BMJ Open

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Journal:	*BMJ Open*
Manuscript ID	bmjopen-2023-083107
Article Type:	Protocol
Date Submitted by the Author:	12-Dec-2023
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Keywords:	Aged, HEALTH SERVICES ADMINISTRATION & MANAGEMENT, Quality in health care < HEALTH SERVICES ADMINISTRATION & MANAGEMENT, Health Services for the Aged

Validation of a national leadership framework to promote and protect quality residential aged care: Study protocol

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Abstract

Introduction: Australia's aging population is driving an increased demand for residential aged care services, yet concerns about the quality and safety of such care remain. The recent Royal Commission into Aged Care Quality and Safety identified various limitations relating to leadership within these services. While some competency frameworks exist globally, there is a need for sector-specific leadership competencies in the Australian residential aged care setting to promote and protect quality of care.

Methods and Analysis: This study aims to establish the content validity of a national leadership framework (RCSM-QF) for promoting and protecting the quality of residential aged care in Australia. The research will involve a two-round Delphi survey with aged care experts to rate the relevance, importance, and clarity of RCSM-QF items and their descriptions. The study will also seek suggestions for revisions and additional items. Content validity will be assessed using the Content Validity Index (CVI), with items meeting specific criteria retained, revised, or removed. Ethics approval has been sought to ensure the well-being and convenience of participants while mitigating potential recruitment challenges.

Discussion: This research addresses the need for a comprehensive leadership competency framework for Australian residential aged care senior managers. It seeks to validate the RCSM-QF framework, which can define and describe the competencies required by senior managers and inform quality indicators for performance evaluations. Such evidence-based frameworks can standardise leadership development and promote consistency in healthcare operations. Additionally, the RCSM-QF may guide training and career progression opportunities, fostering a culture of quality and

accountability in the aged care sector. However, the study acknowledges potential limitations, including sampling bias and the reliance on expert opinions in the Delphi process, but aims to mitigate these through focus groups for richer insights in subsequent phases of this work.

Keywords: residential aged care, quality, leadership, senior managers, validation

Strengths

- Purposive sampling will be used as a targeted recruitment method for interviewing participants from peak bodies, primary health networks, and researchers, allowing for diverse expert perspectives within the Australian aged care sector.
- The Delphi method is a popular tool for framework validation in research, allowing for structured input from Auatrliaa aged care experts to refine and validate the preliminary framework.

Limitations

- The Delphi process is based on subjective opinions rather than empirical evidence, potentially affecting the validity and reliability of the framework validation process.
- To address limitations in the Delphi process, future phases of the research may require qualitative methods to allow for real-time feedback and in-depth insights from a wider range of industry experts
- The anonymous nature of the Delphi process limits in-depth discussions, debates, and the exchange of ideas, potentially restricting the exploration of alternative perspectives regarding the leadership competencies influencing the quality of Australian residential aged care services.

Introduction

Australia's population is ageing, with the proportion of people aged 65 years or over projected to increase from 16% (2018) to 23% in 2066.[1] In line with national ageing trends, the demand for Australian residential aged care services is also increasing,[2] and there have been ongoing concerns about the quality and safety of that care.[3] Indeed, the recent Royal Commission into Aged Care Quality and Safety described a "cruel and harmful" national aged care system comprising services that were "neglectful" and "woefully inadequate".[4] The leadership of these services, including 'ground-level' residential aged care senior management teams, was described as "lacking", and leadership competencies for promoting quality of care were found to be "poorly defined".[4.] The lack of any sector-specific professional development or leadership framework to guide the acquisition of these required skills within the Australian residential aged-care setting is a concern.[5]

Existing studies have generated some knowledge regarding leadership requirements, and some competency frameworks exist for aged care services globally, although evidence gaps remain. Seminal work in Australian aged care leadership was conducted by Jeon et al. (2015) in validating a clinical leadership framework, the Aged care *Clinical* Leadership Qualities Framework (ACLQF), for middle (mainly clinical) managers in both community-based and residential aged care services.[6] in 2014, Aged & Community Services Australia (ACSA) developed the Australian Aged Care Leadership Capability Framework. While this framework reflected an important step forward, its inclusion of different leadership levels (e.g. frontline, middle- and senior managers) and multiple service types (residential, acute and community-based) meant it was necessarily general in nature, with limited specificity concerning the multi-faceted and increasingly demanding nature of residential aged care facilities.[7] Furthermore, the ACSA framework describes leadership capabilities (statements of behaviours, skills, and knowledge that affect an outcome) but not competencies (a measure or index of how well a person performs that capability) and does not explicitly link these to promoting quality care.

With an absence of competency-based frameworks specific to the Australian residential aged care setting, there is a clear need to describe and model the competencies required by leadership teams to provide effective leadership within this increasingly complex environment. A recent programme of work identified the knowledge, skills and abilities needed by senior managers to promote and protect quality residential aged care.[8] Competencies were to form a preliminary leadership competency framework, The Residential Aged Care Senior Manager Quality Framework (RCSM-QF).[8] This original and empirically grounded competency framework synthesised Australian senior managers' skills and personal qualities to promote and protect the quality of care in the residential aged care setting. Its formation drew on the experiences and strategic insights of senior managers themselves and Australian industry experts.[8] These empirically derived leadership competencies were compared with those extracted from pre-existing senior-management-relevant leadership frameworks, including the HLA Competency Directory,[9] IPEC Core Competencies,[10] and Master Health Service Management Competency Framework [11] to form a novel (though untested) competency framework.

Although the formation of the preliminary RCSM-QF is a step in addressing the evidence gap relating to sector-specific leadership competencies and professional development requirements for senior managers to promote quality of care, it has not been applied or tested in the Australian residential aged care setting nor the competencies empirically validated. Therefore, the accuracy and usefulness of the RCSM-QF for describing and helping assess the leadership competencies required by senior managers across Australia are not yet confirmed.

This study aims to establish the content validity of the preliminary RCSM-QF within the Australian residential aged care context using a modified Delphi process. Once this validity is established, this programme of work could provide a practical tool to form a professional development infrastructure for current and aspiring Australian residential aged care senior managers who continue to operate within this increasingly complex environment.

Methods and Analysis

Aim: To establish the content validity of a national leadership framework to promote and protect the quality of residential aged care in Australia

Objectives:

1. Rate the relevance, importance and clarity of RCSM-QF items [competencies OR personal qualities] and their descriptions using a 4-point Content Validity Index (CVI) scale
2. Suggest RCSM-QF item and description scale revisions.
3. Suggest RCSM – QF domain name and domain definition revisions and
4. Suggest additional items [competencies or personal qualities] for the RCSM – QF

Study Design

Content validity refers to the extent to which a measurement tool, such as a test or assessment, accurately represents the specific content it is intended to measure.[12] Content validity is an important aspect of validating a leadership competency.[13] In the context of the current research, the method will assess whether the RCSM–QF accurately and comprehensively represents the key competencies required for effective leadership within the Australian residential aged care setting. We will evaluate content validity using the Delphi survey technique and a Content Validity Index (CVI). The Delphi technique is a widely used method for achieving consensus.[14] It uses a series of questionnaires to collect information from participants in a number of iterations, or 'rounds'. The starting point is an open questionnaire or a pre-derived list of questions.[15] Following each round, each participant receives an individualised report of their responses to the group response.[15] In subsequent rounds, participants can reassess their responses in light of this information.[14] The process allows for a controlled debate and for consensus to build without necessitating group interaction, an advantage in the context of geographically dispersed and time-constrained experts. It also limits the time and

resources required to plan and facilitate group interactions and the bias from dominant individuals within this consensus-building phase.[14]

Study setting

The current study will be completed with representatives who contribute to or advise regarding the delivery of aged care services in Australia. Examples of different 'levels' of aged care include: i) entry-level community-based care at home; ii) higher levels of care at home (Home Care Packages Program), and when living at home is not an option; iii) residential aged care.[16] This study focuses specifically on the role of senior managers in providing quality care in the Australian residential aged care setting. Residential aged care provides health care services and accommodation for older people who are unable to continue living independently in their own homes.[17]

In Australia, residential aged care providers can span a range of different sectors, including religious, charitable, community, for-profit and government organisations.[17] Typical services may include accommodation, personal care assistance, clinical care and a range of social care activities, including recreational activities and emotional support. Approximately 250,000 older Australians received permanent residential aged care at some time during the financial year 2021/2022.[1]

Participant recruitment

To be eligible for participation, panel participants will need to be self- or other-identified aged care experts through current employment within the aged care sector and have high-level knowledge and experience in aged care. Expertise may include clinical practice, management, service delivery, policy, research and education or combinations of the above. From previous work, this study will target five major groupings of expert representatives, including peak advocacy bodies, primary health network representatives, members of state and federal government, aged care researchers and residential aged care executives and governing board members spanning multiple organisation types (non-for-profit, for-profit, non-governmental [NGO], and government-operated).[8] Purposive sampling

will be used to ensure that rural, remote, and metropolitan settings across Australia are represented on the panel. Purposive sampling will also allow the identification and selection of information-rich participants from the expert groupings with knowledge and experience working within the Australian aged care sector.[18] Participant selection will be purposive, and aged care industry experts will be recognised as possessing specific knowledge of the health service needs of older persons in Australia and capable of reflecting critically on the link between senior manager leadership skills and quality residential aged care.

A list of eligible participants will be generated using a combination of investigators' aged care industry experience and a comprehensive desk search. Participants will be emailed an invitation for involvement in *Round 1* and followed up by phone if a response has not been received in two weeks. Participants will provide electronic consent before commencing the questionnaire.

Data collection

Round 1: In reviewing, modifying and validating the RCSM-QF, two rounds of iterative consultation will be undertaken with the Delphi panel via email. In round one, experts will be sent email invitations to participate. Upon clicking the survey link, participants will be redirected to an online platform where they will be asked to confirm their consent to participate and will rate each item and its response scale based on clarity, relevance, and importance using a 4-point CVI scale where 1 = not clear/relevant/important, 2 = somewhat clear/relevant/important, 3 = quite clear/relevant/important, and 4 = highly clear/relevant/important.[19] Through open dialogue boxes, experts will also provide suggestions for item wording, domain name, and domain definition revisions and propose additional items for any missing experiential aspects of care. Demographic questions will include gender, year of birth, highest educational qualification, place of work and current professional role. Experts will be given a 2-week window to complete the Round 1 survey, following which the survey will be closed, and the results will be exported into Microsoft Excel. Reminder emails will be dispatched to participants on days 5 and 12 of the Round 1 questionnaire if they have not taken part.

Round 2: The second round will commence 1 week after the conclusion of Round 1. Experts will receive a second survey invitation via email, asking them to rate the revised items in terms of clarity, relevance, and importance using the 4-point CVI scale and propose item revisions. A 2-week timeframe will be allotted for experts to complete the Round 2 survey, following which the survey will be closed, and the results will be exported into Microsoft Excel. Reminder emails will be sent to participants on days 5 and 12 of the Round 2 survey if they have not participated.

Data Analysis

Content validity

The current study will incorporate the content validity index (CVI) as a verified approach for evaluating content validity.[20] The CVI index comprises two computed components: the Item-CVI (I-CVI) and the Scale-level-CVI (S-CVI).[20] To compute the I-CVI, the number of Delphi panel experts assigning a "very relevant" rating to each item is divided by the total number of experts, resulting in values ranging from 0 to 1. An I-CVI surpassing 0.79 deems the item relevant, while values falling between 0.70 and 0.79 indicate the need for item revisions; I-CVI values below 0.70 warrant item elimination.[20] Likewise, the S-CVI is determined based on the count of items within a tool that attain a "very relevant" rating.[20] To measure the S-CVI, the Universal Agreement (UA) among experts (S-CVI/UA) will be used. The S-CVI/UA involves summing all items with an I-CVI of 1 and dividing by the total number of items, with the ab S-CVI/UA of ≥ 0.8 denoting excellent content validity.[21]

Round 1: The demographic and Delphi survey data will be analysed descriptively using Microsoft Excel. Expert responses to the item-level CVI (I-CVI) scales will be binary coded as 0 for "not or somewhat relevant/important/clear" and 1 for "quite or highly relevant/important/clear." An I-CVI score will then be computed for each item, representing the proportion of experts scoring 1 out of the total number of experts in the Round 1 sample.[19] Items meeting a score of ≥ 0.80 for each of relevance, importance, and clarity (without revision suggestions) will be retained for the final version of the

RCSM – QF.20 Items achieving scores of ≥0.80 for each of relevance, importance, and clarity (with revision suggestions), or ≥0.80 for relevance and importance but <0.80 for clarity, will undergo revision by the research team based on expert feedback and will subsequently be included in the Round 2 survey. Items obtaining scores of <0.80 for each of relevance, importance, and clarity will be removed from the RCSM-QF. The research team will also consider suggestions provided by experts concerning modifications to domain names, domain definitions, and missing items.

Round 2: The Round 2 questionnaire results analysis will adhere to the same methodology as in Round 1. The research team will thoroughly review additional suggestions for item revisions before implementing further RCSM- QF modifications. A scale-level CVI (S-CVI) score will also be calculated by averaging the I-CVI scores for all items included in the final RCSM-QF.[20]

Ethics and Dissemination

The James Cook University Human Research Ethics Committee (HREC) approved this study's ethics on 14 November 2023. The current project has been deemed 'negligible risk' by the HREC, as there is no foreseeable risk of harm or discomfort to the participants other than the inconvenience of completing the questionnaire. A potential risk of this study is difficulties in recruiting the required numbers for this research, which might pose a risk to study completion. If this is the case, alternative recruitment methods will be considered, including broadening networks to include other professional roles and organisations operating within the Australian aged care sector.

Data will be prepared for submission to an appropriate peer-reviewed journal and presentation at relevant academic conferences, including the Australian Association of Gerontology Conference [2024]. In addition to the International Journal of Healthcare Management, where a large body of literature regarding aged care management and quality of care is published, several additional avenues have been identified to add variety to the audience accessing the project's findings. Given that this research focuses on senior managers in the aged care setting, targeted journals include the

Australasian Journal on Ageing, Journal of Ageing and Health and BMC Health Services Research or BMJ Open.

Patient and Public Involvement

This research project was designed without direct patient or public involvement in several key aspects, including determining research priorities, defining research questions, selecting outcome measures and contributing to study design. It is recognised that including patient and public perspectives can significantly enhance the relevance, quality, and applicability of research outcomes, and their absence in this study might have implications for the comprehensiveness and relevance of our findings.

Discussion

Senior managers are central in promoting and protecting quality of care in clinically and administratively complex residential aged care services settings.[8] Yet globally and in Australia, there remain significant gaps in knowledge regarding the specific competencies and skills required of this leadership cohort.[8] This study aims to establish the validity of a novel leadership competency framework, which could provide a practical tool for national regulatory and professional bodies by defining and describing the specific skills, behaviours, knowledge, and experience needed by aspiring and current senior managers. It may also inform the development of quality indicators to inform competency-based performance evaluations of senior managers within their current roles.

Evidence-based leadership competency frameworks provide a standardised and consistent approach to leadership development across multiple health settings.[22] Once validated for acceptability and applicability, the RCSM-QF competencies may assist residential aged-care organisations in establishing a consistent promotion criterion that incorporates demonstrated excellence by senior managers who consistently lead high-quality healthcare operations within their respective organisations. In doing so it could provide a valuable tool for self-reflection to identify knowledge and skill gaps and guide future training and other career progression opportunities.

The RCSM-QF also offers a set of skills and personal qualities that could inform the development of future courses or qualifications to develop the competencies required by aspiring managers to promote quality of care within their respective organisations and across the broader aged care sector. This focus on quality and continuous improvement may drive organisational excellence for the quality of care, enhance resident health outcomes, and foster a culture of accountability and innovation within Australian residential aged care organisations.[23] This work thus not only addresses key gaps in the literature and evidence base regarding senior management competencies but represents an essential and timely first step in responding to Royal Commission recommendations to strengthen leadership in the sector.

As with a majority of studies, the design of the current study is subject to limitations. Firstly, purposive sampling was used to recruit interview participants from three categories of experts (peak bodies, PHNs, and researchers); however, it is possible that not all participants will participate due to scheduling or other issues. It is expected, therefore, that the final sample of experts may introduce an element of bias and not always represent the diverse range of perspectives across multiple professional roles within the Australian aged care sector. For example, suppose a majority of study participants were provider advocates whose primary focus is to support the viability and sustainability of aged care service providers. In that case, experts are potentially less likely to consider the resident experience and personalised healthcare needs. Conversely, consumer advocates play an important role in advocating for the older person and speaking on behalf of that individuals in a way that best represents their interests. With an intense focus on the individualised healthcare needs of older Australians, consumer advocates may have less understanding of the structural elements that adversely influence RAC quality and the leadership competencies required.

While the modified Delphi process is a popular design used for research involving framework validation, some potential limitations within the proposed research are evident.[24] Firstly, the Delphi process is largely based on expert opinions rather than empirical evidence, and while these opinions can be valuable, they may not always align with objective facts or data. [25] This can limit the validity

and reliability of the framework validation process, particularly if more empirical evidence is needed to support the experts' judgments. A further potential limitation of the study design is that experts provide their input individually and anonymously.[26] The Delphi process, therefore, lacks direct interaction among experts, which can restrict the opportunity for in-depth discussions, debates, and exchanging ideas.[26] Consequently, the method may not capture the full complexity of the research problem or allow for exploring alternative perspectives.[25] Depending on the findings from this study, future phases of this programme of work may involve qualitative methods to address this limitation. These sessions would involve Australian aged care industry experts with varying opinions and perceptions to allow real-time feedback, in-depth insights and rich qualitative data regarding the applicability of the RCSM-QF implementation within the Australian residential aged care setting.[27]

List of abbreviations

ACLQF – Aged Care Clinical Leadership Quality Framework

ACSA – Aged and Community Services Australia

RCSM – QF – Residential Aged Care Senior Management Quality Framework

HLA – Healthcare Leadership Alliance

IPEC – Interprofessional Education Collaborative

CVI - Content Validity Index

S - *CVI* – Scale level content Validity Index

I – *CVI* – Item Content Validity Index

Declarations

Ethics approval

Ethics approval is yet to be received for this study. An ethics application for this study was diligently prepared and submitted to the James Cook University Human Research Ethics Committee on 04 August 2023. Once approved, all methods will be carried out in accordance with relevant guidelines and regulations.

Consent for publication.

No participants were recruited or involved in the research process, so no individual consent for publication was required. Informed consent will be obtained from all subjects and/or their legal guardian (s) upon commencement of data collection activities.

Availability of data and materials

Previous datasets used and analysed to form the study protocol are available from the corresponding author upon reasonable request.

Competing Interests Statement

No potential conflict of interest was reported by the authors

Authors' contributions

ND conducted the primary manuscript draft. ND, ST and OA completed subsequent manuscript revisions. All authors read and approved the final manuscript.

Acknowledgements

Nil

Funding

No funding was sourced or utilised in the formation of this study protocol.

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BMJ Open

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Journal:	*BMJ Open*
Manuscript ID	bmjopen-2023-083107.R1
Article Type:	Protocol
Date Submitted by the Author:	26-Apr-2024
Complete List of Authors:	Dawes, Nathan; James Cook University Topp, Stephanie; James Cook University; James Cook University Adegboye , Oyelola; James Cook University,
Primary Subject Heading:	Public health
Secondary Subject Heading:	Health services research
Keywords:	Aged, HEALTH SERVICES ADMINISTRATION & MANAGEMENT, Quality in health care < HEALTH SERVICES ADMINISTRATION & MANAGEMENT, Health Services for the Aged

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Abstract

Introduction: Australia's aging population is driving an increased demand for residential aged care services, yet concerns about the quality and safety of such care remain. The recent Royal Commission into Aged Care Quality and Safety identified various limitations relating to leadership within these services. While some competency frameworks exist globally, there is a need for sector-specific leadership competencies in the Australian residential aged care setting to promote and protect quality of care.

Methods and Analysis: This study uses the Delphi technique to establish the content validity of a national leadership framework (RCSM-QF) for promoting and protecting the quality of residential aged care in Australia. Participants will be ~~self- or other-identified aged care~~ identifiable experts through current employment within, policy development for, or research with the aged care sector ~~and have knowledge and experience in aged care~~. The survey will ask participants to rate the relevance, importance, and clarity of RCSM-QF items and their corresponding descriptions, and seek suggestions for revisions ~~and~~or additional items. Content validity will be assessed using the Content Validity Index (CVI), with items meeting specific criteria retained, revised, or removed. ~~This study aims to establish the content validity of a national leadership framework (RCSM-QF) for promoting and protecting the quality of residential aged care in Australia. The research will involve a two-round Delphi survey with aged care experts to rate the relevance, importance, and clarity of RCSM-QF items and their descriptions. The study will also seek suggestions for revisions and additional items. Content validity will be assessed using the Content Validity Index (CVI), with items meeting specific~~

~~criteria retained, revised, or removed. Ethics approval has been sought to ensure the well-being and convenience of participants while mitigating potential recruitment challenges.~~

Discussion: This research addresses the need for a comprehensive leadership competency framework for Australian residential aged care senior managers. It seeks to validate the RCSM-QF framework, which can define and describe the competencies required by senior managers and inform quality indicators for performance evaluations. Such evidence-based frameworks can standardise leadership development and promote consistency in healthcare operations. Additionally, the RCSM-QF may guide training and career progression opportunities, fostering a culture of quality and accountability in the aged care sector. However, the study acknowledges potential limitations, including sampling bias and the reliance on expert opinions in the Delphi process, but aims to mitigate these through focus groups for richer insights in subsequent phases of this work.

Keywords: residential aged care, quality, leadership, senior managers, validation

Strengths

- Purposive sampling will be used as a targeted recruitment method for interviewing participants from peak bodies, primary health networks, and researchers, allowing for diverse expert perspectives within the Australian aged care sector.
- The Delphi method is a popular tool for framework validation in research, allowing for structured input from Auatrliaa aged care experts to refine and validate the preliminary framework.

Limitations

- The Delphi process is based on subjective opinions rather than empirical evidence, potentially affecting the validity and reliability of the framework validation process.

- To address limitations in the Delphi process, future phases of the research may require qualitative methods to allow for real-time feedback and in-depth insights from a wider range of industry experts.
- The anonymous nature of the Delphi process limits in-depth discussions, debates, and the exchange of ideas, potentially restricting the exploration of alternative perspectives regarding the leadership competencies influencing the quality of Australian residential aged care services.

Introduction

Australia's population is ageing, with the proportion of people aged 65 years or over projected to increase from 16% (2018) to 23% in 2066. (1)[1] In line with national ageing trends, the demand for Australian residential aged care services is also increasing, (2) and there have been ongoing concerns about the quality and safety of that care. (3) Indeed, the recent Royal Commission into Aged Care Quality and Safety described a "cruel and harmful" national aged care system comprising services that were "neglectful" and "woefully inadequate". (4) The leadership of these services, including 'ground-level' residential aged care senior management teams, was described as "lacking", and leadership competencies for promoting quality of care were found to be "poorly defined". (4) The lack of any sector-specific professional development or leadership framework to guide the acquisition of these required skills within the Australian residential aged-care setting is a concern. (5)

Existing studies have generated some knowledge regarding leadership requirements, and some competency frameworks exist for aged care services globally, although evidence gaps remain. Seminal work in Australian aged care leadership was conducted by Jeon et al. (2015) in validating a

clinical leadership framework, the Aged care *Clinical* Leadership Qualities Framework (ACLQF), for middle (mainly clinical) managers in both community-based and residential aged care services. (6) in 2014, Aged & Community Services Australia (ACSA) developed the Australian Aged Care Leadership Capability Framework. While this framework reflected an important step forward, its inclusion of different leadership levels (e.g. frontline, middle- and senior managers) and multiple service types (residential, acute and community-based) meant it was necessarily general in nature, with limited specificity concerning the multi-faceted and increasingly demanding nature of residential aged care facilities. (7) Furthermore, the ACSA framework describes leadership capabilities (statements of behaviours, skills, and knowledge that affect an outcome) but not competencies (a measure or index of how well a person performs that capability) and does not explicitly link these to promoting quality care.

With an absence of competency-based frameworks specific to the Australian residential aged care setting, there is a clear need to describe and model the competencies required by leadership teams to provide effective leadership within this increasingly complex environment. A recent programme of work identified the knowledge, skills and abilities ~~needed by senior managers~~senior managers need to promote and protect quality residential aged care. (8) [8] Competencies were to form a preliminary leadership competency framework, The Residential Aged Care Senior Manager Quality Framework (RCSM-QF). (8) [8] The RCSM-QF comprises two key elements: personal qualities and leadership skills. Leadership skills are broken down into five domains, including i) culture and environment, ii) stakeholder relations, iii) clinical and aged care expertise, iv) asset management, and iv) disaster and change management (Figure 1.) This original and empirically grounded competency framework synthesised Australian senior managers' skills and personal qualities to promote and protect the quality of care in the residential aged care setting. Its formation drew on the experiences and strategic insights of senior managers themselves and Australian industry experts. (8) [8] These empirically derived leadership competencies were compared with those extracted from pre-existing senior-management-relevant leadership frameworks, including the HLA Competency Directory, (9)~~ry,9~~

IPEC Core Competencies, (10),[10] and Master Health Service Management Competency Framework (11)k [11] to form a novel (though untested) competency framework.

Although the formation of the preliminary RCSM-QF is a step in addressing the evidence gap relating to sector-specific leadership competencies and professional development requirements for senior managers to promote quality of care, it has not been applied or tested in the Australian residential aged care setting nor the competencies empirically validated. Therefore, the accuracy and usefulness of the RCSM-QF for describing and helping assess the leadership competencies required by senior managers across Australia are not yet confirmed.

[INSERT FIRGURE 1. HERE]

~~**Figure 1. The preliminary Residential Aged Care Senior Manager Quality Framework (RCSM-QF)**~~

~~**Figure 1. The preliminary Residential Aged Care Senior Manager Quality Framework (RCSM-QF).**~~

This study aims to establish the content validity of the preliminary RCSM-QF within the Australian residential aged care context using a modified Delphi process. Once this validity is established, this programme of work could provide a practical tool to form a professional development infrastructure for current and aspiring Australian residential aged care senior managers who continue to operate within this increasingly complex environment.

Methods and Analysis

Aim: To establish the content validity of a national leadership framework to promote and protect the quality of residential aged care in Australia

Objectives:

1. Rate the relevance, importance and clarity of RCSM-QF items [competencies OR personal qualities] and their descriptions using a 4-point Content Validity Index (CVI) scale
2. Suggest RCSM-QF item and description scale revisions.
3. Suggest RCSM-QF domain name and domain definition revisions and
4. Suggest additional items [competencies or personal qualities] for the RCSM-QF

Study Design

Content validity refers to the extent to which a measurement tool, such as a test or assessment, accurately represents the specific content it is intended to measurmeasure. (12)e.[12] Content validity is an important aspect of validating a leadership competency.[13]. (13) In the context of the current research, the method will assess whether the RCSM-QF accurately and comprehensively represents the key competencies required for effective leadership within the Australian residential aged care setting. We will evaluate content validity using the Delphi survey technique and a Content Validity Index (CVI). The Delphi technique is a widely used method for achieving consensus. (14) .[14] It uses a series of questionnaires to collect information from participants in a number ofseveral iterations, or 'rounds'. The starting point is an open questionnaire or a pre-derived list of questions, (15) s.[15] Following each round, each participant receives an individualised report of their responses to the group response.[15]. (15) In subsequent rounds, participants can reassess their responses in light of this information.[14]. (14) The process allows for a controlled debate and for consensus to build without necessitating group interaction, an advantage in the context of geographically dispersed and time-constrained experts. It also limits the time and resources required to plan and facilitate group interactions and the bias from dominant individuals within this consensus-building phase.[14]. (14)

Study setting

The current study will be completed with representatives who contribute to or advise regarding the delivery of aged care services in Australia. Examples of different 'levels' of aged care include: i) entry-level community-based care at home; ii) higher levels of care at home (Home Care Packages Program), and when living at home is not an option; iii) residential aged care.[16] (16) This study focuses specifically on the role of senior managers in providing quality care in the Australian residential aged care setting. Residential aged care provides health care services and accommodation for older people who are unable to continue living independently in their own homes.[17] (17)

In Australia, residential aged care providers can span a range of different sectors, including religious, charitable, community, for-profit and government organisations.[17] (17) Typical services may include accommodation, personal care assistance, clinical care and a range of social care activities, including recreational activities and emotional support. Approximately 250,000 older Australians received permanent residential aged care at some time during the financial year 2021/2022.[1] (1)

Participant recruitment

To be eligible for participation, panel participants will need to be self- or other-identified aged care experts through current employment within the aged care sector and have high-level knowledge and experience in aged care. Expertise may include clinical practice, management, service delivery, policy, research and education or combinations of the above. From previous work, this study will target five major groupings of expert representatives, including peak advocacy bodies, primary health network representatives, members of state and federal government, aged care researchers and residential aged care executives and governing board members spanning multiple organisation types (non-for-profit, for-profit, non-governmental [NGO], and government-operated).[8] (8) Purposive sampling will be used to ensure that rural, remote, and metropolitan settings across Australia are represented on the panel. Purposive sampling will also allow the identification and selection of information-rich participants from the expert groupings with knowledge and experience working

within the Australian aged care sector~~.[18]~~. (18) Participant selection will be purposive, and aged care industry experts will be recognised as possessing specific knowledge of the health service needs of older persons in Australia and capable of reflecting critically on the link between senior manager leadership skills and quality residential aged care.

A list of eligible participants will be generated using a combination of investigators' aged care industry experience and a comprehensive desk search. Participants will be emailed an invitation for involvement in *Round 1* and followed up by phone if a response has not been received in two weeks. Participants will provide electronic consent before commencing the questionnaire.

Data collection

Round 1: In reviewing, modifying and validating the RCSM-QF, two rounds of iterative consultation will be undertaken with the Delphi panel via email. In round one, experts will be sent email invitations to participate. Upon clicking the survey link, participants will be redirected to an online platform where they will be asked to confirm their consent to participate and will rate each item and its response scale based on clarity, relevance, and importance using a 4-point CVI scale where 1 = not clear/relevant/important, 2 = somewhat clear/relevant/important, 3 = quite clear/relevant/important, and 4 = highly clear/relevant/important~~.[19]~~. (19) Through open dialogue boxes, experts will also provide suggestions for item wording, domain name, and domain definition revisions and propose additional items for any missing experiential aspects of care. Demographic questions will include gender, year of birth, highest educational qualification, place of work and current professional role. Experts will be given a 2-week window to complete the Round 1 survey, ~~following~~ after which the survey will be closed, and the results will be exported into Microsoft Excel. Reminder emails will be dispatched to participants on days 5 and 12 of the Round 1 questionnaire if they have not taken part.

Round 2: The second round will commence 1 week after the conclusion of Round 1. Experts will receive a second survey invitation via email, asking them to rate the revised items in terms of clarity,

relevance, and importance using the 4-point CVI scale and propose item revisions. A 2-week timeframe will be allotted for experts to complete the Round 2 survey, following which the survey will be closed, and the results will be exported into Microsoft Excel. Reminder emails will be sent to participants on days 5 and 12 of the Round 2 survey if they have not participated.

Data Analysis

Content validity

The current study will incorporate the content validity index (CVI) as a verified approach for evaluating content validity[20]. (20) The CVI index comprises two computed components: the Item-CVI (I-CVI) and the Scale-level-CVI (S-CVI)[20]. (20) To compute the I-CVI, the number of Delphi panel experts assigning a "very relevant" rating to each item is divided by the total number of experts, resulting in values ranging from 0 to 1. An I-CVI surpassing 0.79 deems the item relevant, while values falling between 0.70 and 0.79 indicate the need for item revisions; I-CVI values below 0.70 warrant item elimination[20]. (20) Likewise, the S-CVI is determined based on the count of items within a tool that attain a "very relevant" rating[20]. (20) To measure the S-CVI, the Universal Agreement (UA) among experts (S-CVI/UA) will be used. The S-CVI/UA involves summing all items with an I-CVI of 1 and dividing by the total number of items, with the ab S-CVI/UA of ≥ 0.8 denoting excellent content validity[21]. (21)

Round 1: The demographic and Delphi survey data will be analysed descriptively using Microsoft Excel. Expert responses to the item-level CVI (I-CVI) scales will be binary coded as 0 for "not or somewhat relevant/important/clear" and 1 for "quite or highly relevant/important/clear." An I-CVI score will then be computed for each item, representing the proportion of experts scoring 1 out of the total number of experts in the Round 1 sample[19]. (19) Items meeting a score of ≥0.80 for each of relevance, importance, and clarity (without revision suggestions) will be retained for the final version of the RCSM – QF.20 Items achieving scores of ≥0.80 for each of relevance, importance, and clarity (with revision suggestions), or ≥0.80 for relevance and importance but <0.80 for clarity, will undergo

revision by the research team based on expert feedback and will subsequently be included in the Round 2 survey. Items obtaining scores of <0.80 for each of relevance, importance, and clarity will be removed from the RCSM-QF. The research team will also consider suggestions provided by experts concerning modifications to domain names, domain definitions, and missing items.

Round 2: The Round 2 questionnaire results analysis will adhere to the same methodology as in Round 1. The research team will thoroughly review additional suggestions for item revisions before implementing further RCSM--QF modifications. A scale-level CVI (S-CVI) score will also be calculated by averaging the I-CVI scores for all items included in the final RCSM-QF.~~20~~. (20) Delphi studies are typically carried out in two to three rounds with a deliberately selected panel of experts. (14) In the current study, a third round of consultation will be administered if few items achieve scores of ≥0.80 for relevance, importance, and clarity. In this third round, data collection and analysis processes will replicate those of the previous rounds.

Ethics and Dissemination

The James Cook University Human Research Ethics Committee (HREC) approved this study's ethics on 14 November 2023. The current project has been deemed 'negligible risk' by the HREC, as there is no foreseeable risk of harm or discomfort to the participants other than the inconvenience of completing the questionnaire. A potential risk of this study is difficulties in recruiting the required numbers for this research, which might pose a risk to study completion. If this is the case, alternative recruitment methods will be considered, including broadening networks to include other professional roles and organisations operating within the Australian aged care sector.

Data will be prepared for submission to an appropriate peer-reviewed journal and presentation at relevant academic conferences, including the Australian Association of Gerontology Conference [2024]. In addition to the International Journal of Healthcare Management, where a large body of literature regarding aged care management and quality of care is published, several additional avenues

have been identified to add variety to the audience accessing the project's findings. Given that this research focuses on senior managers in the aged care setting, targeted journals include the Australasian Journal on Ageing, Journal of Ageing and Health and BMC Health Services Research or BMJ Open.

Patient and Public Involvement

This research project was designed without direct patient or public involvement in several key aspects, including determining research priorities, defining research questions, selecting outcome measures and contributing to study design. It is recognised that including patient and public perspectives can significantly enhance the relevance, quality, and applicability of research outcomes, and their absence in this study might have implications for the comprehensiveness and relevance of our findings.

Discussion

Senior managers are central in promoting and protecting quality of care in clinically and administratively complex residential aged care services settings[8]. (8) Yet globally and in Australia, there remain significant gaps in knowledge regarding the specific competencies and skills required of this leadership cohort[8]. (8) This study aims to establish the validity of a novel leadership competency framework, which could provide a practical tool for national regulatory and professional bodies by defining and describing the specific skills, behaviours, knowledge, and experience needed by aspiring and current senior managers. It may also inform the development of quality indicators to inform competency-based performance evaluations of senior managers within their current roles.

Evidence-based leadership competency frameworks provide a standardised and consistent approach to leadership development across multiple health settings[22]. (22) Once validated for acceptability and applicability, the RCSM-QF competencies may assist residential aged-care organisations in establishing a consistent promotion criterion that incorporates demonstrated excellence by senior managers who consistently lead high-quality healthcare operations within their respective

organisations. In doing so it could provide a valuable tool for self-reflection to identify knowledge and skill gaps and guide future training and other career progression opportunities.

The RCSM-QF also offers a set of skills and personal qualities that could inform the development of future courses or qualifications to develop the competencies required by aspiring managers to promote quality of care within their respective organisations and across the broader aged care sector. This focus on quality and continuous improvement may drive organisational excellence for the quality of care, enhance resident health outcomes, and foster a culture of accountability and innovation within Australian residential aged care organisations~~.[23]~~. (23) This work thus not only addresses key gaps in the literature and evidence base regarding senior management competencies but represents an essential and timely first step in responding to Royal Commission recommendations to strengthen leadership in the sector.

As with a majority of studies, the design of the current study is subject to limitations. Firstly, purposive sampling was used to recruit interview participants from three categories of experts (peak bodies, PHNs, and researchers); however, it is possible that not all participants will participate due to scheduling or other issues. It is expected, therefore, that the final sample of experts may introduce an element of bias and not always represent the diverse range of perspectives across multiple professional roles within the Australian aged care sector. For example, suppose a majority of study participants were provider advocates whose primary focus is to support the viability and sustainability of aged care service providers. In that case, experts are potentially less likely to consider the resident experience and personalised healthcare needs. Conversely, consumer advocates play an important role in advocating for the older person and speaking on behalf of that individuals in a way that best represents their interests. With an intense focus on the individualised healthcare needs of older Australians, consumer advocates may have less understanding of the structural elements that adversely influence RAC quality and the leadership competencies required.

While the modified Delphi process is a popular design used for research involving framework validation, some potential limitations within the proposed research are evident[24]. (24) Firstly, the Delphi process is largely based on expert opinions rather than empirical evidence, and while these opinions can be valuable, they may not always align with objective facts or data. (25)[25] This can limit the validity and reliability of the framework validation process, particularly if more empirical evidence is needed to support the experts' judgments. A further potential limitation of the study design is that experts provide their input individually and anonymously[26]. (26) The Delphi process, therefore, lacks direct interaction among experts, which can restrict the opportunity for in-depth discussions, debates, and exchanging ideas[26]. (26) Consequently, the method may not capture the full complexity of the research problem or allow for exploring alternative perspectives[25]. (25) Depending on the findings from this study, future phases of this programme of work may involve qualitative methods to address this limitation. These sessions would involve Australian aged care industry experts with varying opinions and perceptions to allow real-time feedback, in-depth insights and rich qualitative data regarding the applicability of the RCSM-QF implementation within the Australian residential aged care setting.[27]

List of abbreviations

ACLQF – Aged Care Clinical Leadership Quality Framework

ACSA – Aged and Community Services Australia

RCSM – QF – Residential Aged Care Senior Management Quality Framework

HLA – Healthcare Leadership Alliance

IPEC – Interprofessional Education Collaborative

CVI - Content Validity Index

S - CVI – Scale level content Validity Index

I – CVI – Item Content Validity Index

Declarations

Ethics approval

Ethics approval ~~is yet to be received for this study~~was received from the ~~. An ethics application for this study was diligently prepared and submitted to the~~ James Cook University Human Research Ethics Committee on 23~~04~~ November~~August~~ 2023 **[H9265]**. ~~Once approved,~~ A~~a~~ll methods will be carried out in accordance with relevant guidelines and regulations.

Consent for publication.

No participants were recruited or involved in the research process, so no individual consent for publication was required. Informed consent will be obtained from all subjects and/or their legal guardian (s) upon commencement of data collection activities.

Availability of data and materials

Previous datasets used and analysed to form the study protocol are available from the corresponding author upon reasonable request.

Competing Interests Statement

No potential conflict of interest was reported by the authors

Authors' contributions

ND conducted the primary manuscript draft. ND, ST and OA completed subsequent manuscript revisions. All authors read and approved the final manuscript.

Acknowledgements

Nil

Funding

No funding was sourced or utilised in the formation of this study protocol.

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Figure 1. The preliminary Residential Aged Care Senior Manager Quality Framework (RCSM-QF). *Source: Authors own figure*

BMJ Open

Validation of a national leadership framework to promote and protect quality residential aged care: Protocol for a Delphi study

Journal:	*BMJ Open*
Manuscript ID	bmjopen-2023-083107.R2
Article Type:	Protocol
Date Submitted by the Author:	07-May-2024
Complete List of Authors:	Dawes, Nathan; James Cook University Topp, Stephanie; James Cook University; James Cook University Adegboye , Oyelola; James Cook University,
Primary Subject Heading:	Public health
Secondary Subject Heading:	Health services research
Keywords:	Aged, HEALTH SERVICES ADMINISTRATION & MANAGEMENT, Quality in health care < HEALTH SERVICES ADMINISTRATION & MANAGEMENT, Health Services for the Aged

Validation of a national leadership framework to promote and protect quality residential aged care: Protocol for a Delphi study

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Validation of a national leadership framework to promote and protect quality residential aged care: Protocol for a Delphi study

Abstract

Introduction: Australia's aging population is driving an increased demand for residential aged care services, yet concerns about the quality and safety of such care remain. The recent Royal Commission into Aged Care Quality and Safety identified various limitations relating to leadership within these services. While some competency frameworks exist globally, there is a need for sector-specific leadership competencies in the Australian residential aged care setting to promote and protect quality of care.

Methods and Analysis: This study uses the Delphi technique to establish the content validity of a national leadership framework (RCSM-QF) for promoting and protecting the quality of residential aged care in Australia. Participants will be identifiable experts through current employment within, policy development for, or research with the aged care sector. The survey will ask participants to rate the relevance, importance, and clarity of RCSM-QF items and their corresponding descriptions, and seek suggestions for revisions or additional items. Content validity will be assessed using the Content Validity Index (CVI), with items meeting specific criteria retained, revised, or removed.

Discussion: This research addresses the need for a comprehensive leadership competency framework for Australian residential aged care senior managers. It seeks to validate the RCSM-QF framework, which can define and describe the competencies required by senior managers and inform quality indicators for performance evaluations. Such evidence-based frameworks can standardise leadership development and promote consistency in healthcare operations. Additionally, the RCSMQF may guide training and career progression opportunities, fostering a culture of quality and

accountability in the aged care sector. However, the study acknowledges potential limitations, including sampling bias and the reliance on expert opinions in the Delphi process, but aims to mitigate these through focus groups for richer insights in subsequent phases of this work.

Keywords: residential aged care, quality, leadership, senior managers, validation

Strengths

- Purposive sampling will be used as a targeted recruitment method for interviewing participants from peak bodies, primary health networks, and researchers, allowing for diverse expert perspectives within the Australian aged care sector.
- The Delphi method is a popular tool for framework validation in research, allowing for structured input from Auatrliaa aged care experts to refine and validate the preliminary framework.

Limitations

- The Delphi process is based on subjective opinions rather than empirical evidence, potentially affecting the validity and reliability of the framework validation process.
- To address limitations in the Delphi process, future phases of the research may require qualitative methods to allow for real-time feedback and in-depth insights from a wider range of industry experts.
- The anonymous nature of the Delphi process limits in-depth discussions, debates, and the exchange of ideas, potentially restricting the exploration of alternative perspectives regarding the leadership competencies influencing the quality of Australian residential aged care services.

Introduction

Australia's population is ageing, with the proportion of people aged 65 years or over projected to increase from 16% (2018) to 23% in 2066. (1) In line with national ageing trends, the demand for Australian residential aged care services is also increasing, (2) and there have been ongoing concerns about the quality and safety of that care. (3) Indeed, the recent Royal Commission into Aged Care Quality and Safety described a "cruel and harmful" national aged care system comprising services that were "neglectful" and "woefully inadequate". (4) The leadership of these services, including 'ground-level' residential aged care senior management teams, was described as "lacking", and leadership competencies for promoting quality of care were found to be "poorly defined". (4) The lack of any sector-specific professional development or leadership framework to guide the acquisition of these required skills within the Australian residential aged-care setting is a concern. (5)

Existing studies have generated some knowledge regarding leadership requirements, and some competency frameworks exist for aged care services globally, although evidence gaps remain. Seminal work in Australian aged care leadership was conducted by Jeon et al. (2015) in validating a clinical leadership framework, the Aged care *Clinical* Leadership Qualities Framework (ACLQF), for middle (mainly clinical) managers in both community-based and residential aged care services. (6) in 2014, Aged & Community Services Australia (ACSA) developed the Australian Aged Care Leadership Capability Framework. While this framework reflected an important step forward, its inclusion of different leadership levels (e.g. frontline, middle- and senior managers) and multiple service types (residential, acute and community-based) meant it was necessarily general in nature, with limited specificity concerning the multi-faceted and increasingly demanding nature of residential aged care facilities. (7) Furthermore, the ACSA framework describes leadership capabilities (statements of behaviours, skills, and knowledge that affect an outcome) but not competencies (a measure or index of how well a person performs that capability) and does not explicitly link these to promoting quality care.

With an absence of competency-based frameworks specific to the Australian residential aged care setting, there is a clear need to describe and model the competencies required by leadership teams to provide effective leadership within this increasingly complex environment. A recent programme of work identified the knowledge, skills and abilities senior managers need to promote and protect quality residential aged care. (8) Competencies were to form a preliminary leadership competency framework, The Residential Aged Care Senior Manager Quality Framework (RCSM-QF). (8) The RCSM-QF comprises two key elements: personal qualities and leadership skills. Leadership skills are broken down into five domains, including i) culture and environment, ii) stakeholder relations, iii) clinical and aged care expertise, iv) asset management, and iv) disaster and change management (Figure 1.) This original and empirically grounded competency framework synthesised Australian senior managers' skills and personal qualities to promote and protect the quality of care in the residential aged care setting. Its formation drew on the experiences and strategic insights of senior managers themselves and Australian industry experts. (8) These empirically derived leadership competencies were compared with those extracted from pre-existing senior-management-relevant leadership frameworks, including the HLA Competency Directory, (9) IPEC Core Competencies, (10) and Master Health Service Management Competency Framework (11) to form a novel (though untested) competency framework.

Although the formation of the preliminary RCSM-QF is a step in addressing the evidence gap relating to sector-specific leadership competencies and professional development requirements for senior managers to promote quality of care, it has not been applied or tested in the Australian residential aged care setting nor the competencies empirically validated. Therefore, the accuracy and usefulness of the RCSM-QF for describing and helping assess the leadership competencies required by senior managers across Australia are not yet confirmed.

[INSERT FIRGURE 1. HERE]

This study aims to establish the content validity of the preliminary RCSM-QF within the Australian residential aged care context using a modified Delphi process. Once this validity is established, this programme of work could provide a practical tool to form a professional development infrastructure for current and aspiring Australian residential aged care senior managers who continue to operate within this increasingly complex environment.

Methods and Analysis

Aim: To establish the content validity of a national leadership framework to promote and protect the quality of residential aged care in Australia

Objectives:

1. Rate the relevance, importance and clarity of RCSM-QF items [competencies OR personal qualities] and their descriptions using a 4-point Content Validity Index (CVI) scale
2. Suggest RCSM-QF item and description scale revisions.
3. Suggest RCSM-QF domain name and domain definition revisions and
4. Suggest additional items [competencies or personal qualities] for the RCSM-QF

Study Design

Content validity refers to the extent to which a measurement tool, such as a test or assessment, accurately represents the specific content it is intended to measure. (12) Content validity is an important aspect of validating a leadership competency. (13) In the context of the current research, the method will assess whether the RCSM-QF accurately and comprehensively represents the key competencies required for effective leadership within the Australian residential aged care setting. We will evaluate content validity using the Delphi survey technique and a Content Validity Index (CVI). The Delphi technique is a widely used method for achieving consensus. (14) It uses a series of questionnaires to collect information from participants in several iterations, or 'rounds'. The starting point is an open questionnaire or a pre-derived list of questions, (15) Following each round, each

participant receives an individualised report of their responses to the group response. (15) In subsequent rounds, participants can reassess their responses in light of this information. (14) The process allows for a controlled debate and for consensus to build without necessitating group interaction, an advantage in the context of geographically dispersed and time-constrained experts. It also limits the time and resources required to plan and facilitate group interactions and the bias from dominant individuals within this consensus-building phase. (14)

Study setting

The current study will be completed with representatives who contribute to or advise regarding the delivery of aged care services in Australia. Examples of different 'levels' of aged care include: i) entry-level community-based care at home; ii) higher levels of care at home (Home Care Packages Program), and when living at home is not an option; iii) residential aged care. (16) This study focuses specifically on the role of senior managers in providing quality care in the Australian residential aged care setting. Residential aged care provides health care services and accommodation for older people who are unable to continue living independently in their own homes. (17)

In Australia, residential aged care providers can span a range of different sectors, including religious, charitable, community, for-profit and government organisations. (17) Typical services may include accommodation, personal care assistance, clinical care and a range of social care activities, including recreational activities and emotional support. Approximately 250,000 older Australians received permanent residential aged care at some time during the financial year 2021/2022. (1)

Participant recruitment

To be eligible for participation, panel participants will need to be self- or other-identified aged care experts through current employment within the aged care sector and have high-level knowledge and experience in aged care. Expertise may include clinical practice, management, service delivery, policy, research and education or combinations of the above. From previous work, this study will

target five major groupings of expert representatives, including peak advocacy bodies, primary health network representatives, members of state and federal government, aged care researchers and residential aged care executives and governing board members spanning multiple organisation types (non-for-profit, for-profit, non-governmental [NGO], and government-operated). (8) Purposive sampling will be used to ensure that rural, remote, and metropolitan settings across Australia are represented on the panel. Purposive sampling will also allow the identification and selection of information-rich participants from the expert groupings with knowledge and experience working within the Australian aged care sector. (18) Participant selection will be purposive, and aged care industry experts will be recognised as possessing specific knowledge of the health service needs of older persons in Australia and capable of reflecting critically on the link between senior manager leadership skills and quality residential aged care.

A list of eligible participants will be generated using a combination of investigators' aged care industry experience and a comprehensive desk search. Participants will be emailed an invitation for involvement in *Round 1* and followed up by phone if a response has not been received in two weeks. Participants will provide electronic consent before commencing the questionnaire.

Data collection

Round 1: In reviewing, modifying and validating the RCSM-QF, two rounds of iterative consultation will be undertaken with the Delphi panel via email. In round one, experts will be sent email invitations to participate. Upon clicking the survey link, participants will be redirected to an online platform where they will be asked to confirm their consent to participate and will rate each item and its response scale based on clarity, relevance, and importance using a 4-point CVI scale where 1 = not clear/relevant/important, 2 = somewhat clear/relevant/important, 3 = quite clear/relevant/important, and 4 = highly clear/relevant/important. (19) Through open dialogue boxes, experts will also provide suggestions for item wording, domain name, and domain definition revisions and propose additional items for any missing experiential aspects of care. Demographic questions will include gender, year of

birth, highest educational qualification, place of work and current professional role. Experts will be given a 2-week window to complete the Round 1 survey, after which the survey will be closed, and the results will be exported into Microsoft Excel. Reminder emails will be dispatched to participants on days 5 and 12 of the Round 1 questionnaire if they have not taken part.

Round 2: The second round will commence 1 week after the conclusion of Round 1. Experts will receive a second survey invitation via email, asking them to rate the revised items in terms of clarity, relevance, and importance using the 4-point CVI scale and propose item revisions. A 2-week timeframe will be allotted for experts to complete the Round 2 survey, following which the survey will be closed, and the results will be exported into Microsoft Excel. Reminder emails will be sent to participants on days 5 and 12 of the Round 2 survey if they have not participated.

Data Analysis

Content validity

The current study will incorporate the content validity index (CVI) as a verified approach for evaluating content validity. (20) The CVI index comprises two computed components: the Item-CVI (I-CVI) and the Scale-level-CVI (S-CVI). (20) To compute the I-CVI, the number of Delphi panel experts assigning a "very relevant" rating to each item is divided by the total number of experts, resulting in values ranging from 0 to 1. An I-CVI surpassing 0.79 deems the item relevant, while values falling between 0.70 and 0.79 indicate the need for item revisions; I-CVI values below 0.70 warrant item elimination. (20) Likewise, the S-CVI is determined based on the count of items within a tool that attain a "very relevant" rating. (20) To measure the S-CVI, the Universal Agreement (UA) among experts (S-CVI/UA) will be used. The S-CVI/UA involves summing all items with an I-CVI of 1 and dividing by the total number of items, with the ab S-CVI/UA of ≥ 0.8 denoting excellent content validity. (21)

Round 1: The demographic and Delphi survey data will be analysed descriptively using Microsoft Excel. Expert responses to the item-level CVI (I-CVI) scales will be binary coded as 0 for "not or somewhat relevant/important/clear" and 1 for "quite or highly relevant/important/clear." An I-CVI score will then be computed for each item, representing the proportion of experts scoring 1 out of the total number of experts in the Round 1 sample. (19) Items meeting a score of ≥0.80 for each of relevance, importance, and clarity (without revision suggestions) will be retained for the final version of the RCSM – QF.20 Items achieving scores of ≥0.80 for each of relevance, importance, and clarity (with revision suggestions), or ≥0.80 for relevance and importance but <0.80 for clarity, will undergo revision by the research team based on expert feedback and will subsequently be included in the Round 2 survey. Items obtaining scores of <0.80 for each of relevance, importance, and clarity will be removed from the RCSM-QF. The research team will also consider suggestions provided by experts concerning modifications to domain names, domain definitions, and missing items.

Round 2: The Round 2 questionnaire results analysis will adhere to the same methodology as in Round 1. The research team will thoroughly review additional suggestions for item revisions before implementing further RCSM-QF modifications. A scale-level CVI (S-CVI) score will also be calculated by averaging the I-CVI scores for all items included in the final RCSM-QF. (20) Delphi studies are typically carried out in two to three rounds with a deliberately selected panel of experts. (14) In the current study, a third round of consultation will be administered if few items achieve scores of ≥0.80 for relevance, importance, and clarity. In this third round, data collection and analysis processes will replicate those of the previous rounds.

Ethics and Dissemination

The James Cook University Human Research Ethics Committee (HREC) approved this study's ethics on 14 November 2023. The current project has been deemed ‘negligible risk’ by the HREC, as there is no foreseeable risk of harm or discomfort to the participants other than the inconvenience of completing the questionnaire. A potential risk of this study is difficulties in recruiting the required

numbers for this research, which might pose a risk to study completion. If this is the case, alternative recruitment methods will be considered, including broadening networks to include other professional roles and organisations operating within the Australian aged care sector.

Data will be prepared for submission to an appropriate peer-reviewed journal and presentation at relevant academic conferences, including the Australian Association of Gerontology Conference [2024]. In addition to the International Journal of Healthcare Management, where a large body of literature regarding aged care management and quality of care is published, several additional avenues have been identified to add variety to the audience accessing the project's findings. Given that this research focuses on senior managers in the aged care setting, targeted journals include the Australasian Journal on Ageing, Journal of Ageing and Health and BMC Health Services Research or BMJ Open.

Patient and Public Involvement

This research project was designed without direct patient or public involvement in several key aspects, including determining research priorities, defining research questions, selecting outcome measures and contributing to study design. It is recognised that including patient and public perspectives can significantly enhance the relevance, quality, and applicability of research outcomes, and their absence in this study might have implications for the comprehensiveness and relevance of our findings.

Discussion

Senior managers are central in promoting and protecting quality of care in clinically and administratively complex residential aged care services settings. (8) Yet globally and in Australia, there remain significant gaps in knowledge regarding the specific competencies and skills required of this leadership cohort. (8) This study aims to establish the validity of a novel leadership competency framework, which could provide a practical tool for national regulatory and professional bodies by defining and describing the specific skills, behaviours, knowledge, and experience needed by aspiring

and current senior managers. It may also inform the development of quality indicators to inform competency-based performance evaluations of senior managers within their current roles.

Evidence-based leadership competency frameworks provide a standardised and consistent approach to leadership development across multiple health settings. (22) Once validated for acceptability and applicability, the RCSM-QF competencies may assist residential aged-care organisations in establishing a consistent promotion criterion that incorporates demonstrated excellence by senior managers who consistently lead high-quality healthcare operations within their respective organisations. In doing so it could provide a valuable tool for self-reflection to identify knowledge and skill gaps and guide future training and other career progression opportunities.

The RCSM-QF also offers a set of skills and personal qualities that could inform the development of future courses or qualifications to develop the competencies required by aspiring managers to promote quality of care within their respective organisations and across the broader aged care sector. This focus on quality and continuous improvement may drive organisational excellence for the quality of care, enhance resident health outcomes, and foster a culture of accountability and innovation within Australian residential aged care organisations. (23) This work thus not only addresses key gaps in the literature and evidence base regarding senior management competencies but represents an essential and timely first step in responding to Royal Commission recommendations to strengthen leadership in the sector.

As with a majority of studies, the design of the current study is subject to limitations. Firstly, purposive sampling was used to recruit interview participants from three categories of experts (peak bodies, PHNs, and researchers); however, it is possible that not all participants will participate due to scheduling or other issues. It is expected, therefore, that the final sample of experts may introduce an element of bias and not always represent the diverse range of perspectives across multiple professional roles within the Australian aged care sector. For example, suppose a majority of study participants were provider advocates whose primary focus is to support the viability and sustainability

of aged care service providers. In that case, experts are potentially less likely to consider the resident experience and personalised healthcare needs. Conversely, consumer advocates play an important role in advocating for the older person and speaking on behalf of that individuals in a way that best represents their interests. With an intense focus on the individualised healthcare needs of older Australians, consumer advocates may have less understanding of the structural elements that adversely influence RAC quality and the leadership competencies required.

While the modified Delphi process is a popular design used for research involving framework validation, some potential limitations within the proposed research are evident. (24) Firstly, the Delphi process is largely based on expert opinions rather than empirical evidence, and while these opinions can be valuable, they may not always align with objective facts or data. (25) This can limit the validity and reliability of the framework validation process, particularly if more empirical evidence is needed to support the experts' judgments. A further potential limitation of the study design is that experts provide their input individually and anonymously. (26) The Delphi process, therefore, lacks direct interaction among experts, which can restrict the opportunity for in-depth discussions, debates, and exchanging ideas. (26) Consequently, the method may not capture the full complexity of the research problem or allow for exploring alternative perspectives. (25) Depending on the findings from this study, future phases of this programme of work may involve qualitative methods to address this limitation. These sessions would involve Australian aged care industry experts with varying opinions and perceptions to allow real-time feedback, in-depth insights and rich qualitative data regarding the applicability of the RCSM-QF implementation within the Australian residential aged care setting.[27]

List of abbreviations

ACLQF – Aged Care Clinical Leadership Quality Framework

ACSA – Aged and Community Services Australia

RCSM – QF – Residential Aged Care Senior Management Quality Framework

HLA – Healthcare Leadership Alliance

IPEC – Interprofessional Education Collaborative

CVI - Content Validity Index

S - CVI – Scale level content Validity Index

I – CVI – Item Content Validity Index

Declarations

Ethics approval

Ethics approval was received from the James Cook University Human Research Ethics Committee on 23 November 2023 [**H9265]**. All methods will be carried out in accordance with relevant guidelines and regulations.

Consent for publication.

No participants were recruited or involved in the research process, so no individual consent for publication was required. Informed consent will be obtained from all subjects and/or their legal guardian (s) upon commencement of data collection activities.

Availability of data and materials

Previous datasets used and analysed to form the study protocol are available from the corresponding author upon reasonable request.

Competing Interests Statement

No potential conflict of interest was reported by the authors

Authors' contributions

ND conducted the primary manuscript draft. ND, ST and OA completed subsequent manuscript revisions. All authors read and approved the final manuscript.

Acknowledgements

Nil

Funding

No funding was sourced or utilised in the formation of this study protocol.

Figure Legend

Figure 1. The preliminary Residential Aged Care Senior Manager Quality Framework (RCSM-QF).

Source: Authors own figure

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Figure 1. The preliminary Residential Aged Care Senior Manager Quality Framework (RCSM-QF). *Source: Authors own figure*

BMJ Open

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Journal:	*BMJ Open*
Manuscript ID	bmjopen-2023-083107.R3
Article Type:	Protocol
Date Submitted by the Author:	14-May-2024
Complete List of Authors:	Dawes, Nathan; James Cook University Topp, Stephanie; James Cook University; James Cook University Adegboye , Oyelola; James Cook University,
Primary Subject Heading:	Public health
Secondary Subject Heading:	Health services research
Keywords:	Aged, HEALTH SERVICES ADMINISTRATION & MANAGEMENT, Quality in health care < HEALTH SERVICES ADMINISTRATION & MANAGEMENT, Health Services for the Aged

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- The anonymous nature of the Delphi process limits in-depth discussions, debates, and the exchange of ideas, potentially restricting the exploration of alternative perspectives regarding the leadership competencies influencing the quality of Australian residential aged care services.

Introduction

Australia's population is ageing, with the proportion of people aged 65 years or over projected to increase from 16% (2018) to 23% in 2066. (1) In line with national ageing trends, the demand for Australian residential aged care services is also increasing, (2) and there have been ongoing concerns about the quality and safety of that care. (3) Indeed, the recent Royal Commission into Aged Care Quality and Safety described a "cruel and harmful" national aged care system comprising services that were "neglectful" and "woefully inadequate". (4) The leadership of these services, including 'ground-level' residential aged care senior management teams, was described as "lacking", and leadership competencies for promoting quality of care were found to be "poorly defined". (4) The lack of any sector-specific professional development or leadership framework to guide the acquisition of these required skills within the Australian residential aged-care setting is a concern. (5)

Existing studies have generated some knowledge regarding leadership requirements, and some competency frameworks exist for aged care services globally, although evidence gaps remain. Seminal work in Australian aged care leadership was conducted by Jeon et al. (2015) in validating a clinical leadership framework, the Aged care *Clinical* Leadership Qualities Framework (ACLQF), for middle (mainly clinical) managers in both community-based and residential aged care services. (6) in 2014, Aged & Community Services Australia (ACSA) developed the Australian Aged Care Leadership Capability Framework. While this framework reflected an important step forward, its inclusion of different leadership levels (e.g. frontline, middle- and senior managers) and multiple service types (residential, acute and community-based) meant it was necessarily general in nature, with limited specificity concerning the multi-faceted and increasingly demanding nature of residential aged care facilities. (7) Furthermore, the ACSA framework describes leadership capabilities (statements of behaviours, skills, and knowledge that affect an outcome) but not competencies (a measure or index of how well a person performs that capability) and does not explicitly link these to promoting quality care.

With an absence of competency-based frameworks specific to the Australian residential aged care setting, there is a clear need to describe and model the competencies required by leadership teams to provide effective leadership within this increasingly complex environment. A recent programme of work identified the knowledge, skills and abilities senior managers need to promote and protect quality residential aged care. (8) Competencies were to form a preliminary leadership competency framework, The Residential Aged Care Senior Manager Quality Framework (RCSM-QF). (8) The RCSM-QF comprises two key elements: personal qualities and leadership skills. Leadership skills are broken down into five domains, including i) culture and environment, ii) stakeholder relations, iii) clinical and aged care expertise, iv) asset management, and iv) disaster and change management (Figure 1.) This original and empirically grounded competency framework synthesised Australian senior managers' skills and personal qualities to promote and protect the quality of care in the residential aged care setting. Its formation drew on the experiences and strategic insights of senior managers themselves and Australian industry experts. (8) These empirically derived leadership competencies were compared with those extracted from pre-existing senior-management-relevant leadership frameworks, including the HLA Competency Directory, (9) IPEC Core Competencies, (10) and Master Health Service Management Competency Framework (11) to form a novel (though untested) competency framework.

Although the formation of the preliminary RCSM-QF is a step in addressing the evidence gap relating to sector-specific leadership competencies and professional development requirements for senior managers to promote quality of care, it has not been applied or tested in the Australian residential aged care setting nor the competencies empirically validated. Therefore, the accuracy and usefulness of the RCSM-QF for describing and helping assess the leadership competencies required by senior managers across Australia are not yet confirmed.

[INSERT FIRGURE 1. HERE]

This study aims to establish the content validity of the preliminary RCSM-QF within the Australian residential aged care context using a modified Delphi process. Once this validity is established, this programme of work could provide a practical tool to form a professional development infrastructure for current and aspiring Australian residential aged care senior managers who continue to operate within this increasingly complex environment.

Methods and Analysis

Aim: To establish the content validity of a national leadership framework to promote and protect the quality of residential aged care in Australia

Objectives:

1. Rate the relevance, importance and clarity of RCSM-QF items [competencies OR personal qualities] and their descriptions using a 4-point Content Validity Index (CVI) scale
2. Suggest RCSM-QF item and description scale revisions.
3. Suggest RCSM-QF domain name and domain definition revisions and
4. Suggest additional items [competencies or personal qualities] for the RCSM-QF

Study Design

Content validity refers to the extent to which a measurement tool, such as a test or assessment, accurately represents the specific content it is intended to measure. (12) Content validity is an important aspect of validating a leadership competency. (13) In the context of the current research, the method will assess whether the RCSM-QF accurately and comprehensively represents the key competencies required for effective leadership within the Australian residential aged care setting. We will evaluate content validity using the Delphi survey technique and a Content Validity Index (CVI). The Delphi technique is a widely used method for achieving consensus. (14) It uses a series of questionnaires to collect information from participants in several iterations, or 'rounds'. The starting point is an open questionnaire or a pre-derived list of questions, (15) Following each round, each

participant receives an individualised report of their responses to the group response. (15) In subsequent rounds, participants can reassess their responses in light of this information. (14) The process allows for a controlled debate and for consensus to build without necessitating group interaction, an advantage in the context of geographically dispersed and time-constrained experts. It also limits the time and resources required to plan and facilitate group interactions and the bias from dominant individuals within this consensus-building phase. (14)

Study setting

The current study will be completed with representatives who contribute to or advise regarding the delivery of aged care services in Australia. Examples of different 'levels' of aged care include: i) entry-level community-based care at home; ii) higher levels of care at home (Home Care Packages Program), and when living at home is not an option; iii) residential aged care. (16) This study focuses specifically on the role of senior managers in providing quality care in the Australian residential aged care setting. Residential aged care provides health care services and accommodation for older people who are unable to continue living independently in their own homes. (17)

In Australia, residential aged care providers can span a range of different sectors, including religious, charitable, community, for-profit and government organisations. (17) Typical services may include accommodation, personal care assistance, clinical care and a range of social care activities, including recreational activities and emotional support. Approximately 250,000 older Australians received permanent residential aged care at some time during the financial year 2021/2022. (1)

Participant recruitment

To be eligible for participation, panel participants will need to be self- or other-identified aged care experts through current employment within the aged care sector and have high-level knowledge and experience in aged care. Expertise may include clinical practice, management, service delivery, policy, research and education or combinations of the above. From previous work, this study will target five major groupings of expert representatives, including peak advocacy bodies, primary health

network representatives, members of state and federal government, aged care researchers and residential aged care executives and governing board members spanning multiple organisation types (non-for-profit, for-profit, non-governmental [NGO], and government-operated). (8) Purposive sampling will be used to ensure that rural, remote, and metropolitan settings across Australia are represented on the panel. Purposive sampling will also allow the identification and selection of information-rich participants from the expert groupings with knowledge and experience working within the Australian aged care sector. (18) Participant selection will be purposive, and aged care industry experts will be recognised as possessing specific knowledge of the health service needs of older persons in Australia and capable of reflecting critically on the link between senior manager leadership skills and quality residential aged care.

A list of eligible participants will be generated using a combination of investigators' aged care industry experience and a comprehensive desk search. Participants will be emailed an invitation for involvement in *Round 1* and followed up by phone if a response has not been received in two weeks. Participants will provide electronic consent before commencing the questionnaire.

Data collection

Round 1: In reviewing, modifying and validating the RCSM-QF, two rounds of iterative consultation will be undertaken with the Delphi panel via email. In round one, experts will be sent email invitations to participate. Upon clicking the survey link, participants will be redirected to an online platform where they will be asked to confirm their consent to participate and will rate each item and its response scale based on clarity, relevance, and importance using a 4-point CVI scale where 1 = not clear/relevant/important, 2 = somewhat clear/relevant/important, 3 = quite clear/relevant/important, and 4 = highly clear/relevant/important. (19) Through open dialogue boxes, experts will also provide suggestions for item wording, domain name, and domain definition revisions and propose additional items for any missing experiential aspects of care. Demographic questions will include gender, year of birth, highest educational qualification, place of work and current professional role. Experts will be

given a 2-week window to complete the Round 1 survey, after which the survey will be closed, and the results will be exported into Microsoft Excel. Reminder emails will be dispatched to participants on days 5 and 12 of the Round 1 questionnaire if they have not taken part.

Round 2: The second round will commence 1 week after the conclusion of Round 1. Experts will receive a second survey invitation via email, asking them to rate the revised items in terms of clarity, relevance, and importance using the 4-point CVI scale and propose item revisions. A 2-week timeframe will be allotted for experts to complete the Round 2 survey, following which the survey will be closed, and the results will be exported into Microsoft Excel. Reminder emails will be sent to participants on days 5 and 12 of the Round 2 survey if they have not participated.

Data Analysis

Content validity

The current study will incorporate the content validity index (CVI) as a verified approach for evaluating content validity. (20) The CVI index comprises two computed components: the Item-CVI (I-CVI) and the Scale-level-CVI (S-CVI). (20) To compute the I-CVI, the number of Delphi panel experts assigning a "very relevant" rating to each item is divided by the total number of experts, resulting in values ranging from 0 to 1. An I-CVI surpassing 0.79 deems the item relevant, while values falling between 0.70 and 0.79 indicate the need for item revisions; I-CVI values below 0.70 warrant item elimination. (20) Likewise, the S-CVI is determined based on the count of items within a tool that attain a "very relevant" rating. (20) To measure the S-CVI, the Universal Agreement (UA) among experts (S-CVI/UA) will be used. The S-CVI/UA involves summing all items with an I-CVI of 1 and dividing by the total number of items, with the ab S-CVI/UA of ≥ 0.8 denoting excellent content validity. (21)

Round 1: The demographic and Delphi survey data will be analysed descriptively using Microsoft Excel. Expert responses to the item-level CVI (I-CVI) scales will be binary coded as 0 for "not or

somewhat relevant/important/clear" and 1 for "quite or highly relevant/important/clear." An I-CVI score will then be computed for each item, representing the proportion of experts scoring 1 out of the total number of experts in the Round 1 sample. (19) Items meeting a score of ≥0.80 for each of relevance, importance, and clarity (without revision suggestions) will be retained for the final version of the RCSM – QF. Items achieving scores of ≥0.80 for each of relevance, importance, and clarity (with revision suggestions), or ≥0.80 for relevance and importance but <0.80 for clarity, will undergo revision by the research team based on expert feedback and will subsequently be included in the Round 2 survey. Items obtaining scores of <0.80 for each of relevance, importance, and clarity will be removed from the RCSM-QF. The research team will also consider suggestions provided by experts concerning modifications to domain names, domain definitions, and missing items.

Round 2: The Round 2 questionnaire results analysis will adhere to the same methodology as in Round 1. The research team will thoroughly review additional suggestions for item revisions before implementing further RCSM-QF modifications. A scale-level CVI (S-CVI) score will also be calculated by averaging the I-CVI scores for all items included in the final RCSM-QF. (20) Delphi studies are typically carried out in two to three rounds with a deliberately selected panel of experts. (14) In the current study, a third round of consultation will be administered if few items achieve scores of ≥0.80 for relevance, importance, and clarity. In this third round, data collection and analysis processes will replicate those of the previous rounds.

Ethics and Dissemination

The James Cook University Human Research Ethics Committee (HREC) approved this study's ethics on 14 November 2023. The current project has been deemed 'negligible risk' by the HREC, as there is no foreseeable risk of harm or discomfort to the participants other than the inconvenience of completing the questionnaire. A potential risk of this study is difficulties in recruiting the required numbers for this research, which might pose a risk to study completion. If this is the case, alternative

recruitment methods will be considered, including broadening networks to include other professional roles and organisations operating within the Australian aged care sector.

Data will be prepared for submission to an appropriate peer-reviewed journal and presentation at relevant academic conferences, including the Australian Association of Gerontology Conference [2024]. In addition to the International Journal of Healthcare Management, where a large body of literature regarding aged care management and quality of care is published, several additional avenues have been identified to add variety to the audience accessing the project's findings. Given that this research focuses on senior managers in the aged care setting, targeted journals include the Australasian Journal on Ageing, Journal of Ageing and Health and BMC Health Services Research or BMJ Open.

Patient and Public Involvement

This research project was designed without direct patient or public involvement in several key aspects, including determining research priorities, defining research questions, selecting outcome measures and contributing to study design. It is recognised that including patient and public perspectives can significantly enhance the relevance, quality, and applicability of research outcomes, and their absence in this study might have implications for the comprehensiveness and relevance of our findings.

Discussion

Senior managers are central in promoting and protecting quality of care in clinically and administratively complex residential aged care services settings. (8) Yet globally and in Australia, there remain significant gaps in knowledge regarding the specific competencies and skills required of this leadership cohort. (8) This study aims to establish the validity of a novel leadership competency framework, which could provide a practical tool for national regulatory and professional bodies by defining and describing the specific skills, behaviours, knowledge, and experience needed by aspiring

and current senior managers. It may also inform the development of quality indicators to inform competency-based performance evaluations of senior managers within their current roles.

Evidence-based leadership competency frameworks provide a standardised and consistent approach to leadership development across multiple health settings. (22) Once validated for acceptability and applicability, the RCSM-QF competencies may assist residential aged-care organisations in establishing a consistent promotion criterion that incorporates demonstrated excellence by senior managers who consistently lead high-quality healthcare operations within their respective organisations. In doing so it could provide a valuable tool for self-reflection to identify knowledge and skill gaps and guide future training and other career progression opportunities.

The RCSM-QF also offers a set of skills and personal qualities that could inform the development of future courses or qualifications to develop the competencies required by aspiring managers to promote quality of care within their respective organisations and across the broader aged care sector. This focus on quality and continuous improvement may drive organisational excellence for the quality of care, enhance resident health outcomes, and foster a culture of accountability and innovation within Australian residential aged care organisations. (23) This work thus not only addresses key gaps in the literature and evidence base regarding senior management competencies but represents an essential and timely first step in responding to Royal Commission recommendations to strengthen leadership in the sector.

As with a majority of studies, the design of the current study is subject to limitations. Firstly, purposive sampling was used to recruit interview participants from three categories of experts (peak bodies, PHNs, and researchers); however, it is possible that not all participants will participate due to scheduling or other issues. It is expected, therefore, that the final sample of experts may introduce an element of bias and not always represent the diverse range of perspectives across multiple professional roles within the Australian aged care sector. For example, suppose a majority of study participants were provider advocates whose primary focus is to support the viability and sustainability

of aged care service providers. In that case, experts are potentially less likely to consider the resident experience and personalised healthcare needs. Conversely, consumer advocates play an important role in advocating for the older person and speaking on behalf of that individuals in a way that best represents their interests. With an intense focus on the individualised healthcare needs of older Australians, consumer advocates may have less understanding of the structural elements that adversely influence RAC quality and the leadership competencies required.

While the modified Delphi process is a popular design used for research involving framework validation, some potential limitations within the proposed research are evident. (24) Firstly, the Delphi process is largely based on expert opinions rather than empirical evidence, and while these opinions can be valuable, they may not always align with objective facts or data. (25) This can limit the validity and reliability of the framework validation process, particularly if more empirical evidence is needed to support the experts' judgments. A further potential limitation of the study design is that experts provide their input individually and anonymously. (26) The Delphi process, therefore, lacks direct interaction among experts, which can restrict the opportunity for in-depth discussions, debates, and exchanging ideas. (26) Consequently, the method may not capture the full complexity of the research problem or allow for exploring alternative perspectives. (25) Depending on the findings from this study, future phases of this programme of work may involve qualitative methods to address this limitation. These sessions would involve Australian aged care industry experts with varying opinions and perceptions to allow real-time feedback, in-depth insights and rich qualitative data regarding the applicability of the RCSM-QF implementation within the Australian residential aged care setting. (27)

List of abbreviations

ACLQF – Aged Care Clinical Leadership Quality Framework

ACSA – Aged and Community Services Australia

RCSM – QF – Residential Aged Care Senior Management Quality Framework

HLA – Healthcare Leadership Alliance

IPEC – Interprofessional Education Collaborative

CVI - Content Validity Index

S - CVI – Scale level content Validity Index

I – CVI – Item Content Validity Index

Declarations

Ethics approval

Ethics approval was received from the James Cook University Human Research Ethics Committee on 23 November 2023 [**H9265]**. All methods will be carried out in accordance with relevant guidelines and regulations.

Consent for publication.

No participants were recruited or involved in the research process, so no individual consent for publication was required. Informed consent will be obtained from all subjects and/or their legal guardian (s) upon commencement of data collection activities.

Availability of data and materials

Previous datasets used and analysed to form the study protocol are available from the corresponding author upon reasonable request.

Competing Interests Statement

No potential conflict of interest was reported by the authors

Authors' contributions

ND conducted the primary manuscript draft. ND, ST and OA completed subsequent manuscript revisions. All authors read and approved the final manuscript.

Acknowledgements

Nil

Funding

No funding was sourced or utilised in the formation of this study protocol.

Figure Legend

Figure 1. The preliminary Residential Aged Care Senior Manager Quality Framework (RCSM-QF).

Source: Authors own figure

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Figure 1. The preliminary Residential Aged Care Senior Manager Quality Framework (RCSM-QF). *Source: Authors own figure*

ACCORD
Accurate Consensus Reporting Document

Item No.	Section	Checklist Item (*help text*)	Page No.
T1	**Title**	Identify the article as reporting a consensus exercise and state the consensus methods used in the title. *For example, Delphi or nominal group technique.*	1
I1	**Introduction**	Explain why a consensus exercise was chosen over other approaches.	3,5,
I2		State the aim of the consensus exercise, including its intended audience and geographical scope (national, regional, global).	6,7
I3		If the consensus exercise is an update of an existing document, state why an update is needed and provide the citation for the original document.	n/a
M1	**Methods** Registration	If the study or study protocol was prospectively registered, state the registration platform and provide a link. If the exercise was not registered, this should be stated. *Recommended to include the date of registration.*	n/a
M2	Selection of SC and/or panellists	Describe the role(s) and areas of expertise or experience of those directing the consensus exercise. *For example, whether the project was led by a chair, co-chairs or a steering committee, and, if so, how they were chosen. List their names if appropriate, and whether there were any subgroups for individual steps in the process.*	15
M3		Explain the criteria for panellist inclusion and the rationale for panellist numbers. State who was responsible for panellist selection.	8,9
M4		Describe the recruitment process (how panellists were invited to participate). *Include communication/advertisement method(s) and locations, numbers of invitations sent, and whether there was centralised oversight of invitations or if panellists were asked/allowed to suggest other members of the panel.*	9,10
M5		Describe the role of any members of the public, patients or carers in the different steps of the study.	n/a
M6	Preparatory research	Describe how information was obtained prior to generating items or other materials used during the consensus exercise. *This might include a literature review, interviews, surveys, or another process.*	4,5
M7		Describe any systematic literature search in detail, including the search strategy and dates of search or the citation if published already. *Provide the details suggested by the reporting guideline PRISMA and the related PRISMA-Search extension.*	n/a
M8		Describe how any existing scientific evidence was summarised and if this evidence was provided to the panellists.	4,5
M9	Assessing consensus	Describe the methods used and steps taken to gather panellist input and reach consensus (for example, Delphi, RAND-UCLA, nominal group technique). *If modifications were made to the method in its original form, provide a detailed explanation of how the method was adjusted and why this was necessary for the purpose of your consensus-based study.*	7,8
M10		Describe how each question or statement was presented and the response options. State whether panellists were able to or required to explain their responses, and whether they could propose new items. *Where possible, present the questionnaire or list of statements as supplementary material.*	n/a
M11		State the objective of each consensus step. *A step could be a consensus meeting, a discussion or interview session, or a Delphi round.*	n/a
M12		State the definition of consensus (for example, number, percentage, or categorical rating, such as 'agree' or 'strongly agree') and explain the rationale for that definition.	n/a
M13		State whether items that met the prespecified definition of consensus were included in any subsequent voting rounds.	n/a
M14		For each step, describe how responses were collected, and whether responses were collected in a group setting or individually.	n/a

M15		Describe how responses were processed and/or synthesised. *Include qualitative analyses of free-text responses (for example, thematic, content or cluster analysis) and/or quantitative analytical methods, if used.*	n/a
M16		Describe any piloting of the study materials and/or survey instruments. *Include how many individuals piloted the study materials, the rationale for the selection of those individuals, any changes made as a result and whether their responses were used in the calculation of the final consensus. If no pilot was conducted, this should be stated.*	.n/a
M17		If applicable, describe how feedback was provided to panellists at the end of each consensus step or meeting. *State whether feedback was quantitative (for example, approval rates per topic/item) and/or qualitative (for example, comments, or lists of approved items), and whether it was anonymised.*	n/a
M18		State whether anonymity was planned in the study design. Explain where and to whom it was applied and what methods were used to guarantee anonymity.	n/a
M19		State if the steering committee was involved in the decisions made by the consensus panel. *For example, whether the steering committee or those managing consensus also had voting rights.*	n/a
M20	Participation	Describe any incentives used to encourage responses or participation in the consensus process. *For example, were invitations to participate reiterated, or were participants reimbursed for their time.*	n/a
M21		Describe any adaptations to make the surveys/meetings more accessible. *For example, the languages in which the surveys/meetings were conducted and whether translations or plain language summaries were available.*	n/a
R1	Results	State when the consensus exercise was conducted. List the date of initiation and the time taken to complete each consensus step, analysis, and any extensions or delays in the analysis.	n/a
R2		Explain any deviations from the study protocol, and why these were necessary. *For example, addition of panel members during the exercise, number of consensus steps, stopping criteria; report the step(s) in which this occurred.*	n/a
R3		For each step, report quantitative (number of panellists, response rate) and qualitative (relevant socio-demographics) data to describe the participating panellists.	n/a
R4		Report the final outcome of the consensus process as qualitative (for example, aggregated themes from comments) and/or quantitative (for example, summary statistics, score means, medians and/or ranges) data.	n/a
R5		List any items or topics that were modified or removed during the consensus process. Include why and when in the process they were modified or removed.	n/a
D1	Discussion	Discuss the methodological strengths and limitations of the consensus exercise. *Include factors that may have impacted the decisions (for example, response rates, representativeness of the panel, potential for feedback during consensus to bias responses, potential impact of any non-anonymised interactions).*	n/a
D2		Discuss whether the recommendations are consistent with any pre-existing literature and, if not propose reasons why this process may have arrived at alternative conclusions.	n/a
O1	Other information	List any endorsing organisations involved and their role.	n/a
O2		State any potential conflicts of interests, including among those directing the consensus study and panellists. Describe how conflicts of interest were managed.	15
O3		State any funding received and the role of the funder. *Specify, for example, any funder involvement in the study concept/design, participation in the steering committee, conducting the consensus process, funding of any medical writing support. This could be disclosed in the methods or in the relevant transparency section of the manuscript. Where a funder did not play a role in the process or influence the decisions reached, this should be specified.*	n/a

From: PLoS Med 21(1): e1004326. https://doi.org/10.1371/journal.pmed.1004326 For more information see: https://www.ismpp.org/accord