Resident satisfaction Indicators in long term care settings in the United States: A scoping review

Xiaoli Li (xli.li@outlook.com)
University of North Texas

Elias Mpofu
University of North Texas

Cheng Yin
University of North Texas

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Abstract

**Background** Due to an increasingly aging population and long-term care available, the number of older adults seeking long-term care facilities is growing. Resident satisfaction indicators have become important measurements of service quality. However, few scoping reviews have investigated the evidence on prevalent resident satisfaction indicators and associated factors. The aim of the study is to summarize the evidence on the types of resident satisfaction indicators utilized in long term care settings in the United States.

**Methods** We searched the PubMed, PsycInfo, AgeLine, MEDLINE, Web of Science for articles that published on resident care satisfaction indicators in long-term care facilities and that published in English language journals from inception to 2021. Following PRISMA guideline, 510 titles and abstracts were screened for relevance.

**Results** A total of 33 articles provided evidence about the determinants of resident satisfaction in different long-term care settings. The analysis yielded to groups of indicators of resident care satisfaction: multi-factors indicators spanning room, staff, food, care services, activities, laundry, choice, finances, overall rating, and those relating to single factors of resident satisfaction, including facility factor, resident factors, service program factor, food service factor, and staff factor.

**Conclusion** Most residential care facilities used multifactor indicators for the benefit of comprehensiveness. Single factor indicators tend to be used for getting a clear picture of what specific changes need to be made in certain service area. Combinations of multiple factors and single factors can obtain both a comprehensive satisfaction and detailed information to guide change.

1. Introduction

Due to an increasingly aging population and long-term care available, the number of older adults seeking long-term care is growing, and such increases also bring a fiercer competition in this industry [1]. In the United States, the costs of long-term care are carried by the federal and State governments. Long-term care providers are invested in meeting their resident’s care needs, and to identify aspects of care where care needs to be improved for resident satisfaction [2]. Resident satisfaction is important to federal and state evaluation of the quality of care provided and for facility licensing purposes. Increasingly, residential care facilities employ person-centered care services, focusing on the value derived by residents rather than providers [3–4], involving residents in decisions that affect their wellbeing [5–6]. Person-centric indicators of resident care may cover the domains such as direct care and nurse aides; choice; autonomy and privacy, physical environment; safety and security; caregivers; meals and food; and general satisfaction. Use of person-centric measures is important to quality care improvement in long-term care [7–9]. Such measures are premised on understanding residents care needs from their perspective [10–11].

The United States government developed a Consumer Assessment of Healthcare Providers and Systems (CAHPS) to measure residents’ experiences with quality of life in nursing homes [10], [12]. Those guidelines have been adopted for implementation by State and local government (see Ohio Nursing Home Resident Satisfaction Survey) [13–14]. Other self-developed satisfaction instruments by health providers covered autonomy and privacy, safety and security, help and assistance, communication, staff, food, environment, activities, quality of care, dignity, trust, administration, entertainment, well-being, social engagement, and overall satisfaction [15–17]. The evidence of adoption use of these indicators is the basis for this scoping review.

Few systematic reviews have reviewed the evidence on resident care satisfaction in long-term care in the United States to inform providers on indicators they could adopt for the quality care improvement. This scoping review aimed to summarize the research evidence on the resident satisfaction indicators in long-term care settings in the United States. Our scoping review was guided by the following question: What are the types of resident care satisfaction utilized in nursing homes and in other long-term care facilities (such as assisted living, residential aged care institution, and continuing care retirement community (CCRC) in the United States? How does type of care provider influence the type of resident satisfaction used? Findings could add to the existing literature regarding resident satisfaction indicators for use consideration by nursing homes and long-term care quality care improvement initiatives.

2. Methods

2.1. Research design

We carried out a scoping review [18] to determine the evidence on factors and resident satisfaction in long-term care facilities. A scoping review aims to clarify key concepts, report on the types of evidence that address practice in the field and identify gaps in the research knowledge base [19–20]. It was appropriate for this study as the study to examine resident satisfaction indicators used by nursing homes and long-term care facilities, mapping their implemented in long-term care settings, and identifying gaps to be addressed by future research. The scoping review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA guidelines) [21].

2.2. Search strategies

We searched PubMed, PsycINFO, Ageline, Medline, and Web of Science databases and hand searched relevant articles, published from inception to 2021. The first listed author performed the preliminary search strategy using the following keywords such as: “factors” OR “assessment” OR “influences” OR “determinants” OR “dimension” OR “impact” OR “effect” OR “measure” OR “measurement” OR “measuring” OR “predictors” OR “instrument” OR “development”), AND (“resident satisfaction” OR “consumer satisfaction” OR “user satisfaction”), AND (“nursing homes” OR “care homes” OR “long term care” OR “residential care” OR “aged care facility” OR “continuing care retirement community” OR “assisting living” OR “elderly care” OR “long-term care facility” OR “long-term care facilities” OR “nursing home care” OR “long-term care institution” OR “nursing home residents” OR “residential aged care” OR “long-term care institution” OR “Retirement village resident” OR “residential continuing care settings”). We manually searched reference lists and other relevant studies to identify additional studies.
2.3. Selection criteria

The inclusion criteria prioritized studies on resident satisfaction measures within long-term care settings. The inclusion criteria were (1) participants: residents in long-term care setting without cognitive impairment were included; (2) measurement: studies that reported resident satisfaction-related factors were included; (3) study design: cross-sectional survey, longitudinal study, cohort study, and case-control study were included; (4) types of setting: studies from long-term care setting were included, these settings could also include nursing home, residential aged care facilities, long-term care facilities, assisted living, continuing care retirement community, and other institutions; (5) others: studies published in American were included. We included all eligible studies with no limitation by year.

2.4. Data Extraction and Quality Control

Based on piloted template [22–23], we designed a data extraction form (online supplement material Table S1), including first author, published details, study design, sample size, settings, measures of satisfaction, associated factors, and results of study.

We adopted an inclusive study selection procedure for the quality control, consistent with the standard scoping review practice to include all relevant studies regardless of methodological rigor [24]. Two authors independently performed the extraction process (XL, YC). Each reviewer then made a list of eligible studies. If the necessary information was missing or unclear, we contacted the corresponding author for further details. The final study selection was by consensus between the first and third listed authors (XL, YC) in consultation with second listed author (EM).

2.5. Data Synthesis

We utilized The Weight of Evidence [25] framework for the analysis for included studies. This framework focuses on three dimensions of generic method, review specific method, and review specific context of the study. We have utilized the WoE approach has been applied to scoping reviews by previous studies [26–27], and has the advantage of rapid consensus building without compromising quality in the synthesis of the evidence for the research question.

2.6. Studies Identified

Figure 1 outlines the study selection process. Our initial search yielded a total of 434 records from the database search, and an additional 76 records from other sources, including reference lists. After the removal of duplicates (n=246), and a first screening for eligibility criteria on titles and abstracts, we excluded 107 records. We then carried out a full-text evaluation of the remaining 139 studies. On consideration of study design clarity, we excluded an additional 71 studies and another 35 studies which were not based on United States long-term care facilities. The final sample comprised 33 studies (see Figure 1).

2.7. Characteristics of included studies

The literature search identified 33 studies that provided evidence about indicators of resident satisfaction. Most of the studies (76%) was published between 2000 to 2020. Our study selected included studies across the full range of long-term care settings, from nursing home (20), to assisted living (6). The indicators of satisfaction varied, which can be classified into two categories: multiple factors associated with resident satisfaction (11) and single factors associated with resident satisfaction (22). Table 1 summaries the study parameters.

<table>
<thead>
<tr>
<th>Country or Regions</th>
<th>Date</th>
<th>Setting</th>
<th>Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA 33</td>
<td>Pre-1990</td>
<td>Nursing-home 20</td>
<td>Multi-factor 11</td>
</tr>
<tr>
<td></td>
<td>2</td>
<td>Assisted-living 6</td>
<td>Single-factor 22</td>
</tr>
<tr>
<td></td>
<td>1990–1999</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2000–2005</td>
<td>CCRC 4</td>
<td>(resident factor 10, service program factor 10, staff factor 9, facility factor 7, food factor 6)</td>
</tr>
<tr>
<td></td>
<td>12</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2006–2010</td>
<td>Long-term-care-facility 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2011–2015</td>
<td>Residential-aged-care 1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2016–2020</td>
<td>6</td>
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</tbody>
</table>

3. Results And Discussion

This scoping review investigated the evidence examining the indicators associated with resident satisfaction of long-term care residents, analyzing data from 33 studies. Our findings highlight the complexity of a large number of indicators associated with resident satisfaction. Eleven studies out of 33 studies investigated multiple factors associated with satisfaction, mostly within the nursing home setting. The 22 studies examined single factor resident satisfaction indicators and mostly in assisted living, residential aged care facilities. Across studies, single factor was associated with resident factors, service program factors, staff factors, facility factors, and food service factors.

3.1. Multi-factor indicators of resident satisfaction

We identified 11 studies that examined the relationship between multi-factor and resident satisfaction in long-term care settings. The studies included cross-sectional, longitudinal and qualitative studies. They utilized a variety of data collection approaches on resident satisfaction: focus group (3 studies), in-depth
interview (6 studies), and quantitative survey measures (17 studies). The main study features, and findings are summarized in Table 2 in order of publication time.
### Table 2
Summary Results of Studies on Resident Satisfaction Multi-factor Indicators

<table>
<thead>
<tr>
<th>First Author / Year</th>
<th>Sample / Study design</th>
<th>Instrument / Measurement</th>
<th>Dimension/Factor</th>
<th>Results/ Conclusion</th>
<th>Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schwirian (1982).</td>
<td>84 residents Survey</td>
<td>Life Satisfaction Survey</td>
<td>4 factors: finances, satisfaction with financial status, perceived health status, and satisfaction with family relationships</td>
<td>Positive relationship between finances knowledges and life satisfaction for men. Women were opposite; the more satisfied with their health, the less life satisfaction; positive relationship between satisfaction with family relationships and life satisfaction.</td>
<td>Nursing home in U.S.</td>
</tr>
<tr>
<td>Kleinsorge et. al. (1991).</td>
<td>2 groups Focus group</td>
<td>Customer Satisfaction Instrument</td>
<td>35 statement related to the 7 dimensions: nurse/aid; administration; empathy; housekeeping; home issues; and food</td>
<td>Six dimensions were identified, including Nurse and aides, administrators, dietary, housekeeping, empathy and staff</td>
<td>Nursing Home in Oregon</td>
</tr>
<tr>
<td>Zinn et. al. (1993).</td>
<td>168 residents Survey</td>
<td>Nursing Home Resident Satisfaction Scale</td>
<td>Including 4 domains the physician and nursing services items, the environment items, global item</td>
<td>This instrument measures satisfaction reliably over time by different interviews.</td>
<td>4 nursing homes in Philadelphia</td>
</tr>
<tr>
<td>Uman et al. (1997).</td>
<td>287 Residents Qualitative study and the quantitative study</td>
<td>Consumer Satisfaction Questions</td>
<td>42 Items: asking consumers what they consider to be the requirements of quality service.</td>
<td>It is possible to obtain satisfaction information from 79% of residents. Residents have a relatively low expectation for quality of life in the NH.</td>
<td>3 nursing home facilities</td>
</tr>
<tr>
<td>Mostyn et al. (2000).</td>
<td>9503 residents Survey</td>
<td>Nursing Home Customer Satisfaction Survey</td>
<td>4 factors: comfort and cleanliness, nursing, food services, and facility care and services</td>
<td>Providing evidence for the construct validity of a multidimensional customer satisfaction scale with measured reliability and criterion-related validity.</td>
<td>159 facilities from 41 states</td>
</tr>
<tr>
<td>Gesell (2001).</td>
<td>825 participants Mail survey and telephone survey</td>
<td>Self-Administered Satisfaction Instrument</td>
<td>45 items including 6 key service dimensions: activities, personnel, dining, apartment, facility, and management.</td>
<td>Development and psychometric properties of a measure of satisfaction designed to meet the unique needs of the assisted-living industry. Residents appear to be significantly less satisfied than their families with assisted-living programs.</td>
<td>12 assisted-living facilities in 8 states</td>
</tr>
<tr>
<td>Sikorska-Simmons (2001).</td>
<td>156 residents Survey 4-point scale</td>
<td>Resident Satisfaction Index (RSI)</td>
<td>27 items including 5 domains: health care, housekeeping service, physical environment, relationships with staff, and social life/activities</td>
<td>The instrument RSI could be used by policy makers and professionals interested in improving the quality of life for the frail elderly in assisted living.</td>
<td>13 assisted living facilities in Maryland</td>
</tr>
<tr>
<td>Duffy et al. (2005).</td>
<td>307 Survey and one-to-one interviews 4-point scale</td>
<td>Life Satisfaction Index</td>
<td>5 factors: Meaning, Contacts, Finances, Health, and Goals</td>
<td>The results of this research suggest that five-dimensional construct is appropriate for both the US and GB samples</td>
<td>15 nursing home in England and 10 in US</td>
</tr>
<tr>
<td>Wheatley et al. (2007).</td>
<td>20,859 A cross-sectional survey</td>
<td>Ohio Nursing Home Resident Satisfaction Survey</td>
<td>48 questions in 9 domains: (1) social service, (2) activities, (3) choice, (4) direct care/nurse assistants, (5) administration, (6) meals and dining, (7) environment, (8) laundry, and (9) overall satisfaction</td>
<td>Overall, residents were least satisfied with the handling of their laundry and meals/dining. Their highest satisfaction ratings were for social service and the environment.</td>
<td>Licensed Ohio nursing facilities</td>
</tr>
<tr>
<td>Cooke et al. (2013).</td>
<td>10677 Survey</td>
<td>Ohio Department of Aging-Resident Satisfaction Survey (ODA-RSS)</td>
<td>42 questions in 10 domains: (1) Activities; (2) Choice; (3) Care and Services; (4) Employee Relations; (5) Employee Responsiveness; (6) Communications; (7) Meals and Dining; (8) Laundry; (9) Facility Environment; (10) Resident Environment</td>
<td>Although the ODA-RSS appears well suited for assessing resident satisfaction in Ohio RCFs, it is less so in Canada. For all 8 measurable instrument domains in the Ohio sample, but only 4 (Care and Services, Employee Relations, Employee Responsiveness, and Communications) in Canada have adequate reliability and validity.</td>
<td>Residential care facility residents in U.S. and assisted-living residents in Canada</td>
</tr>
</tbody>
</table>
Table 2 shows the content of instruments vary. The survey instruments have different names: Life Satisfaction Survey [28], Consumer Satisfaction Instrument [29], Nursing Home Resident Satisfaction Scale [30], Resident Satisfaction Index [31], Life Satisfaction Index [32], and Ohio Nursing Home Resident Satisfaction Survey [13]. The instruments cover almost all aspects of a resident’s experiences, such as room, staff, food, care services, activities, laundry, choice, finances, environment, engagement, administration overall rating, and so on. Across instruments, the number of factors or domains varied from as few as 4 [30], [33–36]. The median number of factors is six. The number of items or questions among the factors ranged from as few as 19 [37] to a many as 60 [38]. The median number of items was 34. Most studies (73%) included nursing home, whereas the rest were other assisted living and residential care facilities.

### 3.2. Single factor associated with resident satisfaction

We identified 22 studies that examined the relationship between single factor and resident satisfaction, including resident factor (8 studies), service program factor (5), staff factor (3), facility factor (3), and food service factor (3). Table 3 depicts the summary results of studies measuring single factors. The majority of the studies were cross-sectional design, and only four studies were quasi-experimental designs. The sample sizes ranged from 3 to 42524.

#### Table 3

<table>
<thead>
<tr>
<th>resident factor (8)</th>
<th>program factor (5)</th>
<th>staff factor (3)</th>
<th>facility factor (3)</th>
<th>Food factor (3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moen et. al. (2001)</td>
<td>Grant et. al. (2015)</td>
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<td>Bangerter et. al. (2017)</td>
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<td>Resnick et. al. (2019)</td>
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<td>Prawitz et. al. (2005)</td>
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</table>

Satisfaction surveys typically make a distinction between the traditional nursing home and assisted living, residential aged care facilities, and continuing care retirement community. Multi-factor indicator studies tend to focus on assessing resident satisfaction and in the traditional nursing home, while single factor indicators tended to be utilized for to identify specific areas for quality-of-care improvement (online supplement material Table S2). Moreover, some resident satisfaction indicators are reported by both multi-and single factor indicators. Our presentation and discussion of findings to follow is with this understanding.

#### 3.2.1. Resident Factors
Eight studies examined the individual factors associated with resident satisfaction. The evidence showed that higher self-reported health [39], more visits from friends and family [40], higher levels of ethnic identity [41], better planning for life arrangement [8], [42], and more choice [43] were positively associated with resident satisfaction in long-term care living. One study reported that higher satisfaction with life for female residents in long-term care [44]. Nursing home residents with low mentally health and ambulation had lower life satisfaction [45].

3.2.2. Service program factor

Five studies examined the service program indicators associated with resident satisfaction. Service programs that were inclusive [46] and person-centered [4] were associated with improved resident satisfaction. For residents with incontinence and residents with pain, their satisfaction indicators were higher with person-centered care [47–48]. In the digital age, telehealth services programs increased the probability that client’s satisfaction with compared to without telehealth services [49].

3.2.3. Staff factor

Three studies provided evidence to suggest that staff satisfaction and staff working environment were reliable indicators of resident satisfaction. For instance, evidence from two studies suggested that higher staff satisfaction has a positive impact on all aspects of resident satisfaction [50]. A one-point increase in overall staff satisfaction was associated with an increase of 17.4 points in the satisfaction of residents and family members ([51]. One study showed that staff workplace environments satisfaction indicators such as safety, inclusiveness and engagement were associated with improved resident satisfaction [52].

3.2.4. Facility factor

Three studies to investigate impact of organizational factor indicators on resident satisfaction. In this regard, nonprofit facilities were associated with higher resident satisfaction [53]. Similarly non-chain affiliation and certified nursing assistant staffing indicators had significant positive effects on total resident satisfaction [54]. Surprisingly, the evidence does not suggest the star rating system of long-term care facility to reliably predict resident satisfaction [14].

3.2.5. Food service factor

A total of three studies examined the food service factor associated with resident satisfaction. Residents expressed a high level of food service satisfaction with food variety, quality, taste, flavor, and menus; in the meantime, residents were less satisfied with their autonomy such as food choice and snack availability [55–56]. In study of Goh et. al [57], the author measured resident satisfaction with food service confirmed that Tangibles (physical facility, equipment, and personnel) and reliability (the personnel’s ability to perform promised service) significantly impacted the residents’ satisfaction levels.

3.3. Implications for Resident Satisfaction and Quality Improvement

The development of a person-centered care in the long-term care system has focused attention on residents’ perspectives of care [5]. This has become a trend among research throughout the last decade. Use of evidence-based indicators of resident satisfaction is important to older adults care services that aim to enhance the quality of life of the residents [58–59]. For a comprehensive picture of resident satisfaction with care, use of multi-factor indicators would assist providers with the evidence to better understand their residents’ overall experience in long-term care facilities. Use of single factor indicators would assist older adults care facilities with a clear picture of what specific changes should be made for care improvement interventions. One might assume also that selecting multiple factors indicators to guide quality care improvement would be advantageous in providing evidence on the possible interaction of indicators for intervention design. Another issue is the standardization of satisfaction instruments [10].

The standardization of resident satisfaction indicators through co-norming in user groups and settings would have the benefits enable comparison of provider quality for targeted quality care improvement efforts [60], with the standardized measures as benchmarks for assessing resident satisfaction across facilities for public accountability and so that consumers can understand satisfaction easily and make the right decisions [61]. The core question of standardization is what are the most important common factors that affect resident satisfaction across different settings? This review might form the basis of future research to address this gap in knowledge.

3.4. Strengths and Limitation of the Review and Suggestions for Further Studies

Although we resulted with very informative findings of resident care satisfaction indicators and their correlates, our review was also with several limitations: First, our search strategy was restricted to the specific key words, which may have missed some studies. We also chose to focus on studies that implemented in the United States for the benefit of clarity of the jurisdiction to which the findings would apply. However, the choice to focus on studies that implemented in the USA limits generalizability of findings to other settings. Moreover, we elected to report on indicators by type and with less attention to specific provider settings to meet our goal to be inclusive and exploratory as befitting on a scoping review. However, there is room for study findings segmentation by specific care setting as the number of published studies increases making that approach viable for future studies.

4. Conclusion

We analyzed and summarized multi-factor and single factor associated with resident satisfaction in long-term care settings. Multi-factor measures would provide a comprehensive view about residents overall experiences ∈ theirlong – termcareliving ∈ g, Sin g ≤ fac → rs ∈ cludetheresnt fac → r, theserviceprogramfac → r, thestaff indicators to best address the specific quality care improvement interventions for resident satisfaction and wellbeing.

Declarations
All authors confirm that all methods were carried out in accordance with relevant guidelines and regulations.

Consent for publication
Not applicable

Competing interests
The authors declare that they have no competing interests.

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Availability of data and materials
The data used and analyzed during the current study are available from
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Authors’ information
Xiaoli Li Rehabilitation and Health Services, University of North Texas, TX, USA

Elias Mpofu Rehabilitation and Health Services, University of North Texas, TX, USA

Health Sciences, University of Sydney, Australia

Educational Psychology, University of Johannesburg, South Africa.

Cheng Yin Rehabilitation and Health Services, University of North Texas, TX, USA

Authors’ contributions
XL conceived the study and drafted the manuscript. EM and CY conducted data analysis. All authors participated in its design and read and approved the final manuscript.

References


Figures
Figure 1. PRISMA flow diagram of study selection process.

See image above for figure legend

Supplementary Files

This is a list of supplementary files associated with this preprint. Click to download.

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