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Quality of life measures for residents of aged care facilities: A literature review

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Abstract

With increases in life expectancy and increasing numbers of older people utilising residential aged care, there is a widely felt need to improve the quality of long term care for older people. One facet of quality of care being strongly advocated is the consumer perspective, in particular, the attainment of an optimum quality of life. Yet, despite the proliferation of quality of life measures, those with utility in the residential aged care setting are quite limited.

This paper explores issues of quality of life measurement with particular emphasis on the availability and appropriateness of tools for use in the residential aged care setting.

Residents of aged care facilities tend to be significantly frailer than the general population and are living in a distinctly different environment. The majority of quality of life measures available either do not measure issues relevant to residents of aged care facilities, such as control and autonomy, or they measure areas that are not appropriate, such as work status. Further, an over-emphasis on health and physical function and a lack of resident-centred measures may produce a more negative picture of quality of life, than actually experienced by this group of people.

This paper argues for the utilisation of a standard quality of life research instrument that is resident-focused and includes the many facets and domains that comprise quality of life for the residential aged care recipient. Data from such a tool may assist policy makers in their decision-making, if used on a national basis.

Introduction

Healthy ageing was a primary theme identified by the National Strategy for an Ageing Australia as part of the work undertaken in Australia for the Year of the Older Persons [1]. Declining mortality rates and increased life expectancy have led to an extended period of life, which is spent in 'old age'. In 1999, 12.2% (2.3 million) of the population were aged 65 years and over; this is projected to rise to 18.0% (4.0 million) by 2021 [2]. Further, among all older people, it is the group aged 85 years and over that is increasing at the fastest rate. It is estimated that the number of people over 85 years will increase by an average of 30,032 a year from 2026 to 2041 [1]. Rapid increases in the numbers of very old people will increase the numbers of older people with support needs.

As the need for residential care proliferates in Australia, the need to ensure adequate standards and quality care in these settings is increasing. There is a widely felt need to improve the quality of long-term care for older people. This is a challenge for most societies in the developed world as the costs for nursing home care increase [3]. Although there may be an occasional focus on the scandals that occur, of much greater concern is the standard of both quality of care and quality of life of residents living in aged care facilities.

In addition to an expected increase in demand arising from the nation's ageing population, it is anticipated that claims for accountability from consumers, their families and the Australian taxpayers will increase. Policy-makers are rightly concerned with setting and monitoring standards, yet the challenges faced by residential facilities in achieving acceptable standards and quality of care and quality of life have not been adequately explored [4].

To adequately address quality of life for residents, an understanding of the issues pertaining to quality of life for this population is necessary. This review will explore

issues of quality of life measurement, with particular emphasis on the availability and appropriateness of tools to measure quality of life for residents living in residential aged care facilities.

Defining the concept

It is widely acknowledged that “quality of life” (QoL) is an imprecise concept, which is difficult to define [5, 6, 7, 8, 9, 10, 11, 12, 13]. Whilst there are a plethora of definitions in existence, there is no uniform definition. McDowell and Newell [13] described the term as “intuitively familiar” (p.382), suggesting that everyone believes that they know what it means; while, in reality its meaning differs from person to person. In fact, the only aspect of the definition that appears to be agreed upon in the literature is that there is no universally accepted definition. This disparity has resulted in the development of a considerable number of scales that purport to measure “quality of life”. Consequently, comparisons between studies and consolidation of knowledge have proved problematic.

This embarrassment of riches bewilders clinicians and even investigators. It does not favour in-depth work dedicated to validation, and it militates against understanding and acceptance of these types of measures for clinical research and clinical practice.
[13, p. 492].

Definitions of QoL include both objective and subjective components [5, 6, 7, 8, 9, 10, 13, 15, 16]. Consequently, the expansive range of instruments which purport to measure QoL tend to fall into three broad categories; those which focus on objective indices, such as economic circumstances, housing, and functional status; those which measure purely subjective aspects, such as morale, happiness, and life satisfaction; and those which contain both objective and subjective components, such as the health

related quality of life (HRQL) measures [5, 13]. Health Related Quality of Life measures have proliferated over the last two decades and have been the result of an increasing interest in health outcomes beyond patient survival [7, 13, 17]. This is of particular interest within the aged care context, given the increased life span of populations within developed nations. Such increases have come with a greater risk of disabilities or chronic conditions, thus creating the need to focus on QoL [10].

For frail older adults, the prospect of extended periods of disability, institutionalisation, and shrinking social networks and decision-making capacity in later life have prompted an intense interest in using QoL measures to assess the unintended consequences of long-term care environments. [10, p.201]

However, Frytak [10] suggested that some caution is required regarding the concept of HRQL. She suggested that the focus on health inherent in such definitions narrows and limits the construct.

Quality of Life Measures

Due to both the absence of a cohesive definition and the subjective nature of the concept, the choice of QoL measures tends to reflect the conceptual bias of the researcher [5, 13]. Herein lies a major reason for the large number of measurement tools available – disparate views of the concept means that researchers often have difficulty isolating a tool which reflects their conceptual definition, and thus they may be tempted to develop another. However, it has been suggested that this is a damaging practice, which ultimately weakens research into the concept [13]. Further, by reflecting the bias of the researcher, there is a danger that the results of QoL studies will be skewed. Frytak [10] advocated developing comprehensive, rather than narrow assessments, suggesting that the “gold standard for HRQL measures [should] at least

include physical, psychological, and social health as well as global perceptions of health and well-being” (p.203) and added that subjective perceptions and expectations are important aspects of health status and should thus be captured by QoL measures. McDowell and Newell [13] made a similar recommendation. One of the most comprehensive and holistic definitions developed in recent years is from the World Health Organisation Quality of Life (WHOQOL) Group [14]. This definition is most favoured by the authors because of its holistic nature.

“Quality of life is defined as an individual’s perception of his/ her position in life in the context of the culture and value systems in which he/ she lives, and in relation to his/ her goals, expectations, standards and concerns. It is a broad-ranging concept, incorporating in a complex way, the person’s physical health, psychological state, level of independence, social relationships, personal beliefs and relationship to salient features of the environment.” [14, p.153].

Fletcher, Dickinson and Philp [15] noted that there is “evidence of a poor correlation between professional and patient perceptions of quality of life and psychological status” (p.143). It has often been found that people with significant health problems or functional impairment rate themselves more highly on QoL scales than expected by researchers or care professionals [5, 12, 18, 22]. Carr and Higginson [18] referred to this as the “disability paradox” (p.1358) and it is a phenomenon that further reinforces the need for capturing subjective perceptions of quality of life.

Quality of Life Measurement and Older Adults

Much research has explored QoL and HRQL for older adults and it has been acknowledged that this group has special issues that may or may not be adequately

measured using standard QoL instruments [5, 10, 13, 15]. For this reason, a number of instruments have been developed specifically for this population. One of the major challenges for QoL research with older people is that it is a remarkably heterogeneous population, more so than for younger age groups [16]. Stewart, Sherbourne, and Brod [16] highlighted the fact that within the 65+ age group, people range from those who are healthy and functioning well to those who are frail and in very poor health. Overall, mean scores on health tend to decline with age, while variability increases [16].

Frytak [10] suggested that broader conceptions of QoL are necessary for older people and that the psychosocial domain becomes particularly important, especially in the context of declining physical health. Researchers have found that older people often score more highly than younger adults in psychosocial aspects of well-being, as well as for subjective impressions of QoL, despite poorer physical health [10]. However, it has also been found that expectations of QoL decline with increasing age [10]. As Kane [17, p. 526] stated, “the well are prone to discounting the value of a disabled life, but many people with disabilities seem to cling to their lives all the same.”

Measurement of Quality of Life in Residential Aged Care

Quality of life measures, which have utility in the residential aged care setting, are quite limited. When considering residents, the focus is on the frailest members of the older population, who are presumably in need of care due to the existence of various physical and/or mental limitations. As such, health status would seem to be an important influence on QoL. However, as already discussed, health status and physical functioning in HRQL instruments often have such a strong emphasis that any resident in a nursing home would appear to have very limited QoL, if measured by these instruments. Numerous measures also have an emphasis on a person's ability to carry out work, without offering a comparable alternative that could be applied to the retired and frail nursing home resident.

A number of authors have suggested that QoL, as perceived by residents, is quite divergent, not only from that of researchers, but also from that of care staff and family members [5, 6, 9, 10, 15, 17, 19, 20]. This relates to both self-ratings on a particular measure, and also in the nomination of important influences on the attainment of an optimum QoL. Consequently, there is some debate in the QoL literature over whether proxy reports should be utilised. Frytak [10] and Stewart et al. [16] advocated against this practice, stating that only in the most extreme cases should it be employed, given the highly subjective nature of QoL. In an Australasian study of aged care facility residents, Byrne and MacLean [9] found that when nurses assisted residents with their responses to a QoL questionnaire, the QoL ratings tended to be higher than when residents responded independently, but when other staff or family members assisted residents, their QoL ratings tended to be lower than the resident-only group. Thus, measures should be as resident-centred as possible, and self-report tools should be preferred over observational tools except in cases of significant cognitive or communication impairments [5]. However, given that it has been estimated that 20% of low care residents and 68% of high care residents have moderate to severe cognitive impairment [21], this presents a substantial challenge to researchers.

In relation to ascertaining significant influences on QoL for residents of aged care facilities, there has been a tendency for researchers to “miss the point” by not reviewing QoL from the perspective of the residents themselves [6, 10, 12, 19, 20, 22]. Living within residential care settings is qualitatively different to living within the general community and because of this, there are a number of factors, which significantly impact on QoL, but which tend to be taken for granted in everyday life. Group living is by nature more regulated and regimented than independent living, and in addition, residents are by nature more functionally impaired than the general population, creating significant levels of dependence on care staff [8, 9, 12, 19, 20, 23].

Over the last decade, researchers have increasingly identified such aspects as autonomy, choice, control, privacy and dignity as being of importance to maintaining an optimum QoL for residents of aged care facilities. Much of this has arisen out of research into the perceptions of the residents themselves. In a qualitative study, based on grounded theory, Byrne and MacLean [9] suggested six factors, which were identified by residents as important influences on QoL. These were being treated with dignity, anxiety, quality of care and comfort, choice, the physical environment; and social needs.

Similar results were found in another qualitative study by Ball et al. [6], which identified 14 domains of QoL for residents of aged care facilities – psychological well-being, independence and autonomy, social relationships and interactions, meaningful activities, care from the facility, comfort, cognitive function/ memory, sleep, food, being connected to the outside community, physical function, religion/ spirituality, physical environment, and safety and security. Of these, Ball et al. stated that independence and autonomy were particularly important, even if only exercised in small ways.

Kane [20] made a similar point, suggesting that it was the institution's inability to individualise care that had significant negative impacts on quality of life. Kane and Kane [17, 24] proposed 11 domains of quality of life, not dissimilar to those suggested by Ball and colleagues [6]. These were a sense of safety, security and order, physical comfort, enjoyment, meaningful activity, relationships, functional competence, dignity, privacy, individuality, autonomy/choice and spiritual well being.

A large survey of stakeholders' opinions into nursing home quality found the three most important quality of life factors identified by the residents, were "dignity, self-determination and participation, and accommodation of resident needs" [25, p.124]. Coons et al [23] also suggested similar factors and two further factors suggested by

Guse and Masesar [12] are related to the positive impact of enjoying nature and being helpful to others. However, while the above factors have all been identified in recent years, no sound measure of such factors currently exists.

Practical Considerations: Choosing a QoL Measure for Use in Residential Care

Whilst the importance of choosing QoL instruments that are appropriate for this population has been discussed, there are also practical issues requiring consideration. Table 1 provides a summary of issues that should be considered when choosing QoL instruments for use in a residential aged care setting.

Psychometric properties

Validity and reliability are obvious considerations when choosing a suitable measure. McDowell and Newell [13] suggested that QoL scales as a group are amongst the most rigorously developed instruments in the field of health measurement, describing them as being generally of a high standard. However, this is weakened by the lack of a cohesive QoL definition [5, 13]. Moreover, it is beholden to the researcher to ensure that sufficient data has been gathered on older age groups. Stewart et al. [16] advocated for the continual gathering of psychometric information about QoL measures used with older people, suggesting that all researchers incorporate at least some methodological analysis (e.g. validity testing) within their studies of older people.

“If every study or clinical trial included one basic methodological question ... considerable advances could be made in our knowledge of the adequacy of measures in these special populations.” [16, p. 828]

Use of single or multiple measures

Given the wide range of QoL and related measures available, it is possible for the researcher to choose between using a single QoL tool that assesses the domains of interest, or to use a number of instruments to collect data on each of the domains separately [10]. The former approach has the advantage of relative brevity, but it may not be possible to find a single measure that adequately assesses all of the domains of interest. The latter has the advantage of being more in depth and targeted, but at the expense of being more unwieldy [10]. Further, if QoL research is to be enhanced and consolidated, more research needs to occur in which a small pool of accepted tools are used consistently, so that psychometric properties can be strengthened and the knowledge base expanded by allowing comparison of equivalent information.

Scoring – Index or profile

Scoring systems for QoL measures fall into two broad categories – those which produce a single integrated score, or index, and those which produce a separate score for each domain, or profile. Scores in profiles usually cannot be combined to produce an overall score.

The advantages of index scores are simplicity of comparison, allowing them to be useful in outcome studies and allocation of resources [5, 11, 13]. However, profiles allow for more multidimensional analysis of QoL [5, 13]. Some researchers have argued that, since QoL is a multi-dimensional and subjective concept, it cannot be properly represented by a single score [5, 13]. Well-regarded instruments have been developed using both scoring systems.

Floor and ceiling effects

Floor and ceiling effects refer to the upper and lower limits of measurement within a tool. If a tool measures lower levels of functioning poorly, it is considered to have a floor effect, whereas a ceiling effect refers to a tool's insensitivity to higher levels of functioning. When measuring QoL in older people, particularly those in residential care, floor effects are of concern, given the reduced levels of health and functioning present in the population [10]. Short, generalised measures are also subject to floor and ceiling effects, because of the trade off of brevity over detail [10, 16].

Respondent burden – Length of scales

It is generally considered that when assessing older people, particularly those who are frail or ill, that use of shorter measures is preferable [5, 16]. However, this is not a black and white decision. Some studies found that older participants enjoyed interviews, sometimes wishing to prolong them [16]. Further, Stewart et al [16] suggested that in the case of long, self-administered instruments, participants could be encouraged to fill them out a little at a time, rather than all at once.

A related consideration is the older person's tolerance for redundancy. Longer, more responsive scales often have multiple items relating to the same domain and some research indicates that older people have reduced tolerance for this [16].

Response choices & scaling

There is some argument within the gerontological literature that use of dichotomous responses is the best approach for older people [16, 26, 27]. However, as with all other aspects of QoL research, this is not universally agreed upon, with some findings suggesting that dichotomous responses were actually problematic for older people [16]. Standard 5 point Likert-scales appear to be as acceptable for older people as for

younger populations [16], although one study reported on by Stewart et al. [16] found that 10 response choices yielded the best quality data from older people.

Formatting and design

When formatting questionnaires for residents of aged care facilities, the degree of impairment and lack of formal education of the current older generation needs to be addressed.

Review Of Specific Quality Of Life Instruments

A comprehensive search of the MEDLINE, CINAHL, PsycINFO and HAPI (Health and Psychosocial Instruments) databases was conducted, using the key word search terms *quality of life and ageing*, *quality of life and residential care*, and *quality of life and nursing homes*. The search was limited to English language articles; it yielded over 500 results after duplicates were removed. Articles considered most relevant to the literature review were accessed and additional literature contained in reference lists were also followed up. Review articles and book chapters were appraised in the first instance [5, 7, 10, 11, 13,15]. From these, potential measures could be viewed and considered on the grounds of appropriateness to the population and soundness of psychometric properties. Finally, a short-list of measures was undertaken, with particular attention given to development and implementation (Table 2). Those instruments which were reviewed but considered inappropriate for the targeted population are listed in Table 4.

The measurement tools chosen as being most appropriate for the residential aged care setting are listed in Table 2 in order of preference and include the (Australian) WHOQOL 100 [28, 29], the WHOQOL BREF [28, 30], the Integration Inventory (II) [31], the Sickness Impact Profile for Nursing Homes (SIP-NH) [32], the (Revised)

Philadelphia Geriatric Center Morale Scale (PGCMS) [26, 27], the Assessment of Quality of Life (AQoL) [33] and the Perceived Wellbeing (PWB) Scale [34]. The various domains or dimensions measured by each tool reviewed are listed along with perceived advantages and disadvantages of each. All tools are considered potentially viable for use within residential care, though none is ideal. However, selection and use of a universally agreed upon QoL measure within residential aged care would be a useful step in the process of assessing quality within residential care. Regular QoL assessment could help residential care workers to identify resident concerns and priorities, and availability of national data could assist policy makers in their decision-making.

Table 3 outlines the psychometric properties of the surveys chosen as part of this review. Validity, the extent to which a measurement truly reflects the phenomenon under scrutiny, and reliability, the extent to which a measurement yields the same answer each time it is used, are crucial to ensuring rigour in the use of a standardised questionnaire. For the seven instruments discussed here, as for all QoL measures reviewed, the degree of psychometric analysis varied somewhat. In terms of reliability analysis, all seven (WHOQOL 100, WHQOL BREF, II, SIP-NH, PGCMS, AQoL, PWB) achieved good levels of internal consistency, but only four (WHOQOL BREF, SIP-NH, PGCMS, PWB) provided test-retest reliability results. Further, inter-rater reliability data was only available for one of the instruments (SIP-NH). However, as they all allow for interviewer administration, inter-rater reliability data is not irrelevant. Given the ongoing difficulties with conceptual definitions of QoL, validity data is more difficult to obtain for these types of measures. Criterion validity is especially difficult, as it is usually obtained through comparisons with Gold Standard measures, and there *is* no agreed upon QoL Gold Standard. Discriminative validity – the ability to discriminate between different populations (e.g. “sick” and “well”) - is somewhat easier to quantify, although it must be remembered that multiple factors influence QoL. Only four of the instruments

reviewed (WHOQOL 100, WHOQOL BREF, SIP-NH, PWB) reported on discriminative validity. Overall, the level of psychometric analysis for these instruments was acceptable, although more data would be preferable. As suggested by Stewart et al. [16], researchers in the field of QoL should endeavour to focus on a small number of accepted measures and continue collecting psychometric data. In this way, the development of Gold Standards becomes more likely.

Conclusions

Measurement of QoL has been receiving increased attention over the past two decades. Parallel to this has been a growing interest in issues related to aged care, and consumer perspectives on health care. At the beginning of a new century, the scene is set to fully explore quality of life issues for residents of aged care facilities, in order to inform the establishment of comprehensive quality of care strategies. As the “Baby Boomer” generation moves into old age and begins placing increased strains on the aged care system, it will be imperative for strategies to address quality of care and quality of life to already be in place. To date, no national data exists for QoL of residents of aged care facilities. However, development of a national database, using standardized assessment would greatly assist in the development of comprehensive standards of care within these facilities.

Choosing an appropriate QoL instrument is a complex process and there are many factors that need to be considered. The construct of QoL does not yet have a consistently agreed upon definition and therefore few gold standard measurement instruments, particularly in specialised fields such as residential aged care. This paper has outlined some of the issues of choice and reviewed a number of QoL measures that have potential application in the residential aged care setting. To consolidate the knowledge base, rigorous research into QoL issues for residents of aged care facilities will need to continue, with particular emphasis on the use and applicability of

measurement tools. Further, while adequate tools currently exist, there are still potential limitations in their use within residential care. Thus it may be of benefit to investigate the viability of developing a comprehensive and holistic QoL measure specifically for residents of aged care facilities.

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Table 1: Elements Necessary for Measuring QoL in Residential Aged Care Facilities

- Instruments need to be resident-centred, reflecting the subjective nature of QoL and answered by the resident.
- Health is a significant but not primary factor, therefore while HRQL instruments are important, health and disability should not be dominant features.
- Instruments should reflect concepts of autonomy and control.
- Ideally some reflection should be incorporated into the instrument
- Psychometric testing should have occurred with the older population
- Choice between using single or multiple instruments.
- Choice between using an index or a profile
- Ensure that floor and ceiling effects are minimal.
- Consider length of instrument and response categories
- Format to ensure readability for respondents with visual impairment and/ or limited education
- Utilise recognition memory over recall where possible

Table 2: properties of Selected QoL Measures

Tool	Author/s	Year	Format	Target Population	QoL Domains	Advantages	Disadvantages
Australian WHOQOL 100	WHOQOL Group	1994 1998	100 items: Self administered or interview 5 pt Likert Scales, Separate facet & domain scores calculated to produce a profile (not an index) 32 optional extra importance items available	General population – modified for use in Australia.	Based on multidimensional definition of QoL 6 domains physical psychological independence social relationships environment spiritual + overall QoL and General Health	Uses Australian language Response scales developed from Australian samples Rigorous development – part of world-wide tool development involving extensive sampling Comprehensive Sound psychometric properties Continually under review through international project Incorporates spiritual and environmental dimensions – not often included in QoL Tools Soft-ware available for computing scores	Very long

Tool	Author/s	Year	Format	Target Population	QoL Domains	Advantages	Disadvantages
Australian WHOQOL BREF	WHOQOL Group	1995 1998	26 items Self administered or interview 5 pt Likert Scales, Produces a profile Positive scoring – high score = high QoL	General (Australian) population	4 domains: Physical health (7 items) Psychological health (6 items, inc spirituality) Social relationships (3 items) Environment (8 items) + Overall QoL & General Health (2 items) Obtained from factor analysis of original 6 WHOQOL domains	Uses Australian language Items have applicability to the residential care population Response scales developed from Australian samples Rigorous development Sound psychometric properties Correlates well with WHOQOL 100 Australian norms available Brief but still maintains a multi-dimensional approach Incorporates spiritual and environmental dimensions – not often included in QoL Tools Soft-ware available for computing scores International data includes subjects up to 97 years of age Continually under review through international project	Profile less detailed than for WHOQOL 100 Social factor has only 3 items, therefore somewhat unstable (acknowledged by authors)

Tool	Author/s	Year	Format	Target Population	QoL Domains	Advantages	Disadvantages
The Integration Inventory (II)	Ruffing-Rahal	1991	37 items 6 pt Likert Scale responses Interview or self-administered Index – total score obtained	Older adults (65+) Originally tested on a community sample	Wellbeing – subjective & spiritual Based on Jungian psychology – “wellbeing as integration” 3 factors: Activity Affirmation Synthesis	Relatively brief Developed specifically for the older population Items appropriate for residential care Incorporates spiritual wellbeing and some reflection Good internal consistency Modest validity scores	Has not been extensively used, other than by original author Psychometric testing does not appear to have progressed further than original exploration in 1991.

Tool	Author/s	Year	Format	Target Population	QoL Domains	Advantages	Disadvantages
Sickness Impact Profile for Nursing Homes (SIP-NH)	Gerety Cornell Mulrow Tuley Hazuda Lichenstein Aguilar Kadri Rosenberg	1994	66 items 11 pt scales Self-report Index &/ or profile	Residents of nursing homes (modification of original Sickness Impact Profile)	Health Related QoL – assess level of function & self-perceived QoL Physical dimension Body Care & movement Ambulation Mobility Psychosocial dimension Emotional behaviour Communication Social interaction Alertness behaviour Independent categories Eating Recreation & past-times Sleep & rest	Developed specifically for Nursing Home population Correlates well with SIP – itself well regarded - & retains its psychometric properties	Quite long 11pt scale potentially confusing Has not yet been widely used – no data on replication Limited emphasis on subjective wellbeing Does not incorporate spiritual wellbeing

Tool	Author/s	Year	Format	Target Population	QoL Domains	Advantages	Disadvantages
Philadelphia Geriatric Center (PGC) Morale Scale	Lawton	1972 1975	17 questions Dichotomous responses Overall score + 3 subscores Interview or self-administered	Older people – tested on 70-90 year age group Community & residential care	Morale/ subjective wellbeing – 3 factors: Agitation (6 items) Attitude to own ageing (5 items) Lonely dissatisfaction (6 items)	Brief Simple - dichotomous specifically designed to minimise confusion Psychometrically sound – tested on large samples Developed specifically for older people Well regarded Widely used Items appropriate for residential care	Measures subjective wellbeing only Some disagreement over the use of two items (related to social functioning)
Assessment Of Quality Of Life Instrument (AQoL)	Hawthorne, Richardson, Osborne, McNeil (Centre for Health Program Evaluation)	1997	15 items: 4 pt responses Index score or utility measure	General population; ill population – Developed in Australia	5 factors: (3 items each) Illness Independent living Social Relationships Physical Senses Psychological wellbeing	Australian Brief Multi-dimensional Thorough psychometric analysis in development – sound psychometric properties	Emphasis on physical health – would produce low scores for residents of ACFs 3 items per factor is the minimum for a stable factor structure No consideration of spiritual wellbeing

Tool	Author/s	Year	Format	Target Population	QoL Domains	Advantages	Disadvantages
Perceived Wellbeing Scale (PWB)	Reker Wong	198-	14 items 7 pt Likert Scale responses Overall score + subscale scores calculated	Older people – developed with both community & residential care	Perceived wellbeing Psychological (6 items) Physical (8 items) General (total score)	Short Developed for older people Sound psychometric properties Numerous validity studies (though with small numbers)	Does not incorporate spiritual domain

Table 3: Validity & Reliability Assessments of Selected Measures of QoL

	Validity	Reliability		
		Internal Consistency	Test-Retest	Inter-rater
WHOQOL 100	Discriminative (DBG) ^{1,2}	Domains: $\alpha=0.65-0.93$ (N=4802) ^{1,2}		
WHOQOL BREF	Construct (SAH) ¹ Discriminative (DBG) ^{1,3}	Domains: $\alpha= 0.65-0.86$ (N=518) ¹ $\alpha= 0.68-0.87$ (N=996) ¹ $\alpha=0.66-0.84$ (N=11.053) ¹	Domains: $r=0.57-0.86$ ^{1,3}	
II	Construct (SAH) ⁴	Total score: $\alpha=0.91$ (N=156) ⁴		
SIP-NH	Construct (SAH) ⁵ Discriminative (DBG) ⁵	Total score: $\alpha=0.92$ (N=231) ⁵	Total SIP Score: $r=0.75-0.92$ ⁶	Total SIP Score: $R=0.92$ ⁶
PGCMS	Criterion (PR) ⁷ (SAH) ⁸	Subscales: $\alpha=0.81-0.85$ (N=828) ⁸	Subscales: $r=0.75-0.91$ ⁷	
AQoL	Construct (SAH) ⁹	Total score: $\alpha=0.80$ (N=255) ⁹		
PWB	Construct (SAH) ¹⁰ Discriminative (DPG) ¹⁰	Total score: Armor's Theta =0.91 (N=238) ¹⁰	Total score: $R=0.78$ ¹⁰	

WHOQOL 100: World Health Organisation Quality of Life Assessment; **WHOQOL BREF:** World Health Organisation Quality of Life Assessment, Brief Version; **II:** Integration Inventory; **SIP-NH:** Sickness Impact Profile for Nursing Homes; **PGCMS:** Philadelphia Geriatric Center Morale Scale; **AQoL:** Assessment of Quality of Life; **PWB:** Perceived Wellbeing Scale **DBG** = distinguishes between clinical groups; **SAH** = moderate – good correlations with other self-assessed measures of health status &/or wellbeing; **PR** = correlates with provider ratings

Sources: 1, Murphy et al. [28]; 2, WHOQOL Group [29]; 3,WHOQOL Group [30]; 4, Ruffing-Rahal [31]; 5, Gerety et al. [32]; 6, deBrun et al. [34]; 7, Lawton [26]; 8, Lawton [27]; 9, Hawthorne et al. [33]; Reker & Wong [34]

Table 4: QoL Instruments Considered Less Suitable For Use In Residential Aged Care

Tool	Format	Reasons for exclusion
McMaster Health Index Questionnaire (MHIQ)	59 items self report	Not suitable for the residential care population –some items not relevant. Confusing format.
Nottingham Health Profile	38 items, self-report	Items not appropriate to residential care population Some problems with psychometric properties.
Short-Form-36 Health Survey (SF-36)	36 items, self report	Emphasis on physical health & functioning – many items not suitable for the residential care population
EUROQOL Quality of Life Scale	5 items + visual analogue scale	Insufficient Validity not fully established
Self-Evaluation of Life Function (SELF) Scale	54 items, self-report	Needs further testing Scoring system complicated
Physical & Mental Impairment-of-Function Evaluation (PAMIE)	77 items completed by person familiar with the subject – based on observable behaviours	Context somewhat appropriate but very medically based & not resident-centred (depends on assessors point of view)
EORTC Quality of Life Questionnaire (QLC-C30)	30 items self report	Some items not relevant for residential care context.
Quality of life Index (QL Index)	5 items, clinician administered or self administered	Questionable applicability of “activity” item Too simple

COOP Charts for Primary Care Practice	9 items, using iconic scales.	Use of pictures to represent responses useful but the scale itself is too simple.
Functional Status Questionnaire (FSQ)	34 items, self-report	Not applicable to the population. Developed for ambulatory patients, several questions not relevant.
The Duke Health Profile (DUKE)	17 item self-report	Items have potential application (with some modification) but psychometric properties questionable.
Multi-Level Assessment Instrument (MAI)	147 items, interviewer administered	Developed for community population Some problems with psychometric properties
Comprehensive Assessment & Referral Evaluation (CARE)	1,500 items CORE-CARE – 329 items SHORT-CARE – 143 items	Long Not client-centred
Quality of Wellbeing (QWB) Scale	Multiple scales, interviewer administered	Emphasis on physical health – mental health under-represented