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Recommended Common Data Elements for International Research in Long-Term Care Homes: Exploring the Workforce and Staffing Concepts of Staff Retention and Turnover

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Abstract

The aim of this review is to develop a common data element for the concept of *staff retention and turnover* within the domain of *workforce and staffing*. This domain is one of four core domains identified by the WE-THRIVE (*W*orldwide *E*lements to *H*armonize *R*esearch *i*n Long-Term Care Living *E*nvironments) group in an effort to establish an international, person-centered long-term care research infrastructure. A rapid review identified different measurement methods to assess either turnover or retention at facility level or intention to leave or stay at the individual staff level. The selection of a recommended measurement was guided by the WE-THRIVE group's focus on capacity rather than deficits, the expected availability of internationally comparable data, and the goal to provide a short, ecologically viable measurement. We therefore recommend to measure staff's intention to stay with a single item, at the individual staff level. This element, we argue, is an indicator of staff stability, which is important for reduced organizational cost and improved productivity, positive work environment, and better resident–staff relationships and quality of care.

Background

The WE-THRIVE (*W*orldwide *E*lements to *H*armonize *R*esearch *i*n Long-Term Care Li*v*ing *E*nvironments) group comprises researchers in nursing, medicine, and behavioral and social sciences from 21 geographically and economically diverse countries. Our common purpose focuses on developing an international common data infrastructure for person-centered, residential long-term care (LTC) to enable cross-comparative research (Corazzini et al., 2019, accepted). This effort integrates low- and middle-income countries in the development of international and multicountry data to help governments and policy makers better understand the broader implications of health and illness and learn from one another (World Health Organization [WHO], 2015). To drive this forward, in 2017, the WE-THRIVE group identified four core measurement domains through a structured nominal group process: (a) organizational context, (b) workforce and staffing, (c) person-centered care, and (d) care outcomes (Corazzini et al., 2019, accepted). Each domain contains multiple concepts that are considered to be salient internationally and aligned with global health goals of person-centered care and healthy aging (Beard

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et al., 2016). The domain *workforce and staffing* includes five concepts: (a) *staff skills, attitudes, and knowledge*; (b) *staff collaboration and teamwork*; (c) *training and self-efficacy of staff*; (d) *staff retention and turnover*; and (e) *leadership and supervisory effectiveness.*

This article focuses on exploring the concept *staff retention and turnover* under the domain of *workforce and staffing*, looking at the two pairs retention/intention to stay and turnover/intention to leave. This concept is selected as the primer for this domain, given the breadth of research in this area underscored by global trends of increasing demands for long-term residential care and diminishing human health resources (Beard et al., 2016). In addition, this topic is consistent with the WHO's (2015) Report on Ageing and Health for a move toward a focus on capacity rather than frailty, advancing and supporting well-being and quality of life among older adults, their families, and staff.

Both retention/intention to stay and turnover/intention to leave are concepts that refer to the need of having sufficient (number and skill mix) and competent workers to care for LTC residents. Worldwide, there is a shortage of regulated nurses (including registered and licensed nurses) due to the aging population and associated increase in chronic conditions as well as low entries into nursing education, high turnover, and early exit from the profession (Cowden, Cummings, & Profetto-McGrath, 2011; WHO, 2015). In addition, LTC residents are frailer and more dependent on staff, although care models and financial regulations often have not changed to meet the needs of this new cohort.

Retention/Intention to Stay

While turnover/intention to leave takes a rather deficit-oriented approach to staffing shortage, retention/intention to stay is a more affirmative asset-based approach that highlights organizational strengths. Staff stability allows frontline staff to establish long-term relationships with residents and families, better know their needs and values, provide better quality of care, as well as retain facility-specific knowledge and practice strategies and a stable working environment (Berridge, Tyler, & Miller, 2018; Thomas, Mor, Tyler, & Hyer, 2013). Staffing empowerment and supervisory support are related to higher retention rates (Berridge et al., 2018; Chu, Wodchis, & McGilton, 2014; Halter et al., 2017). Retention is measured at the facility level as the rate of staff that has a minimum stay of a given duration, also known as stability rate (Buchan, Shaffer, & Catton, 2018).

Intent to stay refers to the likelihood of a "continued membership in an organization" (Price & Mueller, 1981). Exploring its positive predictors has the potential to positively reinforce factors that support staff in staying with their current employer (Gregory, Way, LeFort, Barrett, & Parfrey, 2007). LTC research shows that positive work environment, supportive leadership, opportunities for professional development, possibilities to provide good quality care, and establishing meaningful relationships with both residents and staff are positively related to the intention to stay (Cowden et al., 2011; Eltaybani, Noguchi-Watanabe, Igarashi, Saito, & Yamamoto-Mitani, 2018; McGilton, Boscart, Brown, & Bowers, 2014; McGilton, Tourangeau, Kavcic, & Wodchis, 2013; Prentice & Black, 2007).

Cowden and Cummings (2014) have built a theoretical framework for nurses' intention to stay that identifies four influencing factors: manager characteristics (e.g., leadership, support, recognition), as well as organizational (e.g., career development opportunities, perception of staffing adequacy), work (e.g., presence of abuse, autonomy), and nurse characteristics (e.g., age, education, tenure). In addition, they emphasize both affective and cognitive responses to those influencing factors, pointing out that both determine behavior intentions such as intention to stay. While cognitive responses include perceptions of empowerment or quality of care, affective responses comprise job satisfaction or job stress (Cowden & Cummings, 2014). However, the validity of the framework for staff in residential LTC with different educational backgrounds still needs to be tested.

Turnover/Intention to Leave

Staff turnover is a multifactorial problem where individual, job-related, interpersonal, and organizational characteristics determine the decision to leave an LTC facility (Hayes et al., 2012). Based on a recent synthesis review, the most strongly supported antecedents of turnover are work stress, burnout, and job dissatisfaction (Halter et al., 2017). Turnover is costly for health care providers, primarily due to temporary replacements (Duffield, Roche, Homer, Buchan, & Dimitrelis, 2014), but also because it reduces productivity and leads to poorer resident outcomes (Buchan et al., 2018). Residents in residential LTC are especially vulnerable to the consequences of turnover because staff changes lead to loss of knowledge about internal processes as well as about residents' preferences and values. Turnover may lead to discontinuation of relationships and disorientation for cognitively impaired residents, workload surges for remaining staff, and lower quality of care (Castle & Anderson, 2011; Castle, Engberg, & Men, 2007; Cohen-Mansfield, 1997; Lerner, Johantgen, Trinkoff, Storr, & Han, 2014).

Intention to leave is considered a precursor of actual turnover with stronger predictive power than job satisfaction or organizational commitment (Mobley, Horner, & Hollingsworth, 1978; Steel & Ovalle, 1984), although not all employees who intend to leave actually do so. Intention to leave can be defined as the stated probability or willfulness of an employee to leave the current organization in the near future (Tett & Meyer, 1993) and is measured at the individual staff level, whereas turnover is a facility-level measurement referring to the rate

at which employees leave a workplace (Buchan et al., 2018; Castle, 2006). Turnover can be both voluntary (e.g., taking another job at a different organization) and involuntary (e.g., dismissals, retirement, or death); however, turnover measurements typically only include voluntary turnover (Price & Mueller, 1981).

Differentiation of Retention/Intention to Stay and Turnover/Intention to Leave

The measurement of both intention to leave and intention to stay is based on the theory of planned behavior (Ajzen, 1991). The theory states that attitude toward behavior, subjective norms, and perceived behavioral control together shape an individual's behavioral intentions and behaviors. There is increasing evidence that intention to stay and intention to leave measure contrasting aspects with different influencing factors (Mittal, Rosen, & Leana, 2009; Nancarrow, Bradbury, Pit, & Ariss, 2014; Rosen, Stiehl, Mittal, & Leana, 2011). It cannot simply be assumed that eliminating the factors related to the intention to leave will have employees stay because different mechanisms are at play (Howe et al., 2012; McGilton et al., 2014). Similarly, turnover and retention need to be differentiated clearly, as has been shown in a U.S. nursing home study, where retention of licensed nurses was significantly related to a 30-day rehospitalization rate, whereas turnover was not related (Thomas et al., 2013). This study speaks against the frequent interchangeable use of the terms in studies (Lartey, Cummings, & Profetto-McGrath, 2014).

Aim of the Review

Current research uses a variety of measures to assess the concepts of retention/intention to stay and turnover/intention to leave in LTC research, and a paucity of studies include international comparisons. The identification of common data elements (CDEs) would greatly support the co-creation of an international body of knowledge through shared learning. Accordingly, the goal of this review is to explore different measurement methods for turnover/intention to leave and retention/intention to stay employed in residential LTC, including all educational levels of staff involved in direct care, and to recommend one measurement as CDE in international research.

Method

Within the WE-THRIVE consortium, a subgroup of 10 researchers with content expertise from five countries (Canada, United Kingdom, Norway, Spain, and Switzerland) conducted work on the *workforce and staffing* domain. To gain an overview of general measurement options for retention/intention to stay and turnover/intention to leave in residential LTC, a rapid review (Khangura, Konnyu, Cushman, Grimshaw, & Moher, 2012) was undertaken of key organizations' gray literature

reports, published systematic reviews, and more recent research from PubMed and CINAHL. We combined key terms, such as intention(s)/intent/intend with leave/leaving/stay/staying and retention/turnover with OR, and added key terms for the setting, such as nursing home(s), long-term care, or aged care facilities, adding their corresponding MeSH or subject terms where available. Next, selection criteria were defined to review the measurement methods. These criteria were based on the principles put forward in the groundwork of the WE-THRIVE group, such as its efforts to identify CDEs that promote resilience and thriving rather than deficits and that are applicable internationally. Also, we aimed to select easy-to-apply and short measures, so as not to be burdensome on those participating. Finally, a literature review about the measurement of intention to stay in residential LTC over the last 20 years was performed by two research groups independently (United Kingdom and Switzerland), resulting in the same collection of articles as a basis for selecting a CDE.

Results

We found different measurement methods for both staff's turnover/intention to leave and retention/intention to stay at the facility and individual level. An overview with a definition of the concept, possible data sources, and examples of measurements applied in residential LTC can be found in Table 1. For turnover and retention, measurements occurred over different time periods (e.g., turnover over the last 3, 6, or 12 months; retention for 1, 2, or 5 years; Barry, Brannon, & Mor, 2005; Castle, 2006; Donoghue, 2010; Hunt et al., 2012; Thomas et al., 2013) as well as different methods to quantify staff (e.g., number of staff or full-time equivalent [FTE] posts, part-time employees either as overall half an FTE or with their exact FTE; Donoghue, 2010).

Recommendation Concerning the Focus and Level of Measurement

Based on the WE-THRIVE consortium's efforts to find CDEs focusing on capacity rather than deficits, we recommend to measure retention/intention to stay rather than turnover/intention to leave. This allows a focus on capacity building and identifying those factors that support the retention of LTC staff.

When weighing the criteria for selecting a measurement, we recommend using individual-level instead of facility-level data for international comparison. The latter is based on administrative data or manager surveys. On one hand, not all countries have national databases with structural information about the residential LTC setting, which means administrative data would have to be collected directly from the facilities. Possible sources would be internal payroll records or manager surveys via questionnaires or telephone interviews (Leon, Marainen, & Marcotte, 2001). For a comparable measurement, the

Table 1. Measurement Methods for Turnover/Intention to Leave and Retention/Intention to Stay.

Concept	Source	Example of measurement
Turnover The rate at which employees leave a workplace (termination of contract, and also transfers or promotions/ voluntary or involuntary, depending on definition)[a]	Administrative data	Number of staff (measured in FTEs) who leave employment during a 6-month period divided by number of staff (measured in FTEs) who were employed during this period (Castle, 2006)
	Survey of facility director/ director of nursing (questionnaire or telephone interviews)	"Please think about the nursing assistants who were employed at any time during the past 12 months. About what percentage of these nursing assistants left your employment in the last 12 months?" Answer options: 0%-20%/21%-40%/41%-60%/61%-90%/91%-100% (questionnaire used in Shaping Long-Term Care in America Project at Brown University funded, in part, by the National Institute on Aging [1P01AG027296], same question used for turnover of other staff groups [LPNs, RNs])
Staff retention The number of employees who remain in their job within an organization over time[b]	Administrative data	Number of nurse aides employed for more than 1 year divided by number of nurse aides on payroll on the last day of the fiscal year (Remsburg, Armacost, & Bennett, 1999)
	Survey of facility director/ director of nursing (questionnaire or telephone interviews)	"About what percent of the nursing assistants who were employed at your nursing home today has worked at the nursing home for at least 12 months?" Answer options: 0%-50%/51%-75%/76%-90%/91%-100% (Berridge, Tyler, & Miller, 2018)

Intention to leave
The stated probability of an individual leaving permanently his or her current position in the near future
	Survey of employees	Scale with three items
		  I often think about quitting
		  I will probably look for a new job the next year
		  I am currently looking for another job (in another organization)
		Answer option: 5-point agreement Likert-type scale (Gaudenz, De Geest, Schwendimann, & Zúñiga, 2017, based on Mobley, Horner, and Hollingsworth, 1978)

Intention to stay The stated probability of an individual staying in his or her present position (Cowden, Cummings, & Profetto-McGrath, 2011)	Survey of employees	"How likely is it that you will continue working at this facility for the next five years?" Answer option: 5-point Likert-type scale (McGilton, Tourangeau, Kavcic, & Wodchis, 2013)

Note. FTE = full-time equivalent; LPN = licensed practical nurse; RN = registered nurse.
[a]See also https://aspe.hhs.gov/basic-report/measuring-long-term-care-work-guide-selected-instruments-examine-direct-care-worker-experiences-and-outcomes#turnover
[b]See also https://aspe.hhs.gov/basic-report/measuring-long-term-care-work-guide-selected-instruments-examine-direct-care-worker-experiences-and-outcomes#retention

internal data would have to clearly differentiate between included and excluded cases (e.g., whether turnover was voluntary or involuntary), which staffing groups to include and how these are defined (e.g., registered nurses, nurse assistants), and which shifts to include and how to handle agency staff and part-time employees (Castle, 2006). Not all countries will have the possibility to differentiate these questions in the same way, given the various regulatory contexts. Moreover, not all managers have such numbers available and would accordingly just estimate (Tyler et al., 2011). Another option would be a survey based on managers' estimation, which would not strive for the same data accuracy. Due to seasonal changes in turnover, it would be recommendable to include questions about the last 12 months, which might be very challenging in countries with high management turnover in residential LTC. We suggest,

therefore, to survey staff directly for internationally comparable data. Corresponding survey items could be combined with items for other core concepts in the *workforce and staffing* domain, giving frontline staff internationally a voice about themes related to the well-being and quality of life of residents/families as well as their own.

Recommended Measure for Intention to Stay

To support the selection of an appropriate CDE at the individual level, Table 2 presents an overview of measurements of intention to stay applied in staff surveys in residential LTC settings.

Most studies identified used single items (Dill, Morgan, Marshall, & Pruchno, 2013; Eltaybani et al., 2018; Hsieh & Su, 2007; McGilton et al., 2013), with

Table 2. Measurement of Intention to Stay.

Source	Measurement item
Eltaybani, Noguchi-Watanabe, Igarashi, Saito, and Yamamoto-Mitani (2018)	Single item Do you want to continue working in your current workplace? Answer options: I want to continue working/I want to work in another workplace/I do not know
Radford, Shacklock, and Bradley (2015) based on Kim, Price, Mueller, and Watson (1996)	Scale with four items • I plan to leave this organization as soon as possible • Under no circumstances will I voluntarily leave this organization • I would be reluctant to leave this organization • I plan to stay in this organization as long as possible Answer options: 5-point Likert-type scale from *strongly disagree* to *strongly agree*
McGilton, Tourangeau, Kavcic, and Wodchis (2013)	Single item How likely is it that you will continue working at this facility for the next 5 years? Answer options: 5-point Likert-type scale from *very unlikely* to *very likely*
Dill, Morgan, Marshall, and Pruchno (2013)	Single item I intend to remain in my current position for the near future Answer options: 4-point Likert-type scale from *strongly disagree* to *strongly agree*
Hsieh and Su (2007)	Single item From now, how many years will you stay in the long-term care industry in the near future? Answer option: open

one study using a scale (Radford, Shacklock, & Bradley, 2015) where the only psychometric evaluation available was a Cronbach's alpha (.85, reported in Kim, Price, Mueller, & Watson, 1996). A selection of a measurement could, thus, not be based on the validity or reliability of the item(s).

For the measurement of intention to stay, we suggest to select a single-item format to reduce questionnaire burden in combination with other concepts to be measured. A remaining challenge is whether to include a projected time period in the question. Hsieh and Su (2007) asked for the number of years respondents would want to stay employed in the LTC industry; however, the item had a high number of missing values/responses due to respondents' difficulties in answering it. On the contrary, formulations such as "the near future" (Dill et al., 2013) or "continue working" (Eltaybani et al., 2018) might be interpreted very differently by respondents, and we suggest to better include a time period for clarity. The only item including a time period was suggested by McGilton et al. (2013), using a projection of 5 years. In the measurement of retention, periods of 1, 2, or 5 years were used (Barry et al., 2005; Donoghue, 2010; Hunt et al., 2012; Thomas et al., 2013). Keep in mind that the larger the period, the more LTC facilities need to be excluded in a changing market where many new facilities are opened up. Given the tendency for LTC residents to become sicker and enter the end of their life, where a year allows enough time to establish a relationship, and the difficulty of respondents to plan far into the future, we suggest to use the time frame of a single year. Accordingly, we recommend to measure intention to stay with a single item "I intend to stay in this organization for the next 12 months," with a 5-point Likert-type scale with answer options ranging from *strongly*

disagree, disagree, neutral, agree, to *strongly agree*, combining the options by Radford et al. (2015) and McGilton et al. (2013).

Discussion

The goal of this review is to recommend a CDE for the international measurement of an aspect of *staff retention and turnover* in the domain *workforce and staffing* in residential LTC. This CDE would assist moving forward the provision of person-centered care with a focus on capacity, well-being, and quality of life, as well as allow cross-country and cross-cultural comparisons. We recommend a single item to measure intention to stay because *staff's stability* is an important factor for establishing meaningful and supportive relationships between staff and residents/families as well as co-workers. In addition, it reduces costs and improves productivity (Buchan et al., 2018).

Several factors need to be considered when working with the proposed measure. Validated translations of the one-item measure into other languages other than English are required. A careful forward and backward translation is recommended for each new language and setting to assure comparability of results (Maneesriwongul & Dixon, 2004). Furthermore, published studies assessing intention to stay in residential LTC settings are restricted to the United States, Canada, Australia, Japan, and Taiwan. Its relevance in other cultures or low- and middle-income countries has not been established yet. However, the recommended element provides a starting point to evaluate the international relevance of staff stability in residential LTC.

When performing multilevel analyses with the item across facilities and countries, we recommend to assess whether part of the total variability in the data is due

to facility or country membership (intraclass correlation coefficient [ICC] 1) and whether the facility/country means would be reliable (ICC2; see Castro, 2002; Snijders & Bosker, 2012). Based on the results, the individual-level item could be the Level 1 unit; facilities, Level 2 unit; and countries, Level 3 unit in multilevel modeling (Snijders & Bosker, 2012). However, in some situations, for example, when unit samples are unbalanced, very small (<30), or heterogeneous, we recommend to use more advanced methods such as empirical Bayes estimates from multilevel models (Steyerberg, 2008). Although the variability between care units within a facility might be just as high as the variability between facilities, the definition of a care unit in residential LTC is a challenge. A suggestion for a definition has been made (Estabrooks et al., 2011), but this would need to be further examined in relation to other contexts before applying it in international research. When aggregating the individual-level data at an upper level, we recommend to either use the mean over all respondents per level or the percentage of agreement, dichotomizing *agree/strongly agree* versus the other three answer options, providing information for both.

The question should be answered by all frontline staff in the surveyed facility, including regulated nurses (e.g., registered nurses, licensed nurses) and staff with and without formal levels of qualifications (e.g., nurse assistants). Although it is not likely all staff in facilities will be able to complete the survey, perhaps acquiring more than 50% of the staff to complete the question is a more realistic expectation. For analysis, staff with different educational and professional backgrounds could be examined separately; however, the comparability of the educational groups across countries would need to be considered. In a move to further advance knowledge in the field, longitudinal studies with the item could be envisioned, comparing intent to stay with actual retention, investigating differences and commonalities in predictors and outcomes of staff stability in residential LTC, as well as intervention studies to assess effective methods in retaining residential LTC staff. Other concepts of the domain *workforce and staffing* could be included in the modeling as possible antecedents for intention to stay.

Although we are able to recommend a short measurement of staff intention to stay in residential LTC, several limitations apply. For this article, the focus is on remaining in the current position in the organization; although remaining or leaving one's profession or the field of residential LTC is of equal interest in the overall challenge of staff shortage in this sector. Moreover, so far the use of retention items in staff surveys is very limited; therefore, it has not been possible to evaluate the item's relevance for low- and middle-income countries.

Conclusion

A single item assessing staff intention to stay in residential LTC is recommended for international usage: "I intend to stay in this organization for the next 12 months" answerable with a 5-point Likert-type agreement scale.

Cross-cultural translation is still needed for it to be applied to the international research in residential LTC to gain new insights and learn from each other. However, study results might help to strengthen staff stability, an important factor in establishing meaningful relationships and person-centered care with residents and families.

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