

Almost all sat down to enjoy their view, although ten did stand, sometimes for quite considerable time (an hour or more). There were mixed views about opening the window. Two always opened the window when sitting at it, even in Winter, but most kept the window closed unless very warm in which case they only opened slightly. They had often arranged their space, with the chair positioned in a place for maximum view. However, five did mention that they placed their chair slightly back so that they were not seen staring out and hence did not look like "curtain twitchers" and when people had been noticed there was some anxiety as to how they would be perceived:

> You can see, they can see if I look out here. I've caught them staring at me. They must think mad old bat (female, aged 82, suburban).

The motivation for those that stood was so that they could change their position to move between gaining better views of activities and hiding slightly from being observed. Three of the people that stood said they did so as they had been advised to move and stand for health reasons and used the viewing outside as a way of completing this physical exercise. Some people were far less worried about being observed, with two even having binoculars that they used regularly quite openly. Barriers to the view were noted by participants, including in four cases a tree that when fully leaved in the Summer obstructed the desired view. In three of these cases, the viewer changed the position of the chair which overcame that slightly, though not perfectly. Almost all participants noted having to keep the window clean and practiced this themselves on the inside, with three also opening the window and leaning out to clean the outside from the inside. In all three cases this was the only window they did this to showing the importance of keeping that view clear and unobstructed. Participants noted keeping the window sills free from obstructions too to maximise the view. One participant noted that when they had their windows replaced they had changed the design from one with lead-lighting (where there are small panes of glass separated by lead to give a grid pattern on the window) to a single pane of glass which aided viewing.

The themes that emerged through the analysis are now discussed in more detail including where it was found the quality of the visual scene is important, that the view presents a snapshot or benchmark of real life for older people to compare and contrast, that it enables stories to be developed and constructed and finally, is thought of in relation to the participants' own changing bodies.

Visual scene quality

The views usually contain movement and change within scene. Differing scales, involving differing heights and proximity, are also important elements of the view. In relation to this, the human scale is an important anchor in the preferred visual scene.

Change and movement within the scene is important. In every view from the window discussed, movement within the scene is of vital importance and one of the elements that set it apart from a photograph or picture. The movement could involve natural elements such as the sky, clouds, birds, trees and greenery, wildlife and people but also built environment facets like vehicles. It was especially noted when movement was out of the ordinary, a change in rhythm is noted, such as on very windy days:

> I love the way the trees begin to move, the branches, when the wind gets up (female, aged 78, suburban view).

Also, changes are enjoyed such as when roadworks or building works take place, so long as the work is not overly intrusive in terms of sound and vibration:

> I like it when they're digging. They're always digging it up here. Mains, water, electricity, gas, telephone, all come here. I don't mind it, so long as there's no dust which is no good for my breathing. Interesting it is to watch, mind (male, aged 84, urban view).

When something unexpected happens that changes the typical scene the length of time looking at the view increased:

> They were lopping trees the other week. I was there 24/7 well not quite but I watched a great deal of it (male, aged 85, suburban view).

Linked to movement was the importance of change in the scene. Again this set it apart from photos and pictures and even videos. People reported the scene being interesting to observe in different weathers, at different times of the day and in different seasons:

> I never get bored of it. I've never taken it for granted. It's always changing, different weathers, in summer it's so different with the trees full and grass goes yellow sometimes you know (female, aged 88, rural).

Differing scales. People's favourite view tended to have a variety of different scales to it that moved it from beyond the surveillance zone the focus of Rowles' (1981) research. Almost all of the scenes had a distant and usually a middle ground, as well as a more immediate close-up area, resembling the surveillance zone, and all these elements were included in the appreciation

of the view. In all, 31 of the 42 participants had all three zones that they could see, with only 5 having distant and surveillance zones but no middle ground and 6 having no distant views. All participants had an immediate surveillance zone to view. For two older people where the distant view could not be seen they talked about what they would be able to see if houses were not in the way. The distant view might include hills, the sea or tall buildings that stood out or other identifiable points, which often were utilitarian or traditionally would be viewed as non-places like television masts or electricity pylons. The middle view contained the main focus points, often neighbouring houses or roads, with the surveillance zone being the near point of the garden or the immediate street or in some case adjoining or very close neighbouring properties and buildings:

> I like the way I can see the distant things. There are cars over there, a road, must be the motorway I think, and here the houses, I know people who have lived in them and right here, my street (female, aged 82, suburban).

Humanness. The view should often involve some form of human element. Almost exclusively a favourite view from the home included a view that contained people. Even rural views had some element of human action taking place, whether it was maintenance or work of the local farmer or landowner, or people walking dogs:

> Right here I can see everyone walking on their way to the town (female, aged 82, suburban).

> I enjoy watching the farmers and what they do to the land, I'm lucky to live right here to see that (male, aged 89, rural).

Vision is most prominent. The scene was described in almost entirely visual terms, though occasionally sound and especially wind was mentioned and the importance of fresh air also added, but this was less common, with only 10 of the 42 participants mentioning these elements:

> It's the view. All of it. Sounds and they change, you can hear the clear evenings as much as hear the rain if you listen closely (male, aged 84, suburban).

> I like to open the window too and get the fresh air in and the smells (female, aged 78, rural).

Representation of life

Participants noted that the view served as a way of creating representations of life and helped them engage and reflect on changes in lifestyles and situations; it kept them part of society.

New and emerging trends amongst society. From the window, they could observe the socio-technical world in action, how people used their smart phones and music players on the go:

> I saw a man talking to himself. Quite animated. I was alarmed but realised it must be a phone (female, aged 75, urban).

They noted new technologies used in road works or rubbish collection, for example:

> They've got a new cleaning machine. Comes round after the bins been collected and cleans the streets, amazing technology, water splashes out the front and sucked up behind, definitely cleans, when they drive them carefully (male, aged 80, urban).

Comparisons with their own younger selves. Participants commented on what people were up to, especially with the younger generation which caused some intrigue, which could be disdainful:

> There's more people running or jogging. More the fools. We didn't do that. Maybe we had more physical jobs and lives. But they do this running. It won't do them any good I tell you (female, aged 71, suburban).

> […] the youngsters don't talk anymore, not to each other, not properly. Families too, they just walk down the road, often on their phones. I don't think people communicate right anymore (female, aged 75, urban).

Participants noted that what they saw, backed up their intuitions or things they had heard on the radio or TV or read in the papers about society, often negative things:

> You hear them say in the news, the traffic round here is awful, well you can see it from here, backing up here and up there, especially in rush hour around 4 onwards, and especially in the winter at night (male, aged 80, suburban).

Narratives and stories

People create narratives and stories about their view. This can be passive, for example, making stories about the people in the scene and relating these to themselves. In addition, the narrative and stories might be shared more actively, for example, people like to talk to the people they see, not that they expect an answer, to offer advice or to pass the time of day. Some share these stories with others, sometimes with people who are not there, sometimes with others they meet. Some people keep the interaction with the view completely secret.

Passive 1 – stories. People liked to develop stories about the scene. They narrate them, giving people in the scene names, sometimes linked to their past:

> Someone comes past on a motorbike every day at the same time, I call him Bob, our friend Bob had a "bike back in the day, he love it, cherished it" (female, aged 80, urban).

> I see the same people going to work every morning and coming home again in the evening. I wonder what they get up to. I call this one here, Frank, he looks tough, look at his suit, bet he's a mean business man, probably a manager of some kind (male, aged 80, urban).

> […] the same people walk their dogs. Some are kinder with them than others, and some play games, same with parents and kids, how many sit and look at their phones while their kids play (female, aged 78, rural).

Passive 2 – past histories. People often compare the view to the past, this was very true for people who had lived a long time in the same home; it was common for them to move between then and now and often with a sense of overarching knowledge:

> Well I always thinking back to what it used to look like here. They moved in over the road when the house was new, but they didn't next door, but I knew who bought the house new and the trouble they had selling it and why! (female, aged 80, urban).

> I know why there is that bump on the land there. Why the farmer has such a problem with his tractor there. I wonder if he knows. Doubt it. It was once a barn that collapsed in the winds of 87 and has since grown over, there's rubble under there and goodness knows what (female, aged 80, rural).

Active 1 – talking to who they see. People often talk to the people they observe, that might be generic and can be more of a telling off:

> I do shout at people through the glass at people who park in front of here. It's double yellow. They'll be in trouble. They never hear me though, maybe that's good. Makes me feel better (male, aged 82, suburban).

> I sometimes comment out loud, "very smart" I'll say or "tuck your shirt in" or "pull up your trousers" especially to the young'uns, the teens (female, aged 84, suburban).

Some talk very specifically to characters they see often:

> It may be crazy, but I do say, oh how has your day been to the regulars I see walking home, I wonder if anyone does ask them that when they get where they're going. I hope so (female, aged 88, urban).

Active 2 – talking to people not there. Occasionally for the people who lived alone in particular, participants would talk about the scene to an empty home, sometimes addressing people who once lived there:

> I tell my late husband about it. About the things he'd be interested in seeing. I expect it seems a bit mad, but it isn't really is it, if I'm aware it might be, then I know I'm OK (female, aged 82, suburban).

Active 3 – talking to others, socialising about the scene. The degree to which the participants shared their views with others varied. Naturally those who lived together discussed their view, and some shared wider. Those living alone, around half of them shared stories they had seen via their view with others, while others kept their view a secret (to which the interviewer was honoured to be part):

> Oh well, yes, I tell my grandsons, and when they come over they want to see it too. I look forward to telling them all about it and they seem to like it too! (female, aged 78, rural).

> […] no. No. I don't tell others about it. They'd think I'd lost it. Well it's all a bit sad isn't it (male, aged 84, urban).

Relationship to changing self

Changes in eyesight and mobility have affected the way the view is important to individuals. Yet, individuals still noted the fact that they felt lucky to have such a view.

Eyesight. Almost all participants mentioned detriments in the eyesight which affect their view. Some felt this really began to hamper their enjoyment of the space, others could still see the elements important to them:

> I can't see it all so well now, mind. I can't see round the edges, it's fuzzy or has some halo, I have to see just the middle, it's a shame but it's OK, I can still see the main bits of what I want to see (female, aged 88, rural).

Other sensory issues. Hearing loss was also noted as detrimental to the scene and how noises had become something they just assumed would always be there:

> My hearing is getting worse, so I rely on vision mostly, so I don't really know what noise is coming from the road which is a pity (male, aged 80, urban).

> The road was noisy. Now I can hardly hear it, I miss it! I can lie awake at night and hear nothing and that disturbs me. Disorientates me still now (male, aged 84, urban).

Sometimes this was mixed with technology changes, like double glazing:

> I miss hearing the wind and the rain against the window pain. I can no longer detect that at all and that is really something I miss (female, aged 88, rural).

> I miss bird song. You can still hear them sometimes but since they did the windows it's far less often (female, aged 82, suburban).

Importance now mobility is stopped. It was explored whether the importance of the view had grown since the decline of literal mobility beyond the home:

> I can't get out and about as well as before, watching others that can might be seen as torture, but it's not really, it's my way of dealing and I'm still there really.

Some people felt it was as much about having the time to observe than not going out, of reducing boredom:

> What not being able to go out has done is give me time. That seems to happen as you age, you get more and more time. No work, less able to go out and let's face it, less people to go out with, I'm left with time. This is my way of dealing with that (male, aged 80, urban).

It could make you feel better, by taking your mind of problems, a point only noted in those in rural areas:

> I actually feel better. I'm not thinking about my aches and I feel better. They come back, but just for a while (female, aged 88, rural).

Personal importance to self-reported health and wellbeing and meaning of life was highly stated:

> I don't know what I'd do without it though. My life would be even more empty (male, aged 80, urban).

> The view, it keeps me going, you know. I'd be a gonner without it. I'm sure! (female, aged 78, rural).

Luck. A pervasive theme running throughout conversations was how lucky individuals were with having such a view:

> I do count my blessings every day for this. I would be lost without such a wonderful view (female, aged 88, rural).

> I am lucky to still be at home and have this view that I'm used to seeing. I know, I've got friends and family, my brother for example, who can't or don't get to see this or any view (female, aged 85, suburban).

Discussion

The findings confirm that having a view is important to older people, it engages them with nature and can connect them with society and culture. It offers them a way of observing without

recourse to literally having to be there. Interaction with the environment is not necessarily directly found, though people do find a way of engaging, of creating and interacting, through narration, storytelling and even shouting to participants within their view.

As in Rowles' (1981) study, some participants spent considerable time setting up their observation place. For some this was to gain maximum viewpoints, for others this was to gain maximum comfort, while for a smaller minority it was to mask themselves from others seeing them looking out. Being able to see others in the neighbourhood was an important choice of position and which window was chosen to look out, which was similar in Rowles (1981). Some also stood to help with aches and pains and for some physical exercise, as was found with Rowles (1981).

The view is important and different from other observations and interactions. It was not a replacement for, but a useful addition to television, reading and other hobbies and can be done simultaneously with them. It offers something different to those more structured pastimes. It was often admitted that watching a view was about passing time, to move away from boredom and to alleviate aches and pains. It may have some restorative and stress reducing properties, especially those in rural areas, and especially those observing natural scenes, which is synonymous with previous research (e.g. Hartig *et al.*, 2003; Ulrich *et al.*, 1991). That said, urban views, as noted by Gehl (2011) can also be beneficial as found in this research where people spoke highly of how the view was vital for them regardless of whether the view was urban, suburban or rural.

Similar to Rowles (1981), the movement element of a view compared to a still-picture creates a series of rhythms of interaction, between the ordinary and everyday. In relation to the Kaplan and Kaplan (1989) model, views do not necessarily have to be complex but they do have to have a variety of levels and proximities. The findings here suggest that not just the immediate surveillance zone is important as was the focus in Rowles' (1981) work, but expands that to also a mid and a distant vista being important too. The view does not have to be especially aesthetically pleasing and can contain very ordinary or mundane non-place type structures that actually gain significance, such as TV or telephone masts. All the scenes here are very legible for the viewers and it could be argued that many juxtapose the mundane with some form of mystery and intrigue for the viewer, not least in the changing nature of the scenes at different times of day, but also in the far horizons of view where not all parts can be made out. Urban and suburban views can be seen as just as important as rural views for older people. However, further research on this would be useful to address how far benefits to mental and physical health might occur from urban and suburban views beyond self-report found here. It could be argued that it is the choice over the view that is important, rather than the view itself. Having some choice over the way home furnishings are set up has been suggested to benefit health and wellbeing (e.g. Langer and Rodin, 1976) and a lack of control over one's life has been well documented to lead to learned helplessness (Seligman, 1975). It would seem to be no difference to the ability to choose a view to look at, though there is an interesting juxtaposition here. There is a great deal of enjoyment of the view when a certain level of randomness occurs, when, for example, it could be argued there is less control. Hence, perhaps the situation is set up to balance control and randomness in the view. The interaction with the view seems to stem from individual agency and control over immersion and the associated narrative. Such independence is good for health and wellbeing. It complements reading a book, watching television or listening to the radio in that it does not follow a strict narrative and has elements of continuity beyond what can be observed.

There is a feeling amongst the participants that they might not be seen by others to be normal for what they do, especially those who look out onto a more ordinary urban view, where others are present in the scene, as also found by Rowles (1981). There is a need for many of those to keep it secret from others. Perhaps there are negative connotations with being nosey or a peeping-tom or it being sad that someone has nothing better to do than to just look. Nevertheless, the importance of this is seen here as crucial to older people's lives and as such a change in society is perhaps needed. After all, the cafe culture and "people watching" at a younger age is acceptable, so why not at an older age? Making health and care professionals,

that work with this age group, aware of this importance and aware of the negative stereotype is obviously vital in order to allow it to happen.

How far such findings might be seen in different contexts would be interesting to study. Are the same concepts of a view important across different countries, or different cultures where different values might be placed on different environmental factors? Further examination of the relationship of the view to the home and whether a life course perspective examining individual history might make a difference needs further work. Rowles (1981) noted that the surveillance zone has different importance at different stages of life, for example, it is important for children allowing them to play independently and for parents in observing children's play. As the child grows and ventures farther afield, this space becomes progressively less important. Older children and adults spend more time in activity zones away from the immediate home and neighbourhood (Rowles, 1981) It could be argued that it again becomes an important zone for older people who may spend more time close to home yet wanting to connect to the outside space, as has been found in this and in Rowles' (1981) study. If the person has lived a long time at the address and the surveillance zone has been used previously at different stages of life this may have become "thick" with rich meaning and hence a place of significance for the observer (Highmore, 2005). This may be a reason why the narratives and stories are strong and how people use the view in relation to their past selves. A next stage maybe to quantify some of the elements of importance found here to understand the perceptions of those from a wider sample of participants. A further stage would be to involve people who may help set up and maintain the scene with older people, so family, friends, neighbours, as in Rowles' (1981) study, but also wider health and social care staff too.

Implications from the research for practice involve allowing older people to have a view which they enjoy. It enables older people to see and observe mobility and movement through visual scenes without recourse to literal mobility and gain some psychosocial and aesthetic pleasure from it. Hence, in line with previous research, the findings suggest that views out of the window are important to older people (Farmer *et al.*, 2010; Dowds *et al.*, 2018) and in line with Rowles (1981) this paper suggests older people should be encouraged to adopt this practice and maintain it where necessary. Vision is vital to doing this, so allowing windows to be cleaned, making sure older people's vision is good and helping to set up the scene for maximum comfort is necessary. The importance of the whole of the "view", including other sensory imports such as sounds and smells, is also important. It is important not to have the view obscured by trees, temporary structures or other street furniture such as bins, skips and similar on the outside or placing items obscuring access to the window on the inside. These elements get lost in more technological or clinical settings, as they are often seen as peripheral. It must be remembered that it is important to keep these in mind when designing homes. Older people are not passive in setting up their views and care professionals working with older people need to make sure they encourage older people to do this whether they live independently at home or in a care home or clinical setting. Technology could be a solution, with webcams re-presenting outdoor scenes or virtual reality or alternative worlds to inhabit. There are examples: Dowds' (2016), Dowds and Masthoff's (2015) and Dowds *et al.*'s (2015, 2018) research shows benefit for developing tablet-based technology bringing the outdoors to housebound people and Reynolds *et al.* (2018) discussed virtual representations of the outdoor scene to help people living with dementia.

Conclusion

People enjoy a view where they can watch a motion-full, changing world outside of their home and interact and create meaning and sense, relating themselves to this outside world. The findings suggest that the view does not necessarily have to be rural to be important or purposeful to the individual. It suggests that health and care practitioners must realise the importance of older people observing the outdoors and create situations where that is enabled and maintained through improving vantage points and potentially using technology, and allowing older people the space and time to set up their viewing. Attention should be paid to scenes where there is movement and change, with an element of mystery and intrigue, created

at different perspectives, with a layer of human interaction and people. It must be remembered that older people may not discuss this pastime, despite its importance and it may remain hidden from social discourse.

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Supporting older military veterans in the rural US

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Abstract

Purpose – *The purpose of this paper is to provide an overview of rural older veterans in the US and discuss how the US Department of Veterans Affairs (VA) is increasing access to health care for older veterans in rural areas.*

Design/methodology/approach – *This is a descriptive paper summarizing population and program data about rural veterans.*

Findings – *VA provides a variety of health care services and benefits for older veterans to support health, independence, and quality of life. With the creation of the Veterans Health Administration Office of Rural Health (ORH) in 2006, the needs of rural veterans, who are on average older than urban veterans, are receiving greater attention and support. ORH and VA have implemented several programs to specifically improve access to health care for rural veterans and to improve quality of care for older veterans in rural areas.*

Originality/value – *This paper is one of the first to describe how VA is addressing the health care needs of older, rural veterans.*

Keywords *Aging, Rural, Health care, Access, Models of care, US military veterans*

Paper type *General review*

Introduction

Mr S is a fictional 88-year-old US military veteran living alone in Altamont, a rural town of 255 people in eastern Utah. He is obese and has had diabetes for about six years. He has a family medicine doctor in Roosevelt, but when he had difficulty paying for his insulin, he enrolled for health care with the US Department of Veterans Affairs (VA). Travel to the VA Medical Center in Salt Lake City (135 miles away) was challenging for him, so he transferred his primary care to a VA Community-Based Outpatient Clinic (CBOC) in Roosevelt.

He is divorced with three adult children but only a daughter living about 30 miles away has regular contact. Recently, she contacted his CBOC provider with concerns that her father seems very forgetful. Last week he called her at 3 a.m. because he was confused about how much insulin he should be injecting at breakfast. He sometimes complains of people stealing from him and recently answered the door wielding a baseball bat. She said he also has difficulty sleeping and asked for medicine to be prescribed for sleep. His non-VA doctor had prescribed a low-dose benzodiazepine last month for poor sleep, but the veteran did not like how it made him feel, so he went back to using an over-the-counter sleep aid.

This case example portrays a common scenario played out in rural areas across the USA and in many parts of the world. Though the world is undergoing significant urbanization – for example only about 19 percent of the US population (60m people) lives in a rural community (US Census Bureau, 2016) – the aging population in rural areas is growing rapidly (United Nations Department of Economic and Social Affairs Population Division, 2017). In most developed nations, rural areas have higher concentrations of older adults than urban areas (Kinsella and He, 2009). In the USA, for example, the median age in rural areas is 51 years vs 45 years in urban areas (US Census Bureau, 2016).

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In the US, rural residents are poorer ($38,248 vs $49,246) (Rural Health Information Hub, 2018), and in worse health (National Rural Health Association, 2018) than urban residents, and rural dwellers around the world face many similar socioeconomic and health challenges. Services like health care providers and facilities to address these problems and support aging in place are often limited in rural communities (He *et al.*, 2016; United Nations Economic Commission for Europe, 2017). US military veterans living in rural areas face similar difficulties. Though a veteran may be eligible for VA services and benefits, VA health care is largely concentrated in urban areas, thus limiting rural veterans' access to these benefits. In recent years, under direction of the US Congress, VA has improved access to health care for rural veterans through a variety of initiatives. This paper describes the system of veterans' health care in the US and reviews VA's efforts to improve access to health care for older veterans living in rural communities.

Health care for US military veterans

Relative to other western nations, the USA has a large and geographically dispersed veteran population, numbering roughly 20m individuals, about 26 times larger than that of the UK, and 108 times larger than that of Canada (Veterans Affairs Canada, 2014). Of these, 91 percent are men, though women comprise a growing percentage of US veterans (23 percent of veterans younger than age 40 are female) (National Center for Veterans Analysis and Statistics, 2018). Veterans tend to be older than the general US population. In 2015, 55 percent of all veterans were aged 65 or older compared with 15 percent of the general population (Makaroun *et al.*, 2018). Veterans are concentrated in some areas more heavily than others and the states with the largest percent of their population who are veterans (Alaska, Maine, Montana, Washington and New Hampshire) are largely rural (National Center for Veterans Analysis and Statistics, 2016b).

VA's mission is to "To fulfill President [Abraham] Lincoln's promise 'To care for him who shall have borne the battle, and for his widow, and his orphan' by serving and honoring the men and women who are America's Veterans" (US Department of Veterans Affairs, 2017c). The VA is divided into three branches that address various aspects of this mission. The Veterans Benefits Administration manages many of the financial benefits for eligible Veterans and families such as compensation for military-related disabilities, pensions for low-income war-time Veterans, home loans, and educational benefits. The National Cemetery Administration maintains 135 military and Veterans cemeteries in the US. This paper focuses on the third VA branch, the Veterans Health Administration (VHA).

VHA serves a unique group of patients. Military service is a transformative life experience with physical, psychological, and social exposures that can have both positive and negative life-long consequences for veterans (Spiro *et al.*, 2016). The physical demands of military life, especially during combat, can result in problems such as musculoskeletal issues from wear and tear or trauma, hearing loss from extreme noise exposure, disease from chemical or infectious exposures, or blast-related traumatic brain injuries. Unsurprisingly, veterans experience high rates of chronic pain related to injuries incurred from military service – in one recent survey, 65.5 percent of US military veterans reported pain during the previous three months (Nahin, 2017). Use of tobacco, alcohol and illicit substances that increase risk for later chronic disease is also common in the military (Lan *et al.*, 2016; National Institutes of Health, 2013; Institute of Medicine, 2012; Moos *et al.*, 1993). As veterans age, the cumulative impact of these health and lifestyle factors can lead to increased morbidity and greater functional disability later in life.

Servicemen and women are also frequently exposed to conditions like combat, chronic anticipatory anxiety in combat zones, witnessing post-battle aftermath, sexual assault or harassment, family and life disruptions, and other difficult living and working environments that increase risk for psychological problems later in life. Though a majority of older veterans are not diagnosed with any mental health problems related to their military service (Pietrzak and Cook, 2013), rates of post-traumatic stress disorder, depression, suicide and other mental health problems are higher in US veterans relative to the general US population. For example, of US servicemembers returning from recent Middle East conflicts, 18.5 percent meet criteria for either PTSD or depression (Tanielian *et al.*, 2008) and mental health problems continue to be common as veterans age (US Department of Veterans Affairs, 2015b; Fontana and Rosenheck, 1994).

The mental health consequences of military service may differ in other countries, however. For example, suicide rates among UK Veterans are generally equivalent to those of the general UK population except for veterans 24 years old or younger, whose rate is higher (Kapur *et al.*, 2009).

Often, the substance use that begins in the military persists or worsens to abuse and dependence after discharge – about 11 percent of first-time veterans at VA health care facilities meet criteria for a substance use disorder (Teeters *et al.*, 2017). Even among veterans who experience a healthy readjustment to civilian life, the negative effects of military service may not emerge until later life. Veterans' pre-service experiences, coping resources and late life stressors can interact with military traumas to produce previously unobserved mental health symptoms (Spiro *et al.*, 2016). For example, Sachs-Ericsson *et al.* (2016) found that late life emergence of PTSD symptoms was especially likely in veterans with military trauma who also reported stressors that occurred in late life.

Finally, the culture of military life and camaraderie that foster teamwork and trust among servicemen and women can sometimes become a barrier to forming relationships of trust with health care providers and others after military service has ended. Veterans may feel reluctant to discuss military experiences with civilian providers who do not share their background (Tanielian *et al.*, 2018). Indeed, aspects of military culture may be a significant contributor toward the stigma that prevents many service members and veterans from seeking help for mental health symptoms (Sharp *et al.*, 2015). Likewise, civilian providers may feel ill-equipped to address the complex and unique needs that many veterans experience (Tanielian *et al.*, 2018).

Ultimately, military servicemembers are exposed to multiple, chronic physical and psychological stressors that can have long-term health impacts. Indeed, US veterans have worse health, on average, than most Americans (Agha *et al.*, 2000; CMS Alliance to Modernize Healthcare, 2015). Caring for multimorbid, complex patients can be difficult in a fee-for-service system typified by the US health system, and military veterans are an especially complex cohort with specific needs that could benefit from a specially dedicated system of care (Shulkin, 2016; Longman and Gordon, 2018).

VHA operates a network of 170 hospitals and 1,061 CBOCs that provide a range of medical, surgical, psychiatric and rehabilitative care. At most VA medical facilities, primary care provides medical care, disease prevention programs, care management, patient education, medication reconciliation, and care coordination across other VA and community providers (Shay and Yoshikawa, 2010). In many VA facilities, mental health providers are integrated into primary care clinics to address the high prevalence of mental illness (often undetected) among veterans. VHA facilities also offer specialty care including treatment for common veteran needs such as prosthetics, spinal cord injury units, evidence-based treatment for post-traumatic stress disorder and military sexual trauma, residential substance abuse programs, and programs for homeless veterans. When a service is not available at a VA medical facility, eligible veterans can be referred to a community provider. Importantly, a universal electronic medical record at every facility includes clinicians' notes, orders, laboratory results, imaging, and other test results (Vandenberg *et al.*, 2010). Thus, once enrolled in the VA health care system, a veteran is eligible to receive care at any VHA facility in the USA.

VHA also manages the largest medical education and health professions training program in the US and is an important contributor to the development of the US health care workforce. In 2017, over 122,000 trainees in medicine, nursing, dental and allied health professions received some portion of their training at a VHA facility. Approximately 60 percent of physicians and 70 percent of psychologists received some of their professional education in the VA health care system (US Department of Veterans Affairs, 2017a).

Care of older veterans in the US

Support for older adults in the US, including veterans, is delivered across a disconnected system of federal and state programs including Medicare (federal health insurance primarily for persons older than 65); Medicaid (federal/state-funded health insurance for persons with low-incomes); and Social Security (financial benefit for retired workers). A variety of regional, state, and local programs provide home and community-based services, caregiver resources, long-term care, healthy aging,

and elder justice. For example, some US counties offer respite services to eligible caregivers of older adults. There is also a shortage of physicians with specialized geriatric training in the US. For example, in 2016, 7,293 certified geriatricians practiced in the US, an estimated shortfall of over 13,000 (American Geriatrics Society, 2016). In short, the network for eldercare in the US is a patchwork of disconnected systems that an individual or family member generally must navigate alone. Care for older veterans in VHA occurs within this larger system of care and veterans can and frequently do utilize VA, private, and public systems to support independent living and quality of life. For example, 80 percent of veterans enrolled in VA health care carry another form of public (e.g. Medicare) or private insurance (US Department of Veterans Affairs, 2016a).

VHA care for older veterans falls into several categories: geriatric care, non-institutional care, long-term care, caregiver support, and geriatric centers of excellence.

Geriatric care

Ninety-four percent of enrolled veterans aged 65 and older are cared for in primary care (Shay and Yoshikawa, 2010). The health problems in these patients are similar to any typical aging primary care population (Shay and Yoshikawa, 2010) but when veterans experience multimorbid health problems, functional decline, psychosocial stressors and/or caregiver burden, they may be referred to a specialty geriatric care, often provided via a Geriatric Patient-Aligned Care Team (GeriPACT). GeriPACT cares for veterans with multiple chronic diseases and declining mental and physical abilities with the aim of maximizing independence and quality of life. These teams are led by a geriatric primary care provider with a multidisciplinary team of geriatric specialists, typically nursing, pharmacy, and social work, though the composition of each team varies with facility needs (US Department of Veterans Affairs, 2016b).

Non-institutional care (home and community-based services)

For veterans with medical, social, and behavioral conditions too complex for management through regular clinic-based care, HBPC can provide longitudinal, comprehensive, and interdisciplinary primary care in the home. HBPC interdisciplinary teams include medicine, nursing, and social work along with other allied professions such as pharmacy, occupational therapy, psychology, and dietetics. Though HBPC is not exclusively a geriatrics program, the population in HBPC is older with a mean age of approximately 77 years (Hicken and Plowhead, 2010). In 2007, veterans enrolled in HBPC experienced a 59 percent reduction in hospital bed days, an 89 percent reduction in nursing home bed days and a combined reduction of 78 percent in total inpatient days (Ratner *et al.*, 2013).

Other home and community-based services are often provided through contracted community agencies. For example, VA medical centers contract with local homemaker, home health, and hospice agencies to assist with activities of daily living and in-home hospice care. A newer program, Veteran-Directed Home and Community-Based Services, provides a flexible budget to eligible veterans to purchase the home and community-based services that meet their individual needs to maintain community living, which may include paying a family member or friend to provide care (US Department of Veterans Affairs, 2015a). VHA also covers adult day health care for eligible veterans to participate in social activities, peer support, and recreation in a supervised setting. Veterans enrolled in VA health care are also eligible for limited respite for their caregiver to have a break while the veteran is cared for in a supervised setting. This benefit covers the expense of limited temporary nursing home placement or in-home respite (US Department of Veterans Affairs, 2015a).

Institutional care

VHA provides limited residential treatment options for eligible veterans. Community Residential Care may be provided through assisted living and other community facilities for veterans needing consistent supervision due to medical, cognitive or psychiatric conditions who do not qualify for skilled nursing and do not have family who can provide this level of care. For veterans needing skilled care, Medical Foster Home (MFH) provides an alternative to nursing home care.

MFHs are private residences with a trained caregiver who provides skilled care to a few individuals. Veterans pay rent for CRC and MFH through VA disability compensation, pension, or retirement income. VHA also contracts with community nursing homes to care for veterans with service-connected conditions and operates 132 Community Living Centers (formerly VA nursing homes) located on or close to a VA medical center campus (US Department of Veterans Affairs, 2016c).

Caregiver support

In 2010, the Caregivers and Veterans Omnibus Health Services Act of 2010 (P.L. 111–163), created a legislative mandate that allowed VA to provide a program of services for caregivers of all veterans (111th Congress, 2010). The VA Caregiver Support Program (CSP) offers in-person education, an interactive website, provides online and telephone-based groups for support and education, a peer support mentoring program, and referrals for respite care. CSP also provides a 24/7 support line that informs callers about VA's caregiver assistance benefits, facilitates access to services and benefits, connects with local caregiver support coordinators, and provides emotional support. Every VA Medical Center has one or more Caregiver Support Coordinators, typically a licensed clinical social worker, who matches caregivers with services and provides local support (Wright *et al.*, 2015; Kabat, 2014).

Geriatric centers of excellence

In the early 1970s, VA established Geriatric Research, Education, and Clinical Centers (GRECC) to address a growing population of aging veterans (Supiano *et al.*, 2012). GRECCs are geriatric centers of excellence that serve three major roles: to build new knowledge through research; to improve health care through the development of new clinical programs; and to ensure VA staff are educated about aging-related issues (US Department of Veterans Affairs, 2017c). GRECCs develop and test innovative geriatric care models that can be exported to other VA health care facilities, provide training for medical residents and allied health trainees in care of older adults, and train VA and non-VA multidisciplinary health care workforces about geriatric care (Supiano *et al.*, 2012).

Quality and satisfaction with VA care. Multiple studies have compared the safety and effectiveness of VA health care to care provided in non-VA community settings. These studies have generally found VA care to be equivalent or superior to care provided in non-VA settings, across most inpatient and outpatient measures (Khuri *et al.*, 2002; Jha *et al.*, 2003; Trivedi *et al.*, 2011; Matula *et al.*, 2010; O'Hanlon *et al.*, 2017; Trivedi *et al.*, 2016; Anhang Price *et al.*, 2018; Blay *et al.*, 2017). However, studies note variation in performance within VA and non-VA systems and facilities (Anhang Price *et al.*, 2018). Moreover, neither VA nor private care systems fully capture quality of care data to facilitate completely reliable comparisons (Trivedi *et al.*, 2016). To date, no studies have specifically examined differences in geriatric or rural care between VA and non-VA care systems.

VA annually conducts a survey of veterans enrolled in VHA. Of 43,654 enrollees who completed the 2017 survey, respondents generally reported high satisfaction with their customer service experience (i.e. behaviors occurred "most of the time" or "always/nearly always"). Specifically, veterans were pleased with the ease and availability of scheduling appointments (75–88 percent), accessing and navigating VA facilities (81–87 percent), and customer service during appointments (76–86 percent). Most respondents were also moderately or very satisfied with their interactions with VA providers. Specifically, veterans felt respected and listened to by providers (80–90 percent) and included in decision making (78–82 percent). Veterans were least satisfied with their ability to get referrals for specialty care or special equipment (65 percent). Across the board, veterans older than 65 were more satisfied with their care at VA facilities than were younger veterans (US Department of Veterans Affairs, 2017b).

Few studies have compared patient satisfaction between VA and non-VA care and there is variability in how systems measure and report patient satisfaction, especially in outpatient care. Regarding inpatient care, a 2018 study found mainly nonsignificant differences across multiple satisfaction measures for VA and non-VA inpatient facilities. Veterans reported lower satisfaction

with pain management relative to the patients seen in the community while satisfaction with the care transition process was significantly better than in community care (Anhang Price *et al.*, 2018).

In 2010, Lu *et al.* contacted family members of 769 veterans who had died in VA and non-VA facilities four to six weeks after the veteran's death. Families reported higher mean satisfaction scores when veterans had died in VA facilities compared with non-VA facilities (Lu *et al.*, 2010). Belote *et al.*, compared satisfaction data from veterans seen at CBOCs that were staffed either by VA personnel or contract staff. VA-staffed CBOCs had higher scores across five areas of satisfaction, which included continuity of care, education and information, emotional support, overall coordination, and patient preferences. Scores were equivalent for courtesy, access, and visit coordination (Belote *et al.*, 2012).

In a 2017 Blay *et al.* analysis of public data from 129 VA and 4,010 non-VA hospitals, though VA scored better or equivalent to community hospitals in all measures of quality, its patient experience scores were lower than in non-VA facilities. Specifically, VA patients rated communication from doctors and nurses, responsiveness, pain management, and quietness to be lower than did patients seen in non-VA hospitals. The percent of patients who would recommend the hospital to others was also lower for VA hospitals than non-VA hospitals (68 vs 72 percent) (Blay *et al.*, 2017).

Addressing the needs of older veterans living in rural areas

VA defines rurality using the Rural Urban Commuting Areas (RUCA) system, which classifies US census tracts based on population density, urbanization, and commuting distance (US Department of Agriculture, 2016). In VA, urban areas comprise census tracts with RUCA scores of 1.0 and 1.1 while highly rural tracts have RUCA scores of 10.0. Census tracts not categorized as urban or highly rural are considered rural. VA adds a 4th "insular islands" category to reflect veterans living in some US island territories that, while densely populated, remain highly isolated from many VA services (VHA Office of Rural Health, 2018b).

Based on this definition, approximately 2.9m (33 percent) veterans enrolled in VA health care live in rural areas (VHA Office of Rural Health, 2018b). As would be expected, rural veterans are older, on average, than other rural adults or urban veterans (National Center for Veterans Analysis and Statistics, 2016a) and are more likely to be obtaining health care from other systems besides VA (Charlton *et al.*, 2016). Thus, rural veterans are more likely to need geriatric services and to be receiving care through fragmented systems.

Returning to our case example, most of the geriatric services described in the preceding section would be available to Mr S if he were living in an urban community. However, living in rural Altamont limits his options for obtaining these services. As of 2015, only 15 percent of VA medical centers (from which a majority of these services are delivered or coordinated) were in rural areas (Cowper Ripley *et al.*, 2017) so most rural veterans do not have ready access to specialty geriatric care. Fortunately, he has a CBOC within a reasonable driving distance where he can receive some primary care, but VHA has developed other health care options to increase access for rural veterans.

In 2017, the United Nations Economic Commission for Europe UNECE issued a policy brief documenting the needs of rural older adults in its 56 member nations in North and South America, Europe, and Asia. Noting the many challenges that rural elders face in accessing services to maintain health and well-being, the brief offered several recommendations to address their needs (United Nations Economic Commission for Europe, 2017). VHA's investment in improving rural health care access encompasses many of these recommendations, including increased use of mobile health and telehealth, expanded training programs to increase availability of rural general and specialty care providers, and increased transportation services to urban areas. More recently, VA has expanded its mandate to share resources with rural communities and to partner with community organizations to expand availability of care to veterans.

A key to VA's strategy for improving health care access for rural veterans is telehealth. Since 2000, telehealth has been an efficient and effective mode for VHA clinicians to deliver

clinical care in VA (Hill *et al.*, 2010) such as care management for chronic disease, mental health care, specialty services, and preventive care. (US Department of veterans Affairs, 2017d). Telehealth can significantly decrease the burden rural veterans often experience with travel to the urban VA medical center for care.

Telehealth in VHA is delivered through several strategies. Clinical Video Telehealth consists of a clinician at a VA medical center caring for a veteran at a CBOC via a two-way video connection. Services delivered through this modality include specialty consultations (e.g. neurology or cardiology), mental health care, and wellness groups. Store-and-Forward Telehealth involves acquiring and storing clinical information (e.g. data, image, sound, video), such as a dermatological image or retinal scan, that is forwarded to another site for clinical evaluation. Finally, Home Telehealth enables remote monitoring of a veteran's health status via a telehealth device in the home (US Department of Veterans Affairs, 2017d). More recently, VA Video Connect enables VHA clinicians to provide secure, private video appointments with a veteran via any internet-enabled computer, tablet or smartphone (US Department of Veterans Affairs, 2018b).

Telehealth cannot address every need, however, so in response to the difficulty rural veterans have in accessing health care and other VA services, Congress established in VHA an Office of Rural Health (ORH) in 2006 "to develop, refine, and promulgate policies, best practices, lessons learned, and innovative and successful programs to improve care and services for veterans who reside in rural areas of the" (38 US Code § 7308, 2006). In its first years, ORH provided seed funding for more than 1,700 local pilot projects at VA medical centers and CBOCs to implement locally developed solutions to address specific needs of rural veterans. Applying lessons from these pilots, in 2016, ORH introduced two strategies for disseminating effective rural veteran programs within the VA health care system: Enterprise-Wide Initiatives (EWI) and Rural Promising Practices (VHA Office of Rural Health, 2018a).

Enterprise-wide initiatives

EWIs expand existing VA programs generally offered in urban VA medical centers but not available to rural areas. National VA program offices identify services that they want to more broadly disseminate to rural areas and ORH provides initial funding for implementation at local sites. Thus, EWIs expand the reach of existing VA programs into rural communities. To date, more than 40 programs have been designated as EWIs. Many of these are established geriatric programs such as Home-Based Primary Care and Medical Foster Home while others expand access to care generally, which benefits older Veterans with increased access to services such as telehealth or transportation assistance (VHA Office of Rural Health, 2018a).

Rural promising practices

Rural Promising Practices are local projects that meet ORH criteria demonstrating "significant impact" for rural Veterans based on several criteria: increased access; strong partnerships; clinical impact; return on investment; operational feasibility; and customer satisfaction. ORH Field Offices (i.e. Veterans Rural Health Resource Centers (VRHRCs)) identify and nominate potential promising practices and a third-party review evaluates the project against the above criteria. VRHRCs consult with each Promising Practice subject matter experts to facilitate dissemination to local sites. To date, ORH has designated 15 projects as Rural Promising Practices (VHA Office of Rural Health, 2016b). Ten specifically address aspects of geriatric care such as telegeriatrics, geriatric education, polypharmacy, care transitions, osteoporosis management, advanced care planning, caregiver support and exercise.

One example of the Promising Practice model, the Geriatric Scholars Program (GSP), began as a local pilot to address the shortage of geriatric specialists in rural areas. GSP trains VA clinicians at rural CBOCs in geriatric competencies. Participating clinicians attend a customized multi-year training experience with academic coursework, clinical practical, coaching and team training. Since its inception, GSP expanded into a nationwide program that has served over 1,200 VA clinicians (as of September 2016) at rural CBOCs (VHA Office of Rural Health, 2016a).

Neither a comprehensive summary nor an evaluation of the impact of ORH's programs has been published, though multiple annual reports highlight select access outcomes. For example, ORH's 2016 annual report stated that more than 14,000 patients were seen through Tele-ICU; 47,281 Veterans cared for through ORH's Promising Practices Programs; 20,300 health care providers and staff trained through ORH educational programs; and more than 36,000 Veterans seen at ORH-supported outreach events (VHA Office of Rural Health, 2016c). In 2015, ORH reported that radiologists remotely read 104,872 patient images from 21 rural clinics in the previous year as part of a sponsored teleradiology program and 197,000 one-way patient trips had been provided through the Rural Veteran Transportation Program (VHA Office of Rural Health, 2015). Whether the Veterans participating in these programs perceive overall better access to health care or how these programs integrate and interact with the larger network of care that rural older Veterans in the US utilize is unknown.

Expanded options for community care

VA is undergoing a significant modernization effort "to improve delivery, internal organization, and governance, and to upgrade systems and enhance access for Veterans" (US Department of Veterans Affairs, 2018a). Part of this modernization plan has included designating geriatric care as one of multiple "foundational services" – clinical services that VHA is especially qualified to provide. Community partners are critical to the success of VA's efforts to improve access to care and services (US Department of Veterans Affairs, 2018a). Another component of this effort has been to create additional options for Veterans to obtain care in the community.

To address wait time issues for veterans needing access to VA care, VA has been expanding coverage for care that veterans obtain from non-VA providers. Under the 2014 Veterans Access, Choice, and Accountability Act (VACAA) in 2014, Veterans who are already enrolled in VA health care may be eligible to receive care through VACAA if necessary care cannot be provided by VA, an appointment cannot be scheduled within 30 days of a clinically indicated date, they reside more than 40 miles from the closest VA medical facility with a primary care physician, or travel to the nearest VA medical facility is excessively burdensome due to mode of travel (air, boat or ferry), geographic, environmental, or health reasons (US Department of Veterans Affairs, 2018c). While not specifically a rural program, VACAA increases options for rural veterans to receive care closer to home. From November 2014 and January 2017, 1,478,039 veterans received care through VACAA representing approximately 17 percent of users of VHA care (Mattocks and Yehia, 2017).

ORH has sponsored a variety of collaborative programs in partnership with rural organizations that care for veterans. These programs have worked with state and local veterans groups, aging services, social service providers, non-profit organizations, faith-based organizations and health care providers among others, to develop unique, local strategies for addressing veteran issues. An in-depth review of these projects is beyond the scope of this review, but some lessons gleaned from these partnerships are summarized under lessons for rural partnership. With an aging rural veteran population, successful care of older veterans in rural areas will continue to heavily rely on community partners.

Lessons for rural partnership:

- Partners should clearly outline goals, expectations and limitations of any partnership early in the process to foster openness and trust and serves as a measuring stick to evaluate progress.
- Partnerships that form around addressing a specific veteran need are more likely to attract partners who share common interests, lead to targeted activities and metrics, and suggest natural points when a partnership might be dissolved.
- Partners should develop specific and meaningful metrics to evaluate the work of the partnership.
- Partnerships are a long-term investment because relationships of trust take time to build.
- Champions in the community and VA are key to success because they provide passion to the effort and recruit others to support the partnership.

- Early in the process, the partnership should discuss how key efforts will be sustained over the long term, especially if funding, staff support or other formal partnership activities will not be indefinitely sustained.

Access to health care has improved for rural older veterans. Through telehealth, ORH-sponsored innovations and disseminations, and community care through VACAA, older, rural veterans have access to health care that has not been previously available to them. However, continued work is needed to ensure that all veterans in rural areas can obtain quality health care when and where they need it.

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Professional associations can nurture interdisciplinary partnerships to better serve rural-dwelling older adults

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Abstract

Purpose – *The purpose of this paper is to present a case study that illustrates how professional associations can provide the context for development of formal and informal interdisciplinary collaboration and promote advancement and dissemination of useful knowledge among disciplines and across geographic boundaries. This paper reports the work of the Rural Aging Special Interest Group of the Gerontological Society of America to develop and disseminate approaches that leverage existing resources to address the challenges of providing services to rural – dwelling older adults. It describes the challenges and the roles of networks in developing and supporting these partnerships to better meet the challenges.*

Design/methodology/approach – *This paper describes how interdisciplinary partnerships can enhance existing resources to better meet the unique needs of rural older adults and describes an example of how a professional association facilitated the process of creation and dissemination of knowledge about this approach. An overview of the process is provided with additional information relating partnerships to improving programs and services for rural older adults.*

Findings – *While addressing the unique needs of rural older adults can sometimes prove challenging, a number of entities have developed successful interdisciplinary partnerships that have expanded resources and improved effectiveness in addressing these challenges.*

Originality/value – *This paper illustrates how a professional association can play a key role in supporting creative interdisciplinary and international problem solving.*

Keywords *Interdisciplinary partnership, Rural, Elders, Older adults, Networks*

Paper type *Case study*

Introduction

Special interest groups within a professional association

The Gerontological Society of America (GSA) is an interdisciplinary organization focused on aging in the areas of research, practice and education. The purpose of the Society is "to advance the scientific and scholarly study of aging and to promote human welfare by the encouragement of gerontology in all its areas" (Gerontological Society of America (GSA) website, 2018). Interdisciplinary collaboration is encouraged for those involved in the field of aging and vast opportunities for mentoring are provided along with networking (Gerontological Society of America (GSA) website, 2018).

Interest groups in GSA provide an opportunity for members to connect, meet and discuss their interests regarding a certain topic. Participation in an interest group is one of the many opportunities for individuals to become more involved in the Society. Interest groups are interdisciplinary and include members at varying career levels and levels of study. Members can sign up to join multiple interest groups and attend associated meetings during the Annual Scientific Meeting. Such interest groups provide opportunities for networking and collaboration There are over 40 interest groups based around varying aging-related topics (Gerontological Society of America (GSA) website, 2018). Interest groups are organized by one to two

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individuals that volunteer to serve as conveners. Conveners serve as organizers for meetings and other activities, facilitators, and contacts for members (Gerontological Society of America (GSA) website, 2018).

The rural aging interest group

The Rural Aging Interest Group is one of the interest groups of GSA. Its purpose is to "increase the awareness and understanding of rural aging issues and serve as a vehicle for sharing information on rural aging research, policy and practice" (Gerontological Society of America (GSA) website, 2018). The group discusses a number of topics that are unique to older adults residing in rural areas. It meets during the Annual Scientific Meeting and communicates throughout the year. The meeting time allows members to discuss topics of interest; it also provides opportunities to collaborate with experts in other disciplines and from around the world who share an interest in addressing problems of rural older adults. Within the broad topic of rural aging, members of the Interest Group may gather in sub-groups to share ideas and experiences about specific approaches; each year one or more "sub-topic" groups collaborate to create a symposium for the next year's meeting. The symposia are developed around topics of interest for group members. Usually these topics are developed around similar research projects that the group members are currently active in or have recently completed. The focus of this special issue of Quality in Ageing and Older Adults developed as a result of the collaboration of some members of the interest group to develop a symposium for the annual scientific meeting of the Gerontological Society of America (GSA) website (2016) about projects and research that used interdisciplinary partnerships to improve services for rural older adults. Unmet challenges in the care for older adults that are most urgent in certain populations energize and attract the type of collaboration exemplified by this Symposium and are made possible through the connections provided by membership in the association. The special needs of rural-dwelling older adults represent that type of challenge.

The challenge: understanding the needs of rural-dwelling older adults

Moore *et al.* (2016) discuss the importance of addressing the needs of individuals living in rural areas, particularly related to social services and health care needs. Rural communities, often face high rates of unemployment, failing infrastructure and decreased job opportunities. Such issues place individuals living in rural areas at greater risk for homelessness and poverty (Huskins, 2014 as cited in Moore *et al.*, 2016; National Council on Aging, 2015).

In order to address the issues facing rural older adults, those providing services in rural communities need to implore and explore innovative methods for developing and delivering these services. New methods must be implemented to address the needs of rural older people (Moore *et al.*, 2016). Utilizing an interdisciplinary team to provide a collaborative approach to service delivery has been long supported (Interprofessional Education Collaborative Expert Panel, 2011; as cited in Monroe, 2015). As the population continues to grow, having programs in place to address quality of life and health will become increasingly more important to this growing population. Services will need to be delivered through a variety of mechanisms and in diverse settings.

The rates of chronic disease and resulting mortality are higher in rural areas. Individuals living in rural areas are at greater risk for experiencing health disparities. There are further variations in different regions and even among groups, resulting in even greater disparities. Risk factors in rural areas are "geographic isolation, lower socioeconomic status, higher rates of health risk behaviors, and limited job opportunities." There are often insufficient resources in the community to prevent and treat chronic conditions and diseases, and treatment can be very expensive. Individuals living in rural areas are likely to report multiple chronic conditions and report them at higher rates than their urban counterparts. The risk of developing multiple chronic conditions increases as individuals age. This effect is further seen as rural older adults are a greater percentage of the older population. For example, in the United States, 14.5 percent of the population is 65 or older. In the American Community Survey, older adults

makeup 19 percent of the small rural or non-core population; while, 16.8 percent comprise the population living in large rural or micropolitan areas. Rural dwellers were more likely to participate in health behaviors resulting in fewer individuals being physically active and in turn having a higher body weight. Residents were also not as likely not to smoke. Illnesses can also result from exposure to occupational factors as well as environmental hazards (Rural Health Information Hub (RHIhub), 2017a, b).

In the US rural areas face limitations regarding access to health care, along with decreased numbers of health care providers, access to mental or behavioral health services, and access to primary, secondary and tertiary care services. A report in "Rural Healthy People 2020: A Companion Document to Healthy People 2020, Volume 1" indicates there is a connection between chronic condition (i.e. heart disease, cancer, and diabetes) health outcomes and primary care access limitations. In the US screening for chronic and other health conditions usually takes place in the primary health care setting. Shortages in this area could result in delayed treatment. Individuals living in rural areas report lower screening rates than those living in urban areas (RHIhub, 2017a). Individuals needing access to primary care providers may also have challenges accessing specialty practice providers as well. Colvin and Bullock (2015) discuss limitations in access to health care providers in specialty care areas. They found there is a considerable shortage of primary health care providers and there can be challenges retaining primary care providers in the area. Access to behavioral health services may also be limited by availability of services, proximity to services, and financial barriers. Rural communities also suffer from a shortage of trained behavioral health service providers as well (Stark *et al.*, 2016). Behavioral health services may be provided through telehealth services. While this is a very helpful resource, it is also important that care providers are knowledgeable regarding the culture in rural areas, educated regarding culturally appropriate care (Slama, 2017), and sensitive to the needs of rural older adults. Providing care through "integrated service delivery" is another option for providing behavioral health services in rural communities. Specialists may also travel to rural areas to provide services (RHIhub, 2017a). The shortage of dentists is also an area of concern for rural areas. Oral care affects not only oral health but other areas of physical health as well. Addressing the shortage is one aspect of ensuring residents have care but residents face financial barriers to care as well (Kim, 2018; RHIhub, 2017a).

Partnerships

Formal and informal networks have been used for a number of years to develop interdisciplinary partnerships to serve rural older adults. These partnerships have been utilized to provide services to older adults that might not otherwise be able to receive them. Residing in a rural area can present a number of challenges such as issues with access to care, decreased numbers of health care providers, and limited transportation. While these challenges can be daunting to address, these also provide an opportunity for creative measures to address them.

Other potential barriers to successful program implementation include distance between places, marketing, and ensuring individuals are aware that programs are available. While rural older adults might be able to find transportation to doctors' appointments, it might be more difficult to find transportation to get to the program or other services. Also, the distance from their home to the service site might be significant. Marketing for programs and services should be done on several occasions, through more than one location, and utilizing creative options (Connell *et al.*, 2017; National Council on Aging, 2015). In addition to distance, terrain, and severe weather conditions can impact access to care in the rural environment (Connell *et al.*, 2017). Partnerships can enhance and expand discussions of community resources and needs. Partners can often provide very valuable insight into how barriers have been addressed previously and provide suggestions for what has and has not worked.

One important factor to consider when developing interdisciplinary partnership is communication. Clear communication must be established from the beginning in order to create a solid foundation upon which to build the partnership. A fact sheet developed in 2015 by the National Council on Aging includes discussions of programs to address chronic

disease; they suggest that the following are requirements of partnering to implement a successful program:

> […] establish trust, engage partners, think about and plan for transportation, consider cross-state/cross-region collaborations, communication is key, ongoing outreach and promotional messages are vital, consider incentives, utilize GIS, and embed responsibility within organizations (National Council on Aging, 2015, pp. 1-3).

They emphasize the importance of relationships. Relationships are vital to establishing trust. Community partners can help identify referrals and aid with outreach. They may also be able to identify mechanisms for dealing with limited resources.

Partnerships can be key to improving awareness of programs. However, awareness alone may not be sufficient. Access to transportation can affect the ability of individuals to participate, even in programs about which they have information. While there may be some mechanisms in place for providing transportation to rural older adults (National Council on Aging, 2015) they may not be available in all areas. There may be opportunities for collaboration between states or even across the region. Partnerships can guide effective and efficient design of programs and introduce "best practices" of which a single agency may be unaware. For example, programs can be located in a central area to reach more individuals and expand resources. It is also imperative that communication is ongoing throughout the partnerships. Partners should be creative and open to various avenues of marketing so that individuals hear messages more than once. Incentives may be utilized; however, sustainability is one factor that should be considered as well as their role in the context of the mission for the project. Embedding partnerships as a "formal component of organizational operations" can provide support for sustainability (National Council on Aging, 2015, p. 3). Respect is also a foundational principle of effective partnerships (Baquet *et al.*, 2013).

As greater efforts are made to support older adults that are aging in place (Peek *et al.*, 2016), additional considerations may be needed for rural-dwelling older adults. Researchers have provided insight from rural older adults regarding their views of aging in place (Bacsu *et al.*, 2014; Stones and Gullifer, 2016). This shift to home-based care provides opportunities for more and different partnerships to provide programs and services, especially in regard to completeness of information applied to decision making. Before programs are implemented it is important to identify the resources that are currently available (Ford, 2013) and how new programs and services may enhance these areas or provide services beyond what is currently available. Having a clear picture of programs and services can also assist with sustainability efforts (Ford, 2013).

Partnerships with organizations that have direct contact with rural older adults also greatly expand opportunities for inclusion of rural older adults at every stage of assessing, expanding or creating programs and services for elders. Rural-dwelling older adults play a key role in providing invaluable insight into the effectiveness of programs and services. It is critical that rural elders are active participants in the receipt of programs and services rather than "passive service users" (Ruggiano *et al.*, 2015, p. 1017). The unique beliefs, values, interests, and context for those rural elders participating in programs and receiving services should be considered in program and service development (Ruggiano *et al.*, 2015). The unique cultural experiences and environment of rural elders should also be taken into consideration. Partnerships with organizations that are in touch with rural elders can facilitate these processes.

Similarly, partnerships support evaluation of programs and services. Evaluation is an important component in determining effectiveness and efficiency of their meeting the proposed goals and outcomes. Giunta and Thomas (2015) discuss formative and summative evaluations as methods of evaluation. Formative and summative evaluations should take place at various stages throughout the project or provision of services. Feedback regarding capacity building, structure, and process is provided through formative evaluation. This aids in making decisions regarding these areas in the partnership. Initiatives are measured for short and long-term outcomes. Short-term outcomes and long-term outcomes are measured through summative evaluation. Evaluation efforts should be conducted within the partnership and with program and service stakeholders (Giunta and Thomas, 2015). The method of evaluation should be chosen early on and based upon the required measurements and proposed outcomes.

Conclusion

The Rural Aging Special Interest Group of the Gerontological Association of America serves as a mechanism for individuals with a focus on addressing the needs of rural elders to connect, network, collaborate and share their work. It has provided a rich environment for the development of many successful interdisciplinary partnerships; not just the partnerships formed through the GSA Symposium that was the foundation for this Special Issue. Each rural community has characteristics that are specific for that particular setting. Yet, there are some characteristics that touch all rural communities. Disseminating information through conference presentations and journal articles that are centered around a certain topic focused on rural older adults has provided insight into how networks can be used to develop interdisciplinary partnerships. It also connects researchers and scholars across disciplines and across borders who seek to address similar problems.

As discussed previously, communication, trust, respect, and rapport are all key elements of a successful partnership (Baquet *et al.*, 2013; National Council on Aging, 2015; Stark *et al.*, 2016). Building a connection between members in the partnership and establishing a rapport are important components of providing quality services in rural areas. Incorporating an interdisciplinary approach provides the opportunity to provide more comprehensive programs and services.

Although addressing the unique needs of rural older adults can sometimes prove challenging, it also provides a chance to explore the opportunities available to provide quality services. Individuals can look to the strengths they have individually and use them to develop successful interdisciplinary partnerships to address these challenges and turn them into opportunities for greater service and support for rural elders. Engagement in a professional association can enhance resources and expertise available to solve many of the problems scientists and professionals seek to address.

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