

# Quality Assurance in Long-Term Care and Development of Quality Indicators in Japan

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## Abstract

Dealing with an aging society is a global challenge, and more countries than ever before are now mobilizing their healthcare systems to provide high-quality long-term care (LTC) to older adults. This paper reviews the current situation pertaining to aging and the issues for measuring the LTC quality in Japan. It also introduces current efforts to develop quality indicators for measuring LTC quality. Assuring the quality of LTC and developing indicators to measure its quality is a challenge worldwide. Detailed systems for LTC quality measurement have been developed and managed, primarily in the US. In Japan, on the other hand, such systems do not exist; the public LTC system mostly depends on the evaluation of structural aspects, such as facility structure and staffing. Our research group has been developing quality indicators to measure LTC quality. In the future, we aim to evaluate care quality in various LTC settings using the proposed quality indicators, aiming to improve care quality across LTC settings in the community-based integrated care system.

## Keywords

aging in Japan, long-term care, care quality assurance, geriatric care quality indicators

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## Introduction

Many developed countries in the world have faced challenges in dealing with the aging society and have aimed to develop healthcare systems for providing high-quality long-term care (LTC) to older adults (Worrall & Chausalet, 2015). In such situations, the quality of LTC is one of the most important issues for each country (McGilton et al., 2016), and developing indicators to measure LTC quality is also a challenging task globally (Frijters et al., 2013; Joling et al., 2018; Nakrem et al., 2009). However, there are few quality indicators that adequately and comprehensively evaluate the LTC for older adults. In Japan, to ensure care quality, the public LTC system provides regulations mainly for the structural aspects, such as facility structure and staffing, and the evaluation of processes (e.g., provision of the service) and outcomes (e.g., clients' symptom and quality of life) are limited.

This paper aims to review the current situation pertaining to aging in Japan and the issues for measuring care quality. We also introduce efforts aimed at developing quality indicators for measuring LTC quality. In this

paper, we focus especially on the care quality in LTC facilities since it is a global issue in aging societies (Frijters et al., 2013; Fu et al., 2019; Institute of Medicine (US) Committee on Improving Quality in Long-Term Care et al., 2001).

## Current situation regarding aging in Japan

Japan, the third-biggest economy worldwide after the United States and China (World Bank, 2019), is “the front-runner of super-aged societies” (Arai et al., 2015). In 1950, Japan's population pyramid had a standard shape with a broad base; the child population (0–14 years)

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and the aged (65 years and above) accounted for 35.4% and 4.9% of the total population, respectively (Statistics Bureau of Japan, 2019). The percentage of the aged exceeded 10% in 1985, 20% in 2005, and reached 28.1% in 2018 (Statistics Bureau of Japan, 2019). It is estimated to exceed 35% in 2040 and 38% in 2060 and may still continue to rank first globally (Statistics Bureau of Japan, 2019). Contributing to this dramatic change in Japan's population pyramid are the falling total fertility rate (1.42 in 2018), the declining live birth rate (7.4 per 1,000 population in 2018), and the climbing average life expectancy (87.3 years for females and 81.1 years for males in 2017, ranking first worldwide; Statistics Bureau of Japan, 2019).

With such a demographic shift, several aging-related issues have been emerging. For instance, aging is accompanied by chronic and multi-organ functional diseases, changing the disease structure and healthcare demands of the society (Arai et al., 2015). Increase in the healthcare costs and decrease in the labor force population also cause economic concerns (Arai et al., 2015). Social benefits (i.e., the total amount of pension, healthcare, and welfare expenses), as a percentage of the national income, have also increased over the years; they reached 29.6% in fiscal year 2015. Social benefits for older adults are also escalating over time: they reached 67.6% of social benefits in fiscal year 2015 (Cabinet Office, 2018).

To respond to issues accompanying aging, the Japanese government has established The Guideline of Measures for Aging Society (Cabinet Office, 2018). These guidelines were formulated in 1996, are revised and updated periodically, and are implemented by each ministry and agency to direct the aging society's overall measures in various fields such as employment, pension, medical care, education, town planning, and technological innovation (Cabinet Office, 2018). In terms of health and welfare, the latest version of the guidelines, adopted in February 2018, specified five main themes: (1) sustainably operate the LTC insurance system, (2) secure the necessary LTC services, (3) sustainably operate the medical care system for older people, (4) promote measures to support older people with dementia, and (5) provide medical care at the end of life (Cabinet Office, 2018); as shown for themes (1) and (2), the LTC is presented as an important issue in aging in Japan. Further, a paradigm shift from cure-seeking medical care, focusing on disease treatment on an organ-specific basis, to cure and support-seeking medical care, aiming to maintain and restore daily activities with treatments to maximize the quality of life, is currently proposed in Japan (Arai et al., 2015).

## Long-Term Care in Japan

### Long-Term Care System

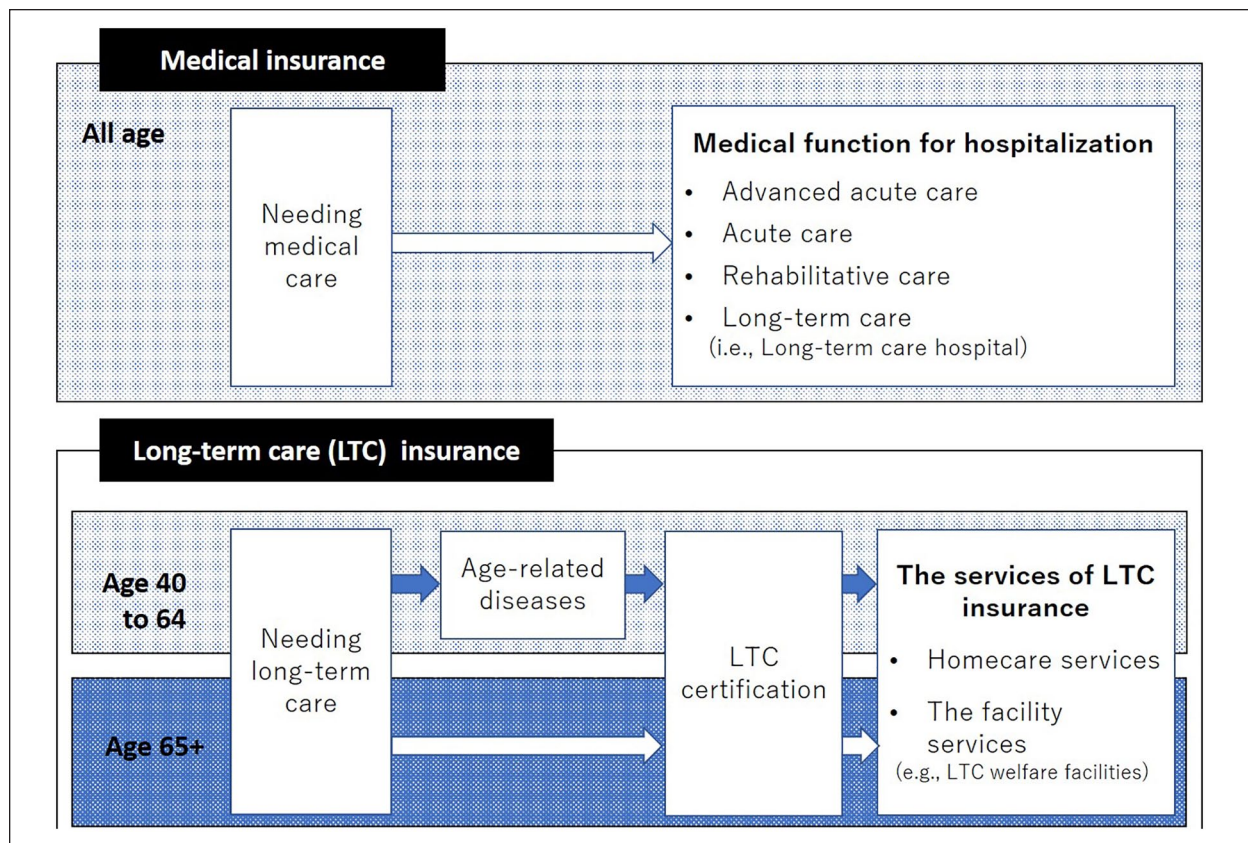
Long-term care in Japan is provided by medical insurance or LTC insurance. Figure 1 shows the framework

of the service provisions in medical and LTC insurance. The beneficiaries of the medical insurance are all the Japanese nationals; while those of the LTC insurance are older adults aged 65 years and above with disabilities and people aged 40 to 64 years with disabilities caused by age-related diseases (Sakamoto et al., 2018).

The LTC insurance system, a social insurance scheme, was launched in the year 2000 to resolve organizational and financial issues in the preceding care systems for the elderly (Ikegami, 2019; Sakamoto et al., 2018). The LTC insurance aims for socialization of care and self-independence of frail older people; socialization of care means shifting previous informal family caregiving to formal care services, and self-independence means increasing the independence of older adults through services rather than providing passive care. The system is implemented by the municipalities, supported by prefectures while the national government decides the overall direction of the system (Sakamoto et al., 2018). Half of the finance for this system comes from taxes across the board and half from premium contributions (Sakamoto et al., 2018). To use the LTC insurance services, a certification system decides the level of support or care needed (specifically, there are two support levels and five care need levels), based on physical and cognitive functional assessment using a standardized survey (Igarashi et al., 2014; Sakamoto et al., 2018).

The benefits provided by the system include both home care and facility services. Homecare services include healthcare services, such as home care nursing, home-visit rehabilitation and ambulatory rehabilitation, and welfare services, such as home-help services, home-visit bathing and daycare (Sakamoto et al., 2018). On the other hand, the facility services include LTC welfare facilities, LTC health facilities, and LTC medical facilities (Iwagami & Tamiya, 2019). The government also designated a new type of LTC facility in 2018, called the integrated facility for medical and LTC (Ministry of Health, Labour and Welfare, 2017c), and has recommended transforming the extant LTC medical facilities into this type of integrated facility (Ministry of Health, Labour and Welfare, 2018c). For both homecare and facility services, licensed care managers assess the support or care needs of older adults and coordinate services based on prior assessments (Sakamoto et al., 2018). Since 2000, the number of people certified as needing support or needing care grew by about 2.9-fold (from 2.18 million in 2000 to 6.41 million in 2017). Of them, 0.93 million currently live in the LTC facilities, and 3.76 million live in their own home using home care services of LTC insurance (Ministry of Health, Labour and Welfare, 2019).

Recently, the Japanese government has promoted extensive reform to the healthcare system to control expenditure (Fukawa, 2007; Miyata et al., 2015). A community-based integrated care system has also been developed with functional differentiation among various healthcare facilities (Ministry of Health Labour and



**Figure 1.** Flow of services in medical and long-term care insurance.

Welfare, 2016). This system aims to enable older adults to continue living their own lives in an area where they have been living, even in severe conditions (Ministry of Health, Labour and Welfare, 2019), and integrally provide healthcare, LTC, preventive care, living support, and housing for all older adults, regardless of their conditions.

### Types and Functions of Long-Term Care Facilities

In the community-based integrated care system, the LTC facility provides care for older adults with severe physical and cognitive impairment, requiring medical treatment or procedure, or with limited informal care resources (Ministry of Health, Labour and Welfare, 2019). In addition to the facilities in the LTC insurance, the LTC hospitals, which are covered by the medical insurance, provide care for older adults with physical and cognitive impairment who need medical treatment. Table 1 shows the types and regulations at each facility. While general conditions of older adults who undergo the service of each facility type are provided, their specific conditions in each facility are unclear.

The LTC welfare facilities (also called special nursing homes, or “Kaigo-rojin-fukushi-shisetsu” in Japanese) are facilities for older adults who have physical or cognitive disabilities and have difficulties in living at home.

The primary care providers are care workers. The assignment of nurses and physicians for 24 hours a day is not mandated here; 90% of nurses working for these facilities had no night shifts, and 93% of them work with an on-call system at night. Additionally, only 1.1% of physicians work full-time in the facility; others were referring physicians (Ministry of Health, Labour and Welfare, 2017b).

The LTC health facilities (also called geriatric health service facilities or “Kaigo-rojin-hoken-shisetsu” in Japanese) have functions to provide rehabilitation aimed at maintaining and improving physical and cognitive functions to help their clients return home (Japan Association of Geriatric Health Services Facilities, 2015).

The new integrated model of LTC, that is, the integrated facility for medical and LTC (“Kaigo-iryoin” in Japanese; Ministry of Health, Labour and Welfare, 2017c), have functions to provide long-term care and living facilities for older adults with medical care needs. There are two types of accommodations, depending on the proportion of patients who need sputum suction or nutrition through gastric tube feeding, and those with severe dementia (Ministry of Health, Labour and Welfare, 2018b).

The LTC hospitals (“Iryo-ryoyogata-byosyo” in Japanese) provides LTC for older adults with severe physical and cognitive problems, under the national medical insurance system (Ministry of Health, Labour

**Table 1.** Types and Regulations for Long-Term Care Facilities.

	LTC welfare facilities (Cabinet Office, 2019; Ministry of Health, Labour and Welfare, 2017b)	LTC health facilities (Cabinet Office, 2019; Ministry of Health, Labour and Welfare, 2017a)	Integrated facility for medical and LTC (Ministry of Health, Labour and Welfare, 2018b, 2020a)	LTC hospital (Ministry of Health, Labour and Welfare, 2018d, 2020b)
Clients	Certified as care need level 3 or more in LTC insurance  Older adults who have physical or cognitive disabilities and have difficulties in living at home	Certified as care need level 1 or more in LTC insurance  Older adults who need rehabilitation to return their home	Certified as care need level 1 or more in LTC insurance  Older adults who need long-term care and medical care, and have difficulties in living at home	Older adults with severe physical and cognitive problems who need long- term care and specialized medical care
Number of beds	542,498 (2017)	372,679 (2019)	18,931 (2019)	319,506 (2018)
Assignment of nurses	The resident to care workers (or nurses) ratio, 3:1	The resident to care workers (or nurses) ratio, 3:1; 2/7 should be nurses	The resident to nurse ratio, 6:1	The patients to nurse ratio, 4:1
Assignment of physicians	Not mandated	At least one physician	48:1 or 100:1	48:1

Note. LTC=long-term care.

and Welfare, 2006). In these hospitals, the fees for medical treatments are paid based on a case-mix classification system, defined as a combination of medical acuity levels and functional scores on the activities of daily living (ADL; Igarashi et al., 2018). Nurses and care workers are employed as primary care providers in these hospitals.

It was not until 2016 that the Japanese government started some measures to assure the quality of LTC services, other than minimal auditing and structural evaluation. In 2016, both LTC insurance and medical insurance started offering an additional reimbursement to reward facilities that provide high-quality care; for example, the low rate of patient discharge home is rewarded by an additional reimbursement (Ministry of Health, Labour and Welfare, 2018c, 2018d).

These reimbursements are evaluated for clients' or patients' outcome; however, recently, the government has also emphasized to evaluate the care process to improve the clients' or patients' outcomes. The LTC facilities in the LTC insurance system have additional fees for the management of geriatric conditions such as pressure ulcers, physical restraints, or management of incontinence. (Ministry of Health, Labour and Welfare, 2018b). For example, the LTC welfare facility and LTC health facility could gain additional fees, if they provide systematic risk management to prevent pressure ulcers (Ministry of Health, Labour and Welfare, 2018c). On the other hand, the LTC hospitals also gain reimbursement of medical insurance for the management of pressure ulcers, physical restraint, dementia care, and bladder problems (Ministry of Health, Labour and Welfare, 2018d). The LTC hospitals could obtain the additional fee if they provide the risk assessment of pressure ulcers and/or the assessment of pressure ulcer status with the standardized tool, DESIGN-R.

## Quality Measurement in the Long-Term Care

To ensure the quality of care, visualizing the current status of care is essential. According to the Donabedian model (Donabedian, 1966), there are three components of care quality: structure, process, and outcome. Structure includes facility structure, staffing, qualifications and skills of staff, and the characteristics of individual clients or patients who receive care. Process reflects the provision and implementation of the service, and includes communication, decision making regarding care provision, and care management. Outcome includes clients or patients' symptoms, medical data, quality of life, satisfaction, and service cost. The aspects of process and outcome need to be measured adequately for assuring care quality. However, these measurements are a challenge because of the difficulties in defining the quality and data collection, whereas the measurement of the structure is relatively easy and evaluated frequently.

Assurance and measurement of care quality have been promoted worldwide. For example, in the USA, the effort for outcome measurement of care quality has been progressed based on government leadership. The Federal Center for Medicare and Medicaid Services (CMS) published the quality measures (QM) at Nursing Home Compare on the Internet to make the information more accessible to the general public (Centers for Medicare and Medicaid Services, 2018b). In home care, on the other hand, the quality indicators using data from the Outcome and Assessment Information Set (OASIS) were published at Home Health Compare on the Internet (Centers for Medicare and Medicaid Services, 2018a). Moreover, the bill of Improving Medicare Post-Acute Care Transformation (the IMPACT) Act was passed in the House in 2014. The IMPACT requires LTC hospitals,

skilled nursing facilities, home health agencies, and inpatient rehabilitation facilities to report the standardized care quality and client outcomes; each facility has established the quality reporting program (Centers for Medicare and Medicaid Services, 2018c).

In Japan, on the other hand, care quality is largely the responsibility of individual agencies, and actual quality assurance and improvement interventions are minimal (Yamamoto-Mitani et al., 2018); the measurements of care quality consist of structures and, partly, processes of the Donabedian model, and limited outcome measurements.

There have been some public efforts to measure the quality of LTC. “Third-party evaluation system of welfare services” was launched in 2001 with the notice from Ministry of Health, Labour and Welfare. The evaluation of services is conducted by a visit survey based on self-evaluation by each facility. In 2018, setting numerical targets to the evaluation were made mandatory for prefectures (Kashiwagi, 2012). While the standardization of evaluations has been promoted recently, some issues still exist; for example, the quality of evaluation varies, and taking voluntary evaluation does not always reflect high-quality facilities. In LTC insurance law, the “Care Information Disclosure System” was launched in 2006 (Ministry of Health, Labour and Welfare, 2018a). In this system, the information of each LTC facility and homecare agency is published on the website, so that the service users can compare and choose the services themselves. The items for the evaluation include basic information (e.g., the location of the facility and the number of staff) and self-reported operation status (e.g., protection of user rights, efforts to assure the service quality, and response to consultations and complaints), suggesting general efforts of the organization for their service quality.

Furthermore, as mentioned above, currently, the main focus of the reimbursement systems for assuring care quality is on the structure, and only partly on the processes and outcomes. There is no publicly mandated system to comprehensively measure the process and outcome of LTC in Japan.

Meanwhile, individual researchers have made efforts to measure the outcomes for care quality. For example, Ikegami et al. (2014) have developed a model for LTC quality evaluation using assessment data of interRAI, a standardized, comprehensive assessment tool for older adults (Hirdes et al., 1999), based on Minimum Data Set (MDS). The participants included the LTC facilities and care management agencies for homecare, who are motivated to improve the quality of their services. The healthcare professionals working for the facilities/agencies perform the assessment of older adults with the interRAI system for identifying their care needs and planning care services for them. The assessment data are automatically accumulated in a cloud server and used for calculating the quality indicators in each agency. Although this system is useful to measure LTC quality,

there are some limitations. For example, there is a lack of process indicators, which makes it difficult to formulate strategies for improving care. Additionally, there is limited disease-related information and that about symptoms. Next, only facilities and home care agencies highly motivated to improve their care quality can use the quality measurement system of interRAI, since the assessment with a large number of items is not mandated by public organizations; therefore, their dissemination efforts have been undermined.

## Development of Long-Term Care Quality Indicators

Based on the background detailed above, we recognized the need to develop new quality indicators for LTC to be used in all types of LTC facilities and home care. First, the quality indicators should be assessed using person-based data. The LTC facilities are different in terms of the characteristics of their facility functions and clients; thus, these characteristics need to be accounted for to adequately compare care quality between the facilities. In addition, the person-based data is needed when considering and performing strategies to improve care for each client. Second, the indicators should include the process according to the outcome to improve care. Third, data for calculating the indicators should be collected through routine work of care providers and accumulated automatically. Fourth, the indicator should be defined adequately to reflect LTC quality and be used in various LTC settings, including the LTC facilities, in the community-based integrated care system.

In 2019, the “Visualizing Effectiveness of Nursing and Long-term Care (VENUS)” project was started to develop the quality indicators (Kitamura et al., 2019). A group of nursing researchers, specializing in the gerontological or homecare nursing, discussed the ultimate goal of LTC, and the essential domains of elderly persons’ life quality that nurses strive to maintain. Consequently, eight domains of quality were determined, based on Gordon’s functional health patterns (Gordon, 2008). In response to the ultimate goal of LTC that ensures the well-being of older adults, the domains of care were determined as follows: (1) maintaining dignity, (2) minimizing symptoms and disease deterioration, (3) maintaining nutritional condition, (4) maintaining continence, (5) encouraging physical activities, (6) acquiring sound sleep, (7) minimizing disabilities from cognitive decline, and (8) maintaining family’s well-being. We applied the Donabedian model to the development of the quality indicators; first, the outcome indicators were determined in each domain, then, the process indicators were determined corresponding to each outcome indicator.

The novelty of this project lies in its new initiatives because it evaluates the quality of care using both objective and subjective points of view. The outcome items

**Table 2.** Quality Indicators in Long-Term Care.

Domains	Outcome items
(1) Maintaining dignity	(1) Ensuring social interaction (2) Prevention of social isolation (3) Realizing desired way of life (4) Realizing desired care (5) Elimination of activity restriction (6) Client-reported life satisfaction <sup>a</sup> (7) Proxy-rated quality of life <sup>a</sup>
(2) Minimizing symptoms and disease deterioration	(8) Prevention of disease deterioration (9) Prevention of hospital admission (10) Prevention of urinary tract infection (11) Prevention of respiratory infection (12) Prevention of pressure ulcer (13) Coping with dyspnea (14) Coping with pain
(3) Maintaining nutritional condition	(15) Maintaining nutritional status (16) Prevention of dehydration
(4) Maintaining continence	(17) Prevention of bladder and/or bowel problem
(5) Encouraging physical activities	(18) Prevention of fall with trauma (19) Maintaining daily activities (20) Maintaining activities outside the bed
(6) Acquiring sound sleep	(21) Acquiring sound sleep without disturbing life
(7) Minimizing disabilities from cognitive decline	(22) Minimizing disabilities from cognitive decline
(8) Maintaining family's well-being	(23) Pursuing well-being of family (24) Family-reported sense of security <sup>a</sup>

<sup>a</sup>Outcome items data were collected by client, family, or homecare nurses/care managers.

consist of incidence or prevalence of negative events in older adults' physical, cognitive and psychological conditions evaluated by healthcare professionals like homecare nurses and care managers. In addition, older adults' perspectives on the quality of life and sense of security for family caregivers living at home were also evaluated. Consequently, 24 items of quality indicators were developed (Table 2), each including outcome indicators and process indicators (regular assessment and interventions).

For example, the outcome item of prevention of disease deterioration in the second domain, minimizing symptoms and disease deterioration, is measured by the outcome indicator, "admission to a hospital within 30 days" and "occurring new disease or reoccurring pre-existing disease within 30 days." The process indicators corresponding to this item include the regular assessment of "change in consciousness level," "medication adherence," "edema," "weight-loss," "in-out balance," "self-care ability," and the care of "providing advice regarding disease management," "information sharing with other healthcare professionals," and "consultation about medication with physicians or pharmacists."

The goal for care in the aforementioned quality indicators is comparable to the common data elements (CDEs) of LTC developed by the Worldwide Elements to Harmonize Research in Long-Term Care Living Environment (WE-THRIVE) group, consisting of researchers in medicine, nursing, behavioral, and social

sciences in various countries (Corazzini et al., 2019; Lepore & Corazzini, 2019). The CDEs consist of four domains: "organizational context," "workforce and staffing," "person-centered care," and "care outcomes" (Corazzini et al., 2019). The "person-centered care" (relationship, knowing the person, what matters most to the person, meaningful engagement, and positive environment) and "care outcomes" (symptom management, functional level, well-being, personhood, and harm-free care) domains mostly correspond to the items on our quality indicators. For example, the self-rated quality of life and sense of security for family caregivers would be comparable with the candidates of measures for the care outcomes of personhood, well-being, and quality of life (Edvardsson et al., 2019). In the future, we would consider revising our quality indicators to correspond to indicators for measuring the "person-centered care" and "care outcomes" of CDEs, as well as suggesting our indicators as the measures of CDEs.

The "organizational context" and "workforce and staffing" would be fundamental concepts to be assured under care practice. While we include the variables regarding "organizational context" and "workforce and staffing" for investigation in addition to data on quality indicators, we currently do not account for them as the quality element; we may add the framework to connect the "organizational context" and "workforce and staffing" in the CDEs to our quality indicators to establish internationally comparable indicators.

## Conclusion

We overviewed the issues of quality assurance in LTC in Japan. As there is no system to measure LTC quality comprehensively in Japan, we have developed quality indicators to measure the quality of care. The indicators consist of the outcomes and the corresponding care processes. They also contain concepts which are comparable to internationally developed measurement frameworks of LTC. In the future, we would like to use these indicators to evaluate care quality in various LTC settings, aiming to improve care quality across all LTC settings in the community-based integrated care system.

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