Managing the Human Service Market:

The Case of Long-Term Care in Japan

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Statement of Originality

This is to certify that to the best of my knowledge, the content of this thesis is my own work. This thesis has not been submitted previously for the award of a higher degree or qualification at any university or institution. I certify that the intellectual content of this thesis is the product of my own work and that all the assistance received in preparing this thesis and sources have been acknowledged.

Yoshihiko Kadoya

To the Memory of my respected Friend

Professor Tadashi Yamada

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List of Abbreviations

AIST	National Institute of Advanced Industrial Science And Technology, Japan
AUD	Australian Dollar
CEO	Chief Executive Officer
CLAC	Care Level Assessment Committee
Existing CQM	Existing Care Quality Model which specifically indicates the formula (2) on page 52
FY	Fiscal Year
GDP	Gross Domestic Product
Ideal CQM	Ideal Care Quality Model which specifically indicates the formula (3) on page 57
IOM	Institute of Medicine, the United States
JPY	Japanese Yen
LTCI	Long-Term Care Insurance
METI	Ministry of Economy, Trade, and Industry, Japan
MDS	Minimum Data Set
MHLW	Ministry of Health, Labour, and Welfare, Japan
NEDO	New Energy and Industrial Technology Development Organization, Japan
OECD	Organization for Economic Co-operation and Development
PHI	Paraprofessional Healthcare Institute

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Chapter 1. Introduction

Providing human service through competitive markets is inherently problematic (Lipsky, 1980; Nyman, 1994; Wiener et al, 2007; Donabedian, 1988; Hunsmann, 1980). On one hand, governments in the Organization for Economic Co-operation and Development (OECD) member nations cannot afford to respond directly to today's human service needs. The bureaucratic model that led to an adherence to prescribed procedures has proved unsustainable, because human service needs to be flexible to respond to the rapid changes in society (Thomas, 2006). In this context, non-government sectors[1] are more flexible and specialized in the service field. Nonetheless, human service provision through competitive markets tends to leave the users vulnerable to the profit-driven whims of private-sector providers. Unlike choosing a grocery store that can be easily replaced by others, the choice of necessary human service providers such as nursing homes, disability care institutes, and childcare centres, greatly influences peoples' quality of life. A notable example is that a great number of elderly people have suffered from unsatisfactory care for decades in the competitive market of long-term care for the elderly (OECD, 2005).

This thesis examines the provision of long-term care for the elderly through competitive markets, considering the capacity of governments to ensure the quality of care. The cases of several OECD members are used, but the case of Japan, which has the biggest demand of such care provision per capita, is primarily investigated. Two research questions guide the empirical research:

1. How should governments design the human service market in order to keep the capacity to ensure the quality of service?

[1] Non-profit sector and for-profit (private) sector.

2. How should governments set the performance measurement?

To this end, the empirical study is divided into two parts. Part I first reveals the weaknesses of the existing care quality model (hereinafter, Existing CQM) in which the providers can sacrifice the quality of care to market competition. The research then presents an alternative care quality model that aims to direct the market competition to enhance the quality of care. To justify the validity of the alternative model, the research denies the effects of the conflicting market theories, such as Hansmann's (1980) Conflict Failure model, the Medical Arms Race model, and Suzuki and Satake's (2001) model. Part II presents an alternative, process-based performance measurement, propounding a theoretical modification to the existing public administration theory. The research points out that unsatisfactory care problems have continued because the existing outcome-based performance measurement conflicts with the ambiguous policy goals of human service. Since human service provision inevitably has ambiguous policy goals and a considerable amount of (care) service workers' discretion, the research claims that governments need to evaluate the process, rather than the outcomes. The research then modifies the existing model to highlight the care workers' behaviour and training. Finally, there is an examination of the generalization of the presented models in long-term care to other human service provisions.

A simple thesis recurs throughout the analysis and findings presented in this study:

1. Governments need to implement a care quality model to direct the market competition to enhance the quality of services.
2. Governments need to develop a process-based performance measurement that focuses on the behaviour and training of care workers.

From this thesis, three main arguments flow. *First*, governments need to strike a balance between market contestability and service quality assurance. On one hand, market contestability is necessary for sustainable human service provisions because it promotes necessary innovations and flexibilities. On the other hand, however, the contestability accommodates inexpensive low-quality care in market. Governments are required to direct the contestability for the positive sides of the market. *Second*, governments need to introduce systems to provide users with service quality information about the providers. In human service markets, users often cannot choose a provider based on its service quality, because there is information asymmetry between users and providers. *Third*, governments need to develop process-based performance measurement for human services; they should not rely on outcome-based performance measurement. The policy goals of human service are inevitably ambiguous, and therefore, notoriously difficult to be measured in a meaningful way (Lipsky, 1980).

The Research Problem

The problem of human service provision through competitive markets originates from the contradiction between the mission of human service and the nature of markets. Since human service aims to meet basic developmental and care needs of *people,* human service provisions need strong moral and government imperatives to ensure at least some minimum level of service for everyone and to avoid poor service to anyone. However, the nature of competitive markets allows poor quality of care to exist. Suppose q indicates quality and p indicates price. The provided services in competitive markets can be expressed as $Y=x\ (q,\ p)$. In this formula, the market accommodates a wide range of quality from very good to very poor. This range may be acceptable in

consumer items, but not in human service.

In practice, many governments have tried to eliminate the poor quality of services by implementing regulatory policies. They have imposed minimum requirements for service providers such as care workers/ care recipients ratios, complaint offices, and emergent access to hospitals and governments can suspend the businesses of the providers who do not meet the regulations.

However, the quality of human service is very difficult to measure. There is no absolute single measurement of human service quality (Donabedian, 1987). Moreover, what to measure varies from time to time. In the long-term care market, for instance, physical abuse by caregivers was a unique signal of disqualified care several decades ago. Nonetheless, such a signal is no longer sufficient today. Mental abuse and neglect by caregivers must also be recognized because required care has continuously been changing.
Governments need to strike a balance between the mission of human service and the nature of competitive markets, but such models, in terms of market design and performance measurement, have not yet been established. This is the problem of human service provisions through competitive markets.

Investigating the Case of Long-Term Care for the Elderly

The case of long-tem care for the elderly (hereinafter, long-term care) provides an excellent opportunity to undertake a systematic analysis of this problem. First, most OECD nations have chosen to provide long-term care through competitive markets in order to respond to the increasing needs. Long-term

care has already occupied the biggest number of users[2] in human service in these nations. The next decades will see further expansion of these numbers.

Second, in long-term care, governments are strongly required by moral imperatives to ensure a certain level of service in the market. Frail elderly, especially those who suffer from cognitive problems, often cannot exercise their consumer rights by leaving and complaining. Moreover, many of them need to rely on care for many years of their lives. The lessons leant from long-term care provision, therefore, have strong adaptability to other fields of human service.

Third, the research outcomes in long-term care will remain important for many decades. Today, OECD members are almost the only group of nations that face the challenge of long-term care provision through competitive markets. However, many other nations are expected to deal with the same problem in the near future. For instance, the speed of aging populations in East Asia is much faster than that of OECD members. Table 1-1 indicates the shift from an aging society[3] to an aged society[4] in many East Asian nations - regions such as China, Hong Kong, Singapore, Taiwan, Malaysia, Indonesia, and Thailand - with the comparison to that of developed nations.

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[2] This may be varied by the definition of human service. This thesis, however, defines long-term care, childcare, and handicapped care as the fields of human service. Among them, long-term care commonly has the largest number of users in OECD nations. For further definition of human service, please refer to page 11.

[3] The share of older people (aged 65 or above) in the population is over 7% (United Nations, 2006).

[4] The share of older people (aged 65 or above) in the population is over 14% (United Nations, 2006).

Table 1- 1. The Speed of the shift of Aging to Aged Society in East Asian Nations

	Reached Year of Aging Society: Share of Older people (aged 65+) in the population is 7% or more	Reached Year of Aged Society: Share of Older people (aged 65+)in the population is 14% or more	Elapsed Years
Hong Kong	1983	2014	31 years
Taiwan	1993	2018	25 years
Singapore	1999	2016	17 years
China	2002	2026	24 years
Thailand	2002	2024	22 years
Malaysia	2020	2043	23 years
Indonesia	2018	2039	21 years
More developed regions*	1950**	2000	50 years+
OECD average	-***	2006	-

* More developed regions, defined by United Nations (2008), comprise all regions of Europe plus Northern America, Australia/New Zealand and Japan.
** The ratio of older people in the population is already 7.9% in that year, but the data prior to 1950 is not available.
*** The oldest information available is in 1970 with the proportion of 9.6%.
Source: United Nations (2008) and OECD (2009)

Why Study the Case of Japan?

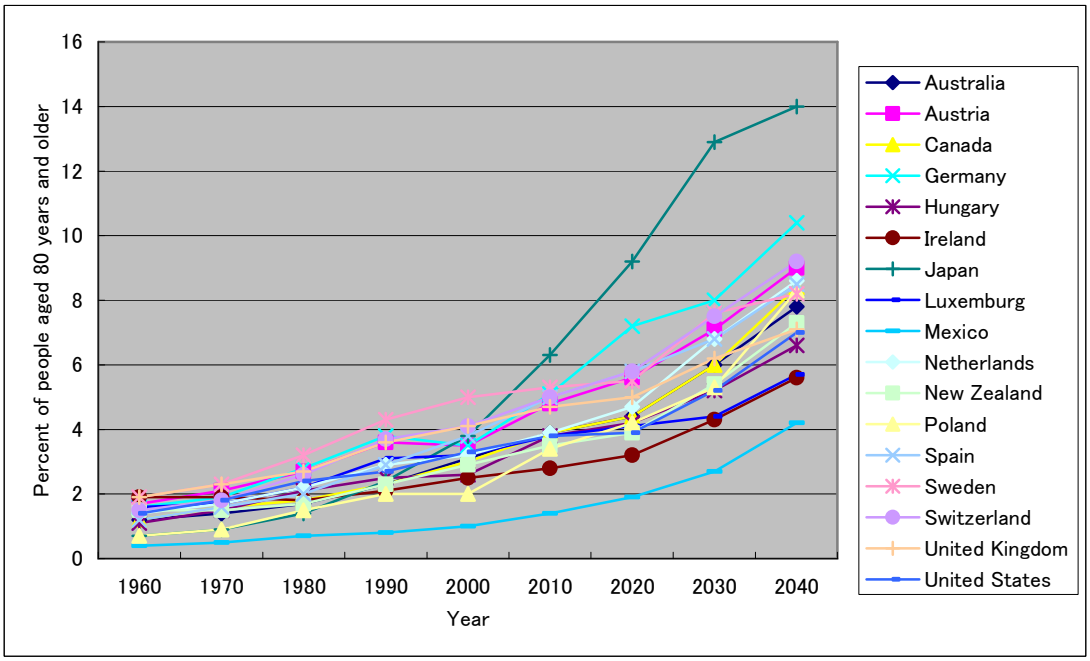
Although this research investigates the cases of various OECD member nations, the focus is on the case of Japan. There are three main reasons. First, Japan is the front-runner of aging societies. As shown in Figure 1-1, the share of very old people in the population in Japan is the highest and it is expected to keep the position for the next decades. This means the Japanese government faces the most pressing requirement to cope with the problem of long-term care provision through a competitive market.

Second, Japan deals with this challenge very well. In fact, the expense of long-term care per capita in Japan is among the smallest (see Figure 2-1 in Chapter 2). That is, the government efficiently utilizes the innovation and

flexibility of a competitive market in long-term care provision. Moreover, according to comparative care quality-assurance research by Wiener et al (2007: 5), long-term care in Japan is perceived as the least problematic in terms of care quality. This implies that the government successfully ensures the quality of care in a competitive market.

Third, there is almost a complete absence of documentation of the Japanese model in the literature. Despite the fact that Japan performs well in terms of human service (long-term care) provision through a competitive market, very little research has investigated the model provided by Japan[5]. The majority of the research in this area comes from the United States[6].

Figure 1-1. The Share of Very Old People (aged 80+)
in the Populations of Selected OECD Members



Note: Most long-term care recipients belong to the age group of very old (aged 80 years and more) (OECD, 2005).
Data Source: United Nations (2008)

[5] Notable exceptions are the market new entry models by Nanbu (2000) and Suzuki and Satake (2001).
[6] For example, Scanlon (1980), Nyman (1985), Dusansky (1989), Gertler (1989, 1992), Gertler and Waldman (1992), and Norton (2000).

Research Design and Methods

In studying how governments can strike a balance between the missions of human service provisions and the nature of competitive markets, this research takes a model-testing approach. Specifically, Part I presents a new market design - called "Ideal CQM" - in order for governments to direct the market competition to enhance care quality[7]. The research then tests the applicability, workability, and financial sustainability of the model by primarily analysing the case of the Japanese long-term care market. Part II of this thesis also presents and tests a model. The research ensures the applicability and financial sustainability of presenting process-based performance measurement model.

Given such multi-dimensioned processes of the testing, the research inevitably combines diverse methods and both quantitative and qualitative approaches. An outline and summary of these methods is provided in Table 1-2 and discussed in the followings; each individual chapter contains further about the methods being used.

[7] Otherwise, the market competition, to some extent, sacrifices the quality of care.

Table 1-2. Summary of Research Design and Methodology

	C	Model	Question	Relevant Theory	Method/ Subject
Part 1	**3**	**Ideal CQM**	**Does Ideal CQM Direct the market competition to enhance the quality of human service?**	**Care Quality Model**	**Model-Testing**
	4	Test 1	Applicability	Care Quality Model based on Universal System	➢Survey of OECD nations ➢Investigating Japanese Long-Term Care Market
	5	Test 2	Workability	Information Asymmetry Models: a)Contract Failure Model (Hansmann, 1980) b)Medical Arms Race Model c)Suzuki and Satake's (2001) Model	Finding the correlation, by regression, between service quality and providers' a) ownership b) market competitiveness c) timing of market entry
	6	Test 3	Financial Sustainability	Microeconomics (Public good/Merit good) Scale of Economics	➢Survey of OECD nations ➢Theoretical investigation
	6	*Test 4*	*Testing a Back-up Model*	*Leverage Model*	*Pearson's product-moment correlation coefficient*
Part 2	**7**	**Process-based Performance Measurement**	**Does Process-based PM reflect users' voice into the policy?**	**Street-Level Bureaucracy (Lipsky, 1980)** **Logic of Governance (Lynn et al, 2001)**	**Model-Testing**
	8	Test 4	Applicability of behaviour measurement	Street-Level Bureaucracy (Lipsky, 1980) Logic of Governance (Lynn et al, 2001)	Case Studies (Japan and the United States)
	9	Test 5	Applicability of care workers' training Financial Sustainability of care workers' training	Market Research	Case Analysis (Japan)

Note: C in the top of the second low indicates Chapter.

Part I consists of five different methods. First, in order to investigate the applicability of Ideal CQM, this thesis seeks the market that meets the preconditions of Ideal CQM, by surveying OECD nations. Second, finding the market that qualifies the preconditions, the research further investigates the market, using case study method (Yin, 2002). Third, to test the workability of Ideal CQM, the research investigates the models that conflict with the idea of Ideal CQM by regression analysis. The examination utilizes the quantified care quality data, publicised by local governments of Japan, and testing variables of 1,093 Group Home[8] providers[9]. Investigating the correlation between the data and testing variable, the research analyses the validity of the conflicted models and workability of Ideal CQM. Fourth, for testing the financial sustainability of

[8] Group Home for the elderly with dementia, a common type of community-based care in Japan (See the detailed definition on page 85).
[9] 1,093 providers occupy 13 percent of the Group Home providers in the surveyed year in Japan.

Ideal CQM, the research again conducts the survey of OECD nations. Analysing the financial information of these nations, the research sorts out a condition for the sustainability of Ideal CQM. Fifth, as an additional argument, the research proposes a model called, Leverage Model, which utilises Peason's product-moment correlation coefficient. This model is developed because it can also be used for the markets which is not qualified for the precondition of Ideal CQM.

In regard with Part II, the research also combines different methods. First, testing the applicability of the presenting process-based performance measurement model, the research compares the cases of Japan with applies the model and the United States which uses a different model. Second, for further test of applicability and financial sustainability, the research utilises case analysis, focusing on the details of Japanese case.

Defining the Area of Study

Human Service

Although the definition of human service is changing (Schmolling, Youkeles, and Burger, 1997; Zins, 2001), the concept today is a synonym for (or a part of) social welfare services. Zins (2001: pp.6-7) defines human service as "institutionalized systematic services" aimed at "meeting human needs … required for maintaining or promoting the overall quality of life" of service users. The field includes childcare, health care, long-term care, disability care, and family support. In fact, several governments are in charge of such services under the name of human service (e.g., Department of Human Service, Government of Australia and Department of Health and Human Service, the United States government). This research, however, specifically deals with the

field of long-term care.

Long-term Care

Long-term care brings together a variety of services for people who are dependent on help with basic Activities of Daily Living (ADL) for extended periods. Such activities include bathing, dressing, eating, getting in and out of beds or chairs, moving around, and using the bathroom. These long-term care needs are due to long-standing chronic conditions that cause physical or mental disability. As in many other long-term care studies, this study distinguishes between long-term care services and medical services, such as interim hospitalizations, medical diagnoses, and prescription drugs.

Although long-term care does not necessarily mean long-term care for older people, the categories are closely aligned. Certainly, the age of the care recipient is not an eligibility criterion for long-term care programs in most OECD member countries. Nevertheless, according to OECD (2005: p. 25), "as a rule of thumb, around 80% of users of home-care services and some 90% of nursing home residents are aged 65 and older." It is for this reason that throughout this thesis the terms "long-term care" and "long-term care for older people" are often used interchangeably.

Competitive Market

Competitive markets that provide human service allow providers to compete with each other, but such competitions are inevitably regulated. It is clear that a perfect competitive market does not ensure a minimum standard of users' living, an important mission of human service provisions. There are three levels of regulated forms: Competitive Tendering and Contracting (CTC), License Subsidies (LS) and the Hybrids of CTC and LS. The definitions are slightly varied by literature, but according to Davidson (2009), in CTC government

agencies choose the providers for a designated group of users, whereas in LS, entry is open for any provider that meets a set of minimum requirements (i.e., license). The hybrid is literally the mixture of CTC and LS.

In long-term care markets (and other human service markets in general), the degree of demand usually correlates with the required level of regulation. That is, the bigger the demand, the more competitors governments need to admit, because mass-provision requires the innovative and efficient aspects of competitive markets.

In long-term care markets, most countries in the OECD have already applied License-Subsidised markets and the others are expected to follow them, because the demand is predicted to increase. For these reasons, therefore, this research particularly deals with License Subsidised (LS) markets as competitive markets for human service provisions.

Chapter Overview and Arguments

As indicated at the beginning of this chapter, this thesis argues that in human service provision through competitive markets, governments need to ensure a certain quality of service. Three secondary arguments support this thesis: a) governments need to strike a balance between market contestability and service quality assurance; b) governments need to introduce a system to provide users with information about the providers' service quality; and c) governments need to develop process-based performance measurement for human service provision.

Chapter 2 of this research is a broad survey of historical and theoretical work on

human service provision through competitive markets. The chapter begins by outlining the reason that governments need to be responsible for human service provisions. Tracking back the origin of human service, the research investigates the transitions of governments' commitments to human service provision. The analysis concludes that today's democratic systems urge governments to ensure a certain standard of living by being responsible for human service provisions. The chapter then investigates how human service is provided through competitive markets and how governments have tried to ensure care quality by analysing the case of long-term care. To date, the literature primarily consists of two major points: 1) the care quality models to direct the market competition to enhance the quality of care and 2) the performance measurements to evaluate and regulate the providers' quality of care. Thus, the research argues the first point in Part I and the second point in Part II.

Part I, which consists of Chapter 3, 4, 5, and 6, investigates the market design (i.e., care quality model) for long-term care provision. Since competitive markets naturally accommodate unwanted poor quality care, this part examines how governments should design/modify the market in order to eliminate such poor quality care. Specifically, the research focuses on directing the market competition to enhance the quality of care, so that poor quality of care is eliminated from the market.

Chapter 3 presents the alternative care quality model (i.e., Ideal CQM). Although the care quality model for human service provision through competitive markets is very important, the existing literature has almost completely overlooked the universal care systems applied in nearly half of the OECD member countries. The literature, then, has dominantly come from the case of the United States, which applies a means-tested care system. To make matters worse, the model (Existing CQM) developed in the United States has

several crucial defects. First, Medicaid, the government funded means-tested program in the United States, does not allow care recipients to pay attention to care quality, because the reimbursement rate is independent of care needs. Second, because the model contains the component of price competition, poor quality care remains in market. Furthermore, the workability of care quality regulations in the model is limited, because such regulations cause market price-rise that may deprive non-wealthy care recipients of access to care. Chapter 3, therefore, suggests Ideal CQM, which directs the market competition solely for a better quality of care in order to get rid of poor quality care. Ideal CQM requires three conditions: a) a universal long-term care system; b) standardized content of care according to care recipients' conditions; c) no price competition. The following three chapters, respectively, investigate Ideal CQM in terms of empirical applicability, empirical workability, and financial practicability.

Chapter 4 examines the empirical applicability of Ideal CQM. Investigating the Japanese long-term care markets, the chapter shows that the market for Group Homes for the elderly with dementia (hereinafter, Group Home) in Japan meets all conditions of Ideal CQM. That is, in the Group Home market, standardized content of care according to care recipients' care conditions is provided with no price competition through competitive markets and within a universal care system.

Chapter 5 investigates the empirical workability of Ideal CQM. In health economics literature, three models, based on information asymmetry between users and providers in care-related markets, conflict with the utility of Ideal CQM. The conflicted models are

a) The Contract Failure model that claims users perceive non-profit providers as a sign of good service quality (i.e., users cannot choose a provider solely

based on its quality of care),

b) The Medical Arms Race (MAR) model that argues that the competition in the care market tends to lower the service quality, and
c) Suzuki and Satake's (2001) model that claims new entries in the care market do not contribute to improvement in the market's care quality.

Testing the three conflicted information asymmetry models, the research reveals that none of the three models was fully supported in the Group Home for the elderly with dementia market in Japan. As a result, it is possible for Ideal CQM to direct the market competition to enhance the market's quality of care. The findings of this chapter suggest that "publicizing providers' care quality evaluations" should be added as a fourth condition to Ideal CQM, initially set out in chapter 3.

The first half of Chapter 6 examines the financial sustainability of Ideal CQM. One may think that the implementation of Ideal CQM is costly for governments, because one of Ideal CQM's conditions is to introduce a universal care system: care for "everyone," not just for the economically vulnerable. An analysis of the correlation between public long-term care expenditures per the share of very old people in populations and the care systems, nonetheless, indicates that the universal system does not necessarily cost more than does the means-tested system. The research further uncovers that the size of the domestic economic gap greatly influences the financial efficiency of the long-term care provision. That is, even if governments universally cover the peoples' long-term care expenses, the public expenditure remains comparatively small, as long as the gap between rich and poor is relatively small (approximately Gini coefficient = 0.3 or below).

The second half of Chapter 6 presents "Leverage Model", which is an alternative solution for governments that cannot immediately introduce a

universal care system (i.e., the government of the nations with a bigger economic gap[10]). Analysing the correlations among care quality indicators, Leverage Model finds the 'leveraged indicator' that gives the most positive influences to other indicators. Focusing resources into the indicator, therefore, governments can efficiently enhance the market's care quality.

As Part I proves that governments can direct the market competition to enhance care quality by implementing Ideal CQM, Part II investigates how to measure the quality of care: performance measurement.

Chapter 7 provides a modification to the existing public administration theory and presents an alternative, process-based performance measurement. As Chapter 2 questioned the current public administration theory, Chapter 7 compares both outcome-based performance measurement and the alternative process-based performance measurement. The chapter finds weaknesses in both measurements. Whereas process-based measurement does not fit the current public administration theory, outcome-based measurement does not fit the ambiguous policy goals of human service. Favouring process-based performance measurement from the view of solving the care quality problem, the research provides a modification to the current public administration theory to accommodate the use of process-based performance measurement. Process-based performance measurement, with the modified public administration theory, consists of evaluating the behaviour (i.e., the process of care implementation) and the training of care workers. The following two chapters, respectively, examine performance measurement in terms of the empirical validity of the behaviour and the training of care workers.

Chapter 8 investigates the empirical validity of the presented process-based

[10] Approximately Gini coefficient 0.35 or the above.

performance measurement, with modified public administration theory. To do so, this chapter specifically compares two cases: the Japanese long-term care market with the presented process-based measurement and the United States long-term care market with the existing outcome-based performance measurement. Analysing two empirical cases, the chapter proves that the long-term care market performs better when governments implement process-based performance measurement with modified public administration theory.

Chapter 9 investigates the kind of training needed for process-based performance measurement. Among the OECD members, the United States and Japan appear as the only nations that require minimum training for care workers nationally. Analysing the two nations provides theoretical evidence that care workers' training has two phases and that both are, respectively, useful to ensure quality of care. That is, whereas Phase 1 standardises the care quality of overt needs by ensuring proper care attitudes and physical skills (e.g., transfer techniques), Phase 2 enables care workers to respond to potential care needs by teaching them to appreciate care recipients' mentalities and by training communication skills to pick up potential care recipients' needs. Therefore, Phase 2 training is preferred for the use of process-based performance measurement. Certainly, Phase 2 training is concerned about sustainability, as it requires more resources (i.e., time and cost). However, the research finds that implementing Phase 2 training leads to eliciting potential care market needs and activating care-related industries such as service robot. By aiming at the best possible quality of care by training care workers, governments can expect a considerable amount of positive spillover in care-related industries.

Chapter 10 concludes this thesis by reviewing the two models. Sorting out the

arguments, the chapter presents the models as the answers to the research questions of this thesis. Summarising the research contributions, the chapter shapes the research implications to the existing public administration theory and, finally, describes the remaining research problems for future research.

Chapter 2. Studying Human Service Provision through Competitive Markets

Researchers are divided over the efficacy of market provision of human service and the negative consequences on quality of care. One stream of researchers presents market utilisation for human service provision as a necessary trend, arguing that governments today cannot afford direct provision of services due to their technical and financial capacity limitations. Nonetheless, other researchers suggest that such market utilisation has caused long-standing negative service quality issues, because the market competition tends to sacrifice quality for profit maximisation. In sum, the existing literature offers contradictory findings on the utility of providing human service through the market, suggesting that further analysis is necessary.

This chapter reviews the existing literature and identifies the areas of limitation. Whereas most research intends to adjust the nature of human service to the market, utilising public administration theory, few try to modify the theory to reflect the nature of human service. Certainly, the market-oriented theories has been very useful in many other public service provisions where public services provided through the market have successfully enhanced the efficiency of human service without losing the quality[11]. Thus, it was reasonable for researchers to suggest that the quality issue of human service could be solved by governmental regulatory policies. Nonetheless, such symptomatic treatments have not solved the issue for decades because the nature of human service is very different from that of other public services. This thesis, therefore, adjusts the current public administration theory to accommodate the nature of human service provision.

[11] See for example Gomez-Ibanez and Meyer (1993) and Li and Xu (2004).

The arguments of this chapter flow in the following order. First, the chapter reviews the reasons why governments need to be responsible for the provision of human services and how the main provider has shifted from governments to non-government sectors. The chapter further explains the rise of the poor service quality issue and governments' efforts to solve it with a particular focus on the case of long-term care. Analysing the cause of the long-standing quality issue, the chapter then discusses the fundamental disagreements between the market-utilising, public administration theory and the nature of human service. The chapter ends with an explanation of the research questions driving the thesis.

Background History of Government Intervention in Human Service

History of Welfare States

The concept of human service as a right for citizens is rooted in the idea of welfare states, and nations are held responsible for 'cradle to grave'. To understand the concept, it is important to grasp how governments have become responsible for people's minimum standard of living. This section reviews the background history of the concept..

Since early times, social welfare provision have been connected with religion for Jews, Christians, Muslims, Buddhists, and other religions that emphasize the concept of mutual aid. Such religions preach the importance of relief for the socially vulnerable. In fact, many charity organizations today can track their histories to religious groups. Zakat, a concept of tithing and alms, is one of the five pillars of Islam. *Shikanin*, built in 593 A.D., is the oldest surviving social welfare institution in Japan and has a strong Shinto/Buddhist influence. These religions, especially the Christian Church (which was supplemented by guilds),

played a significant role in social welfare provision in the Middle Ages.

However, the Protestant Reformation of the 16th century was a catalyst for state intervention in European social welfare. Martin Luther (1520: 71) stated that beggary was to be eliminated, emphasizing the importance of labour. John Calvin (1536) criticized the existing arbitrary 'social welfare,' quoting the Biblical phrase: "If man will not work, he shall not eat." As Protestantism became more influential in many European countries, such thinkers gradually changed the views that people had of the socially vulnerable. As a result, governments began to intervene in social welfare to save the economically vulnerable. The Elizabethan Poor Law of 1601 in the United Kingdom was the first legislation on social welfare. The idea of 'welfare' was also added to the French Constitution of 1791.[12] These legislations had an influence outside Europe, too; for example, Japan adopted the 1874 social welfare principle (*Kekkyu-kisoku*)[13] (Kasuno, 1997).

Governmental intervention in social welfare developed as the governing systems of the industrialised nations became democratic in the 19th and 20th centuries. As seen in Table 2-1, the political systems gradually democratized in many countries and, as this occurred, the voice of the socially vulnerable began to influence policies. Shortly after male suffrage was introduced in 1883, for example, the German government decided to provide health insurance for workers; compulsory accident insurance and retirement pensions were introduced in subsequent legislation. These legislations indicate when governmental intervention into the social welfare of ordinary citizens—not just the poor—commenced.

[12] The constitution mentioned public intervention in social welfare.
[13] This principle was to educate the people. The government did not owe any responsibility, but it was the first time for the government to step into social welfare issues in modern Japan.

Table 2-1. Introduction of Universal Suffrage, Selected Countries (Year)

Country	Male	Female
France	1848	1944
United States	1870	1920
Germany	1871	1919
United Kingdom	1918	1928
Japan	1925	1945

Governmental social welfare provision was further developed in reaction to two global events in the first half of the 20th century. First, the Great Depression led to the welfare state[14] in many countries. In the United States, as a part of the New Deal program, the Social Security Act of 1935 provided for federally funded financial assistance to the elderly, the blind, and dependent children. In Japan, the National Health Insurance Law, which was especially for those who suffered from the Depression, was enacted in 1938. By the 1930s, most of the world's industrial nations had health insurance and retirement pensions. These trends represented the 'middle way' between communism and capitalism. Moreover, in 1942, the idea of comprehensive cradle to grave social welfare services was suggested in the Beveridge report in the United Kingdom in 1942.

Secondly, in the period following World War II, cradle to grave welfare programs were implemented in many countries to recover from the damage of the war. In the United Kingdom, the National Insurance Act, the National Assistance Act, and the National Health Service Act came into force in 1948. In Japan, the Child Care Law (*Jido-fukushi hou*) of 1947 and the Mentally/Physically Challenging Care Law (*Shintaishougaisha fukushi hou*) were enacted.

Not all governments have equally extensive social welfare systems.

[14] The term "welfare state" was coined by the Allies as a contrast to the "warfare state" of the Axis (Megginson and Netter, 2001).

Esping-Andersen (1990) laid out three main types of welfare state, depending on the degree of governmental intervention, namely, the Liberal, Conservative, and the Social Democratic, which are typically represented by the United States, Germany, and Sweden, respectively. Meanwhile, the role of non-governmental (charitable) organizations continued to be an important provider of social welfare, and non-profit organizations continue to play a significant role in the provision of social welfare in many countries.

Nevertheless, most modern governments are expected to be responsible for ensuring their citizens have a certain standard of living. The Organization for Economic Co-operation and Development (CECD) was formed in 1960 with the objective of "achieving the highest sustainable economic growth and employment and a rising standard of living in Member countries." In addition, the foundations of welfare-related international organizations, such as the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF), globally advocated the idea of welfare states. Together with other social welfare services, these organizations contributed to how the provision of human service became a part of governments' responsibility.

Government Intervention in the Context of Market Provision

As governments became incapable of providing for increasing service needs, human service began to be provided through the markets, but governmental interventions in the provision of human service have continued. Davidson (2009: p. 46-47) cited several reasons for governments' continued interventions in the human service market. First, since human service aims to meet the basic developmental and care needs of people, strong moral and public policy imperatives are required to ensure a minimum level of service quality for everyone and to avoid poor service to anyone. Second, human service is difficult to standardise (i.e., difficult to measure), because service players in the

market have a great deal of discretion in the provision of customized services to users. Third, the end users of human service generally are vulnerable and the *agents* (e.g., a family member) who make decisions on behalf of users are very important. Yet, information asymmetry exists between providers and users (plus agents) in human service markets. Finally, many of the end users of human service have limited funds to purchase the necessary services.

How the Market Provision of Human Service Began
The Case of Long-Term Care

This section explains the factors that have created the care quality problem that is the focus of this thesis. With specific reference to the case of long-term care, the first part of the discussion points to high and growing demands, cost increases, and the move from direct government to market provision. The next section describes governmental efforts to maintain quality of care in a system of market provision, and the problems that continue to hamper these efforts.

Snapshot of Today's Long-Term Care Needs

OECD countries currently spend large amounts of money on providing long-term care. Table 2-2 illustrates public and private expenditures on long-term care as a percentage of Gross Domestic Product (GDP). Total expenditures range from below 0.2% in Mexico to almost 3% of the GDP in Sweden. Most countries, however, range between 0.5% and 1.6% of the GDP, with only Norway and Sweden having expenditure ratios well above this level.

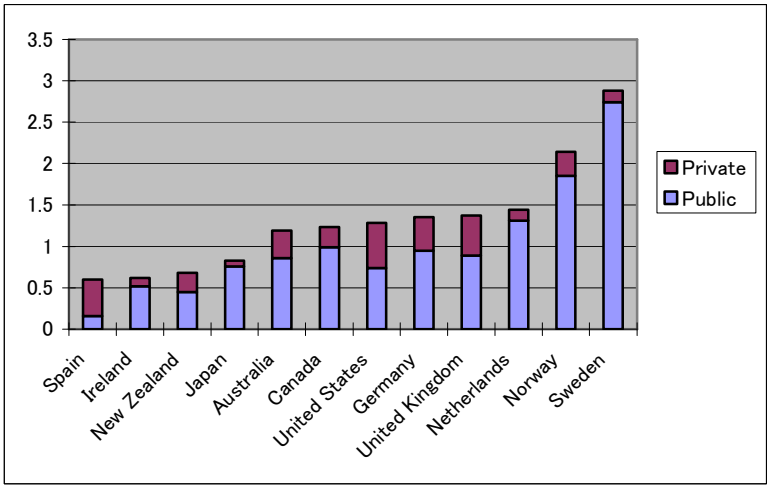
Table 2-2. Public and Private Expenditures on Long-term Care as a Percentage of GDP

	Total expenditure			Public expenditure			Private expenditure		
	Home care	Institutions	Total	Home care	Institutions	Total	Home care	Institutions	Total
Australia	0.38	0.81	1.19	0.30	0.56	0.86	0.08	0.25	0.33
Austria	n.a.	n.a.	n.a.	n.a.	n.a.	1.32	n.a.	n.a.	n.a.
Canada	0.17	1.06	1.23	0.17	0.82	0.99	n.a.	0.24	0.24
Germany	0.47	0.88	1.35	0.43	0.52	0.95	0.04	0.36	0.40
Hungary	< 0.10	< 0.20	< 0.30	n.a.	n.a.	< 0.20	n.a.	n.a.	< 0.10
Ireland	0.19	0.43	0.62	0.19	0.33	0.52	n.a.	0.10	0.10
Japan	0.25	0.58	0.83	0.25	0.51	0.76	0.00	0.07	0.07
Korea	n.a.	n.a.	< 0.30	< 0.10	< 0.10	< 0.20	n.a.	n.a.	n.a.
Luxemburg	n.a.	n.a.	n.a.	0.15	0.37	0.52	n.a.	n.a.	n.a.
Mexico	n.a.	n.a.	< 0.20	n.a.	n.a.	< 0.10	n.a.	n.a.	< 0.10
Netherlands	0.60	0.83	1.44	0.56	0.75	1.31	0.05	0.08	0.13
New Zealand	0.12	0.56	0.68	0.11	0.34	0.45	0.01	0.22	0.23
Norway	0.69	1.45	2.15	0.66	1.19	1.85	0.03	0.26	0.29
Poland	0.35	0.03	0.38	0.35	0.03	0.37	n.a.	0.00	0.00
Spain	0.23	0.37	0.61	0.05	0.11	0.16	0.18	0.26	0.44
Sweden	0.82	2.07	2.89	0.78	1.96	2.74	0.04	0.10	0.14
Switzerland	0.20	1.34	1.54	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
United Kingdom	0.41	0.96	1.29	0.17	0.58	0.74	0.16	0.39	0.54
United States	0.33	0.96	1.29	0.17	0.58	0.74	0.16	0.39	0.54
Average*	0.38	0.88	1.25	0.35	0.64	0.99	0.06	0.19	0.24

Note: Data for Hungary, Korea, Mexico, and Poland are only rough indicators of magnitude. Data for Australia, Norway, Spain, and Sweden are for the age group 65+. "n.a." indicates not available. To be comparative, all data is as of the year 2000.
*Average excludes Austria, Hungary, Luxembourg, Korea, and Mexico
Source: OECD (2005: p. 26)

In most OECD countries, major portions of the expenditures on long-term care come from public funding. As illustrated in Figure 2-1, the case of Spain is an exception.

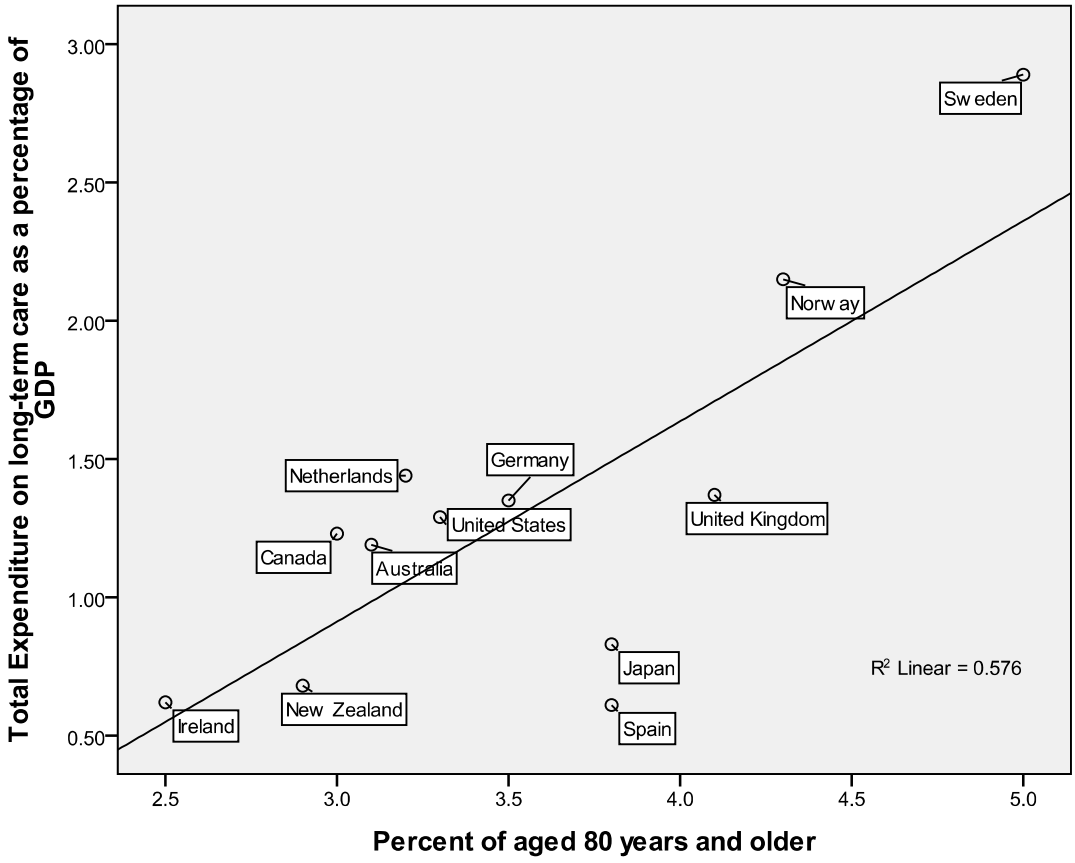
Figure 2-1. Public and Private Expenditures on Long-term Care as a Percentage of GDP



Source: See Table 2.2.

Internationally, total spending on long-term care correlates with the share of the very elderly people in the population. Using expenditure figures from the OECD, Figure 2-2 plots the expenditures for long-term care as percentages of GDPs and the percentages of people aged 80 years and older. This graph clearly shows a positive correlation between the two factors.

Figure 2-2. The Correlation between Total Long-term Care Spending and the Population Share of Very Old People (Aged 80+)[15]



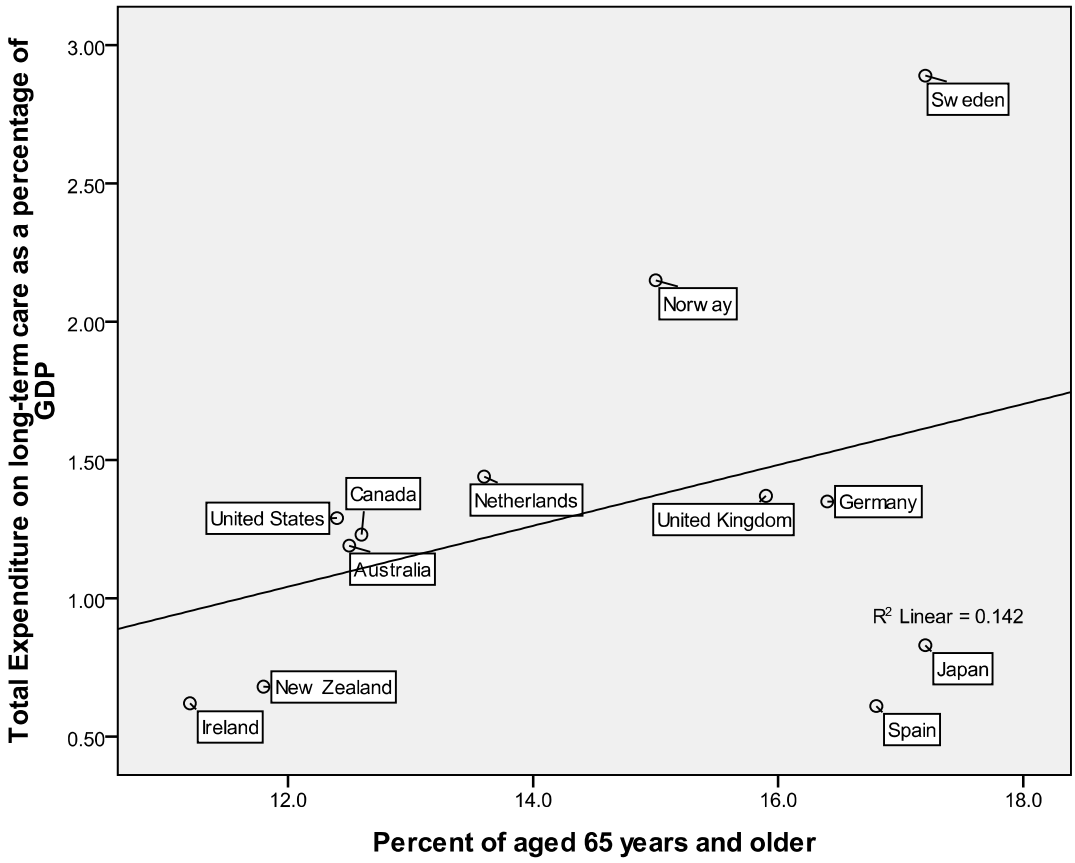
Data Source: Table 2-2 and United Nations (2008).

Interestingly, the correlation between expenditure and population aged 65 years and older is rather weak, as shown in Figure 2-3. According to OECD (2005: p. 20), major long-term care users among older people are generally aged

[15] The term "Very Old People," used in OECD (2005), indicates those aged 80 years or above.

80 years and older.

Figure 2-3. The Correlation between Total Long-term Care Spending and the Population Share of Older People (Aged 65+)

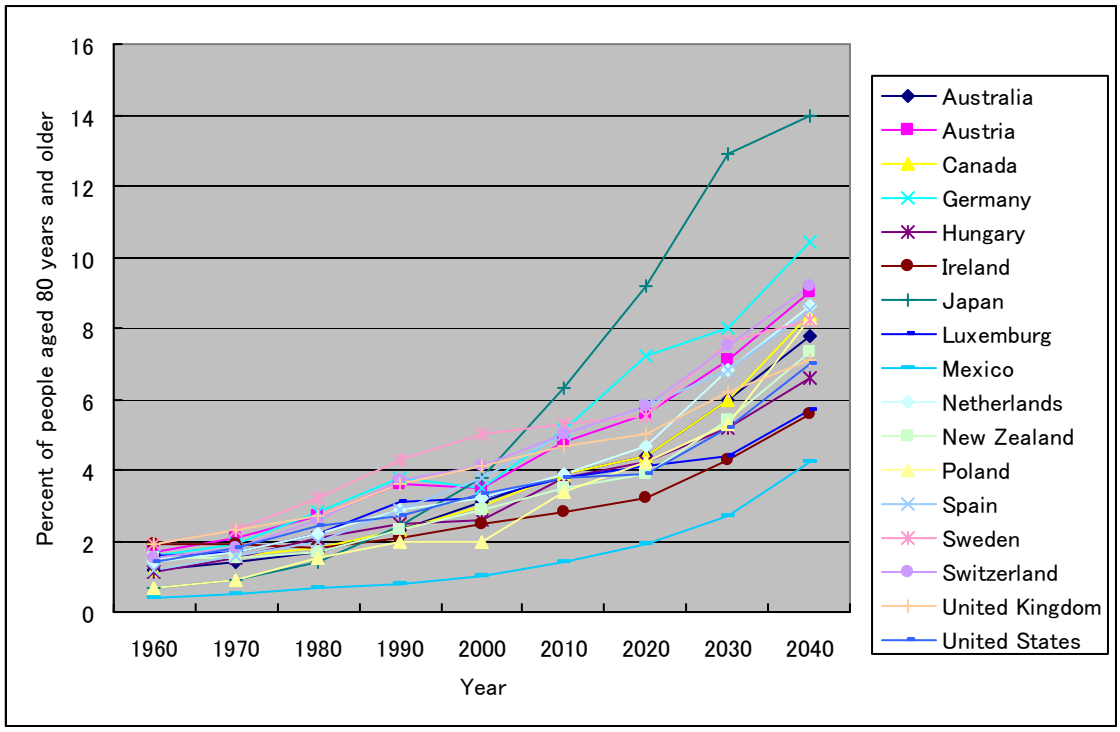


Data Source: Table 2-1 and United Nations (2008).

The expenditure on long-term care is expected to increase because the share of elderly people in the population is set to expand. Figure 2-4 shows the percentage of people over the age of 80 in the populations for all OECD countries for the period 1960 to 2040. Clearly, Japan faces the largest and most immediate challenge with the proportion of people over the age of eighty growing at an accelerated rate from 6.3 to 14.0 percent each year from 2010 to 2040. In Australia, the rise is from 3.9 in 2010 to 7.8 percent in 2040. In the United States, the growth is from 3.8 to 7.0 percent in the same period. In

summary, the speed of increase varies from country to country; however, the OECD average percentage is projected to rise to 7.7% by 2040 (OECD, 2005).

Figure 2-4. Share of Very Old People (80+) in the Population, 1960 to 2040



Note: The data for Korea is not available.
Data Source: United Nations (2008).

The problem of providing long-term care for a growing percentage of the population is compounded by the existence of fewer taxpayers. In most OECD countries, the ratio of persons aged 65 and older to the population aged 20-64 is growing. As Table 2-3 shows, the old age-dependency ratio will continue to expand. This means a) fewer people to support the older population and b) possible limitations on the budget for long-term care due to the decreasing share of working (tax-paying) population. Governments will need to become more efficient at providing long-term care.

Table 2-3. Old Age-dependency Ratio, 1960-2040

Ratio of persons 65+ to the population 20-64

	1960	2000	2040	Change in % points	
				1960-2000	2000-2040
Australia	15.8	20.7	43.8	4.9	23
Austria	21.1	25.1	59	4	33.9
Belgium	20.4	28.2	51.2	7.7	23
Canada	14.7	20.3	43.6	5.6	23.2
Czech Republic	15.2	21.9	47.8	6.8	25.9
Denmark	19	24.1	44.4	5.2	20.3
Finland	13.4	24.6	49.8	11.2	25.1
France	20.8	27.5	50	6.7	22.5
Germany	-	26.4	54.5	-	28.1
Greece	14.0	28.3	57.9	14.3	29.6
Hungary	15.5	24.5	38.4	8.9	13.9
Iceland	16.1	20.4	41	4.3	20.6
Ireland	22.4	19.2	37.7	-3.2	18.5
Italy	15.9	29.1	63.9	13.2	34.8
Japan	10.6	27.9	59.9	17.4	31.9
Korea	6.4	11.4	43.5	4.9	32.1
Luxemburg	17.6	23	36.9	5.4	13.9
Mexico	11.3	9	26	-2.4	17.1
Netherlands	16.9	21.9	48.1	5	26.1
New Zealand	17	20.1	48.2	3.1	28.1
Norway	19.8	25.7	42.9	6	17.2
Poland	11.1	20.3	41.1	9.2	20.8
Portugal	14.5	26.7	46.3	12.2	19.6
Slovak Republic	12.8	18.8	39.4	6	20.6
Spain	14.5	27.2	55.7	12.7	28.5
Sweden	20.2	29.5	46.7	9.3	17.2
Switzerland	17.6	24.9	63.9	7.3	39
Turkey	7.5	10.7	23.9	3.1	13.2
United Kingdom	20.1	26.9	46.3	6.8	19.4
United States	17.6	21.1	37.9	3.4	16.8
OECD average	15.9	22.9	46.3	6.9	23.5

Note: Germany 1960 (before reunification) was not comparable with 2000 data.
Source: OECD (2005)

There are, however, positive ways of looking at these demographic arguments. Knichman and Snell (2002) show that reconceptualising the population ratio has a marked effect on the potential for care in the United States for future decades. They argue that reductions in the number of children with care needs offset some of the increase in older people needing care. Moreover, relatively few people in the 65-74 age group require long-term care and an increasing share of persons in that age group contributes to providing care and supervision to both young people and the very old. This improves the ratio of potential caregivers to those needing care.

Nevertheless, the utility of these positive views might be offset by prolonged life expectancies. Demographic forecasts are problematic because the factors driving mortality decline, particularly at a higher age, are poorly understood (OECD, 2005: 100). In the past, demographers and actuaries consistently underestimated predictions of life expectancy (Cutler and Maera, 2001; Wilmoth, 1998). Therefore, it is possible that the dependency ratio of very old people will be even greater than expected.

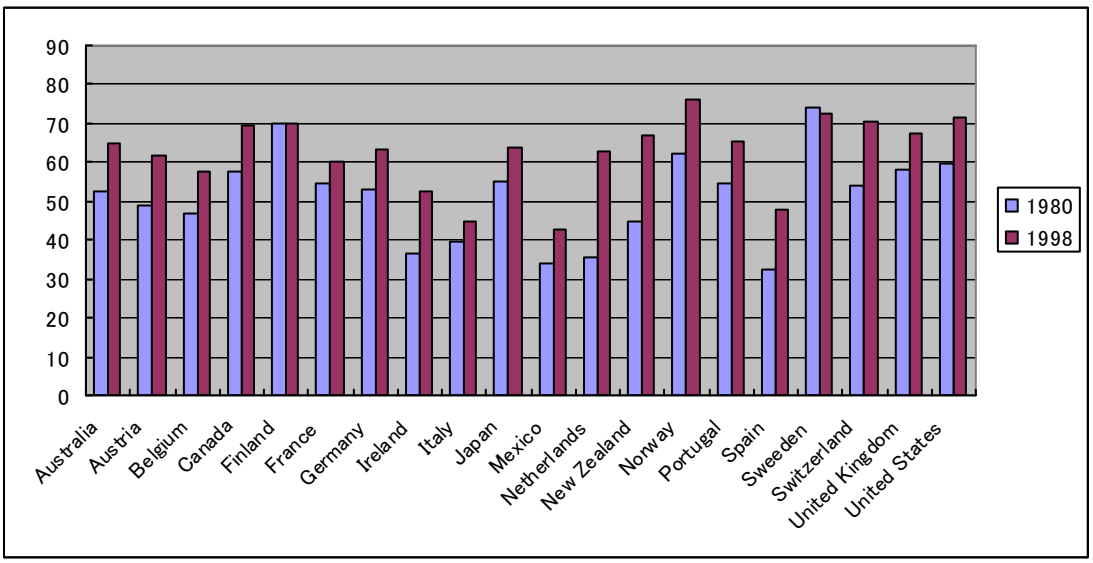
Changes in people's life styles constitute another factor that increases the long-term care demand. These changes include decreasing family size, greater life expectancy for older people, geographical dispersion of families, and the tendency for women to be educated and to work outside the home in most countries (Figure 2-5).[16] Thus, family members can no longer afford to play the role of caregiver.

What is certain is that the demand for long-term care will continue to increase in the OECD member nations. Governments will have to respond to these increasing needs with increasingly limited resources.

[16] Sweden has an extra exception in this figure.

Figure 2-5. Female Labour Force Participation Rate

Female labour force of all ages divided by female population 15-64 years old



Note: The following data was not available: Czech Republic, Denmark, Hungary, Iceland, Korea, Poland, and Turkey. The data for Germany in 1980 is for former West Germany.
Source: OECD Labour Force Statistics (2000).

Marketization of Long-Term Care Provision

Market provision of long-term care began to occur in the mid-1960s and this form of long-term care provision is likely to accelerate as governments try to manage increasing costs and demand. The United States initiated market utilisation, in general, in 1980. Since then, other governments, including the United Kingdom, Germany, and Japan, have gradually implemented marketization. Table 2-5 lists the benchmark events in the history of long-term care in selected countries, and the specific changes are explained below.

In the United States, the utilization of non-governmental organizations was greatly encouraged under the Reagan Administration. Regulations related to home and community long-term care were reduced and eligibilities for Medicare and Medicaid were expanded. Since then, the market for elderly care has greatly increased. The market for nursing homes has increased 9.5% on average from 1986-1995 and the market for home care grew 19.6% in the same period (MHLW, 2000).

In the United Kingdom, local municipalities traditionally provided elderly care, but the Community Care Reform, starting in 1992, changed this system from the direct provision of services by local governments[17] to the purchase of services from the non-governmental sector (private companies and non-profits). After this major shift, care managers from local authorities had to judge the demands of those who needed care and prepare a comprehensive care plan. This resulted in the expansion of non-governmental elderly care provision (MHLW, 2000).

[17] After judgment of the needs of respective services (e.g. day service or home help service) and decisions on each of these services,

Table 2-4. Benchmark Events in the History of Long-term Care Policies in Selected Countries (1965-2007)

Year	Country	Event
1965	US	Enactment of Medicare and Medicaid Medicaid (medical support for low-income citizens) began to support nursing home fees, including private nursing homes.
1966	Australia	The federal government commenced grants for nursing homes, including private ones.
1969	US	The Department of Housing and Urban Development began supporting the opening of new nursing homes, including private ones.
1980	US	Amendment of the Social Security Act Medicaid covered the fees for home care (assisted living) services, including private organizations.
1980	UK	The Supplementary Benefit Regulations of 1980 supported private nursing homes.
1981	US	Enactment of the Home and Community-based Long-term Waver Option authorized state use of Medicare.
1985	Australia	The Aged Care Reform Strategy started. The Home and Community Care Act encouraged assisted living services.
1989	Germany	Enactment of the Health Reform Health reform allowed for assisted living services to include medical activities.
1989	Japan	The government began to utilize private companies by outsourcing nursing home services.
1990	UK	Enactment of the National Health Service and Community Care Act
1990	US	Personal care benefits authorized states to allow personal care attendants to accompany clients and provide services outside the home.
1990	Japan	Amendment of Social Welfare Laws Decentralization of government involvement in social welfare encouraged private companies to provide long-term care services.
1991	Australia	The federal government lifted the ban on the private sector's participation in hostels.[18]
1991	Australia	Financial support for those who were eligible to stay at hostels commenced.
1992	UK	The Community Care Act was implemented, encouraging the utilization of the private sector in long-term care provision.
1992	Sweden	Edel Reform (1998) The transformation of the authority of long-term medical facilities from *landstings* to *kommuns* encouraged the private sector to enter the elderly care market.
1993	UK	Community Care Reform
1994	Germany	Establishment of long-term care insurance
1995	Germany	The private sector entered service provision for assisted living care (home care).
1996	UK	The Community Care (Direct Payment) Act of 1996 encouraged assisted living care.
1995	Germany	Introduction of the Long-Term Care Insurance
1997	France	Establishment of the Law of Long-term Care
2000	Japan	Introduction of the Long-Term Care Insurance
2007	S. Korea	Introduction of the Long-Term Care Insurance

Traditionally, in Germany, elderly care services were mainly provided by six philanthropic organizations, including the Red Cross and Caritas. The government gave them financial support and the market share of the six

[18] In Austria, a hostel is a type of nursing home for lower dependency residents whereas a home for higher dependency residents is called a nursing home.

organizations reached 50% of the entire sector of long-term care service. However, with the introduction of Long-Term Care Insurance in 1995, the government began giving financial support to non-profit organizations and private companies outside of the six philanthropic organizations. Since then, many companies and non-profit organizations have entered the market (MHLW, 2000).

In Australia, private philanthropies who received financial support from the government traditionally provided nursing home service. Then, in order to respond to diversified public needs, the government implemented the Aged Care Reform Strategy, in 1985. As a result, financial support for hostel services for lower dependency elderly began in 1991. Moreover, based on the Home and Community Care Act, assisted living services have been increasingly provided by the non-government sector with support from the government (Australian Institute of Health and Welfare, 1995).

Sweden is known as a social democracy. Elderly care in Sweden is mainly provided by the public sector. However, utilization of the non-government sector has gradually increased since the Edel Reform of 1992. This tendency can be seen, especially in big cities, such as Stockholm and Gothenburg, where assisted living services are in demand (MHLW, 2000).

Finally, in Japan, since the Long-Term Care for Older People Law (*Rojin fukushi hou*) of 1963, public institutions have predominantly provided long-term care services. However, from the late 1980s forward, long-term care services from the private sector have gradually increased. The Long-Term Care Insurance Law of 2000 deregulated private sector access to the market for almost all elderly services and now about 40% of long-term care providers are private companies (MHLW, 2002).

Together these changes mean that private companies currently play a

significant role in the provision of long-term care across most OECD countries. The study lacks accurate data to compare the forms of long-term care service provision internationally due to the absence of a tangible measurement of providers' share[19]. Nevertheless, according to Nissei Life Insurance (NLI) Research Institute (1998) (see Table 2-5), the private sector is the main provider of these services in both the United States and the United Kingdom, though government and non-profit sector provisions still comprise the majority in Sweden. Japan, Germany, and Australia assume a middle position between these two extreme cases, with about the half of the provisions relying on the private sector.

Table 2-5. Long-term Care Provision by the Private Sector in Selected Countries

Institution by the private sector		**Home care by the private sector**	
United States	75%	Japan	70%
United Kingdom	60%	The United States	65%
Germany	45%	Germany	50%
Japan	40%	Sweden	8%
Australia	30%		

Note: The rest are provided by both governments and non-profit organizations. .
Source: Nissei Life Insurance Research Institute (1998)

The Problem of Quality in the Long-Term Care Market

A significant challenge of marketization is how to ensure the care quality. Like any other fields of human service, long-term care covers a very diverse field of needs. Although much researcher has been done on this matter to ensure the service quality in market, there is still some room for improvement.

Governments have tried hard to cope with this care quality assurance. Table 2-6 lists care quality assurance policies on long-term care in the United States, the United Kingdom, Germany, Australia, and Japan. The service providers that do not follow these policies are in danger of being eliminated from the

[19] For example, the number of institutions, capacity, or income-base.

market. Moreover, the outcomes of these performance measurements are publicly available via websites (e.g., nursing homes in the United States and community-based service providers in Japan). A user's choice should, therefore, eliminate the provision of poor quality care and eventually meet the user's needs.

Table 2-6. Care Quality Assurance Policies for Long-term Care Provision in OECD Countries

Country	System
US	Home Care Quality Assurance Act of 1987 Omnibus Budget Reconciliation Act of 1987 State-level long-term care service guidelines
UK	Registered Homes Act (1984)
Germany	Quality Form system (voluntary)
Australia	Aged or Disabled Persons Act of 1972 Nursing Home Assistance Act of 1974 Home and Community Care Act of 1986: the investigations of the Standard Monitoring Team Aged Care Act of 1997: the introduction of Accreditation Standards (1998)
Sweden	Customer questionnaire survey by communities Facility inspection by the Handicap Institute
Japan	Introduction of yearly inspections by local municipalities, as well as third-party evaluators (2001)

In spite of these efforts, however, the public's dissatisfaction with the quality of care has reached serious levels. The OECD (2005) claimed that the poor quality of long-term care provision was still a common issue. Even the United States, which has the longest history of LS implementation of long-term care provision, has not been able to solve this problem. In fact, Harrington (2001) reported that "despite efforts towards quality control, poor quality care for the 1.6 million people in nursing homes has existed for 25 years" in the United States. There are worldwide accounts in the media of the abuse and neglect of frail, elderly people, both in nursing homes and in community care (Braithwaite, 2006: p. 443). Although governments have implemented quality assurance policies, the problem of unsatisfactory care provision has not yet been solved.

Public Administration Theories

The previous sections have identified long-standing care quality issues in the market with the following chronological steps:

a) Due to the notion of welfare states, governments need to ensure the provision of human service.
b) Due to financial and technical constraints, governments need to provide the necessary human service through a competitive market instead of through direct provision.
c) In order to assure the quality of care in a competitive market, which tends to sacrifice service quality for profit maximisation, governments have implemented various regulatory policies.
d) However, unsatisfactory care quality issues still remain in the market.

The findings indicate that the established enabling/outsourcing policies regarding the human service market are not effective.

The next step is to examine possible causes of the problem. To do so, we need to step back from the field of human service and investigate the care quality problem in the bigger picture of public administration theory. One assumes that the current market-utilizing, public administration theory has defects because the care quality problems of human service provision remain, in spite of the governments' efforts. Certainly, market-utilising, public administration theory behind outsourced public service provisions has improved the quality of services in many fields. For example, the fields of telecommunication services, parcel delivery services, and public transportation are often presented as success cases. Nonetheless, the theory has not been able to apply as effectively to human service provisions. The next section reviews public administration theory and investigates the causes of the long-standing care quality issues in human service provisions.

From Bureaucracy to Market Utilisation

Public administration theories have gradually shifted the model from bureaucracy to market utilisation. This section first gives an overview of the transition. Then it investigates the different outcomes between human service and other public services.

The history of public administration theory begins in the late 19th century. One of the earliest contributions to the field of public administration was made by Max Weber, who believed that the requirements of the Industrial Age necessitated the use of a highly centralized, rule bound, expert-driven hierarchic system in public sector management. This form of organisation represents a bureaucracy.

For the first half of the 20th century, bureaucracy was assumed the best method for providing public services (Ostrom, 1989). According to Albrow (1970), the elements of bureaucracy include developing a division of labour and specialisation of function, establishing a hierarchy with clearly defined roles and explicit rules, and making employment decisions (such as selection and promotion) based on merit.

The idea of bureaucracy was widely accepted because it fit very well with the social needs at the time. Bureaucracy was originally developed to accommodate the needs of mass-production in the Industrial Age. Furthermore, the feature was also required in response to far reaching events, such as the Great Depression and the World Wars. Because of the success of bureaucracy, public administration, as a model of organisation, became associated with a belief in "social engineering" to correct market failure (Boyne, 1996).

However, bureaucracy began to expose its functional fragilities once the post-war period was over. The biggest factor was the growing diversity of the

needs for public service. The industrial structure had gradually shifted from heavy (e.g., iron and steel) to compact (e.g., service) knowledge. Human service was required to respond to detailed care needs. In response to this trend, bureaucracy was a rigid administrative theory (Dubois, 1979). Certainly, bureaucratic forms of organisation are stable conditions, but they have difficulty in learning from their mistakes and are slow in adapting to changing circumstances (Burns and Stalker, 1961; Crozier, 1964). In fact, the features of bureaucracy began to be criticised as weaknesses. For example, Dunleavy and O'Leary (1987) claimed that the assumption of a clear distinction between policies/policy making and administration had been found to be impractical. Merton (1952) argued that the rule-governed basis of bureaucracy was dysfunctional because the means tended to displace the ends, resulting in the punctilious adherence to rules.

Furthermore, the assumption of bureaucracy that politicians and administration staff act in the public interest also began to be criticised as naïve. Many researchers, such as Crozier (1964), Selznick (1949), and Tullock (1970), argued that public employees do not have a special type of motivation, but act in order to maximise their self-interest in terms of income, prestige, and power. They claimed that this resulted in state budget inflation, that public officials increased their authorities by maximising their department budgets, and that politicians worked for their ambitions by spending a lot of public money to secure their votes.

Initial Shift from Bureaucracy to Market Utilisation

As a result, the idea of 'public choice' became more accepted as a solution to these problems. It appeared to be a way of addressing the human behaviour of self-interest by minimising the role of the state, limiting the discretionary power of politicians, reducing public monopolies to a minimum, and maximising the use of the market. That is, proponents of 'public choice' seemed to recognize that, as departments have a vested self-interest, they

should not both advise on policy and implement it; the 'public choice' solution claimed that advisory, regulatory, and delivery functions should be separated and undertaken by different agencies (Boston, 1991).

Many academics reinforce the challenges of public service provision through markets. In fact, the phenomenon goes by several names: government by proxy (Kettl, 1993), third party government (Smith and Lipsky, 1993; Salamon, 1989), hollow government, the hollow state (Milward, 1994; 1996), virtual government (Sturggess, 1996), the hollow crown (Weller, Bakvis, and Rhodes, 1997), shadow government and the contracting regime (Kettl, 1988). The argument is that public organisation needs management, not administration–where public management means the fulfilment of goals rather than the careful observation of procedures (Lane, 1993).

Ideas to introduce managerial methods into the public sector developed apace during the 1970s and 1980s. This trend emphasized focusing on the ends, not the means. The trend also focussed on the establishment of semi-autonomous public sector agencies in which managers were given greater discretion to manage. By the 1990s, this distinctive approach to public sector management, "New Public Management (NPM)," was shaped by both private sector management techniques and ideas from the public choice theory. This trend emerged in many OECD countries (Hood, 1991; Hughes, 1998). The ideas of NPM, according to Aulich *et al* (2001), are summarised in Table 2-7.

Table 2-7. The Ideas of New Public Management (NPM)

- A shift from input controls and rules to a reliance on quantifiable output measures and performance targets
- Separation of policy making from service delivery
- Disaggregation of large bureaucratic structures into quasi-autonomous and specific purpose agencies
- Contractual relationship between decentralised service providers and central service purchasers
- Preference for private ownership, outsourcing, and contestability in public service provision
- The pursuit of the user for greater efficiency of public funds by:
  - greater publication of performance information,
  - targets for efficiency savings,
  - the introduction of competition where possible. And
  - strengthened audit arrangements.
- More commercial styles of management practice, including:
  - human resource management (HRM) policies (for example, short-term labour contracts and performance-related reward systems),
  - strategic and business planning,
  - internal trading arrangements,
  - flatter organisational hierarchies,
  - greater customer orientation, and
  - revised corporate governance arrangements.

The overall transition of public administration theories towards market utilisation is identified in Table 2-8. The two public administration theories listed in Table 2-8 describe the transition from centralised bureaucratic theories to networked/outsourced market-oriented theories in terms of the provision of public services. The left-hand side was designed to capture the traditional theory of public administration, dominated by process, inputs, hierarchy, and the use of the public sector for service delivery. In the right-hand side, the role of the market (i.e., private sector) had expanded and that of the public sector had contracted in the provision of services, and competition and outcomes became crucial in public service provisions. Within each theory, there is room for substantial variation in practice. In some countries, it is also possible to recognise a sequence of stages in public sector reform, with movement flowing from the traditional administrative state to the market state.

Table 2-8. The Transformation of Public Administration Theory

Characterisation	Traditional public bureaucracy	Market utilisation
Dominant values	Administration	Competition
Performance measure	Process	Outcome
Role of government	Dominant Provider	Enabler/purchaser
Structure	Centralised and hierarchical	Networked, outsourced
State fiscal policy	Broad	Narrow, contracted spending
Relative importance of public and private sectors	Public sector dominant	Private sector dominant

Source: Aulich, *et al* (2001)

Causes of Long-standing Care Quality Issues in Human Service Provision

As seen above, the public service provisions today are in market utilisation. However, the features of market utilisation have caused the long-standing care quality issues in human service provision. They have fundamentally clashed with the earlier-mentioned nature of human service in two ways.

Competition versus Discretion

"Competition" is a dominant value of the market-utilising public administration theory and this conflicts with the requirement for discretion in human service provision. As the needs of human service are quite diverse,[20] providers need to customise their services for each user. However, this indicates that the users need to observe the quality carefully, as well as the price, when purchasing a service. The quality of such discretionary care services inevitably varies by provider. When p indicates price and q means quality, the purchasing market model can be expressed as $Y = x\ (p, q)$; the model accommodates 'inexpensive but poor quality,' as well as 'expensive but

[20] For instance, the need of long-term care varies based on the individual.

good quality.' Consider an example: some long-term care providers respectfully respond to every single need of care recipients while other providers neglect care recipients and sometimes even abuse them physically and mentally. This model is simply not acceptable in public service provisions, because, unlike that of consumer items, any poor quality treatment in public services often causes significant damage to a person's life.

The conflict is unique in human service. In most other public services, which do not customise the services provided, all users receive the same level of quality. This means that the market model works as $Y = xp$. In successful cases, such as previously mentioned telecommunication services, delivery services, and public transportation, the players in the market treat all users equally.[21] As a result, the quality of these services is standardised. For instance, the internet connection services provided by Telstra are very similar to those by Optus in Australia, and the speed of both internet connections is at the same level. In the United States, the United States Postal Service (USPS), United Parcel Service of America (UPS), and FedEx deliver parcels in a similar way and their punctuality is at more or less the same level. Likewise, Japan Railways (JR) runs trains just like other private railway companies do in Japan, and there are no differences between them in terms of safety and punctuality. In other words, such similarities have led to the success of these provisions through the market. Due to the simple price competition in the market, (i.e., $Y = xp$), the players become financially motivated to enhance the efficiency of the service provisions. Therefore, the expense of governments and consumers is minimised.

Competition alone, however, does not translate into similar success in the human service sector. Since the requirement for discretion in the provision of human service produces diverse levels of service quality, the public

[21] That is, train services treat all passengers equally, compared with human service providers who cannot treat care recipients who are at different levels of care needs in the same way.

administration theory for the human service market needs to direct the competition towards enhancement of service quality. Nonetheless, the theory does not do so. Including *quality* together with *price* in the equation of the market model, the market-utilising, public administration theory accommodates a range of service quality from extremely good to completely unacceptable, in terms of human welfare and dignity. This *is* the long-standing service quality issue.

One way for governments to solve the care quality issue is to overcome the contradiction between competition and providers' discretion. Since the providers' discretion is necessary for human service provision, governments need to redesign the market to control the competition. This leads to the first research question of this thesis:

How should governments design the human service market in order to keep the capacity to ensure the quality of service?

This question will be answered in Part I.

Outcomes versus Ambiguous Policy Goals

Another important question that remains is how to measure the quality of care. What is good quality of care and how can we measure it? Conflict occurs in performance measurement: a fundamental disagreement exists between the outcomes-oriented public administration theory and the ambiguous policy goals of human service.

Measuring outcomes inevitably requires tangible goals. Since a policy's outcomes indicate how much the policy has achieved its goals, the goals need to be clear; otherwise, it is not possible to measure them.

Nonetheless, the policy goals of human service tend to be ambiguous (Lipsky,

1980). Statements like "long-term care for the peaceful and respected life of elderly people" are not measurable. How can one objectively measure the peacefulness of, or the respect for, someone's life? One might think that the user's satisfaction is a useful measure, but a significant number of long-term care users suffer from dementia.

Such ambiguity is, indeed, unique to human service markets. The performances of many other public services provided through the market are measurable. For instance, the safety and accuracy of public transportation is measurable by the accident rate and delay time, respectively. This is also the case with telecommunication and delivery services.

Since the outcomes of human service are not measurable, governments need to introduce an alternative approach. This leads to the second research question of this thesis:

How should governments set performance measurement?

Part II of this thesis investigates this problem.

Part I. Care Quality Model for the Human Service Market

Chapter 3. Presenting Ideal CQM

As mentioned in Chapter 2, the purpose of this Part I is to answer how governments should design the human service market in order to keep the capacity to ensure the quality of service. To do so, this chapter first identifies the problems of an existing care quality model (hereinafter, Existing CQM) and presents an alternative 'Ideal CQM' to answer the question. The following Chapters 4-6 justify Ideal CQM in terms of empirical applicability, empirical workability, and financial practicability, respectively.

Defining Care Quality Model

In this thesis, the term 'care quality model' indicates the market design that directs market competition in terms of care quality. In competitive markets, providers naturally aim at profit maximization and behave opportunistically. As a result, they provide goods within a wide range of quality and purchasers who do not have money are discriminated against or ignored. This is not a bad thing in the consumer products market. However, it is typically seen as negative in the field of human service as human service is provided to ensure people maintain a minimum standard of living. Moreover, expectations about the standard quality of care have risen in the human service market over time. In long-term care, for example, Activities of Daily Living (ADL) support used to cover only such areas as meal preparation and room cleaning but it has now extended to include mental aspects such as reduction of isolation and depression. Thus, a "care quality model" must automatically improve the level of care quality in the market while also eliminating low quality service and opportunistic behaviour.

Theoretical Foundation of Care Quality Model

Care quality models in the field of human service can be designed on the assumption of either a universal or a means-tested system. A "universal" system means that governments are responsible for widespread access to services. Under a "means-tested" system, government ensures that the economically vulnerable have access to services while all other users in the population purchase services in the human service market. Theoretically, both systems prevent people from being ignored in the human service market. In practice, about half of the selected OECD members applied a universal system and about half applied a means-tested system (Table 3-1). The cases of Canada and Australia are hard to categorize, because of the huge regional differences in their systems, and the "slide scale" system in Australia, where most people are eligible for at least partial support according to income level.

Table 3-1. Major Public Long-Term Care Program in 19 selected[22] OECD member countries

	Type of care	Program	Type
S. Korea	Home care Institutional care	Long-term care insurance	Universal
Luxemburg	Home care Institutional care	Dependency insurance	Universal
Mexico	Institutional care	Specialized services in Geriatrics	All ages, all people who are insured
	Home care	Day centres for pensioners and retired	Insured pensioners and retired people
Netherlands	Home care	AWBZ	All ages Universal
	Institutional care	AWBZ	All ages Universal
New Zealand	Home care	Carer Support	Means-tested
		Home Support: home help	Means-tested
	Institutional care	Long-term residential care	Means-tested
Norway	Home care	Public long-term care	Universal
	Institutional care	Public long-term care	Universal
Poland	Home care Institutional care	Social services	Means-tested
Spain	Home care Institutional care	Social care programs at Autonomous Community level	Means-tested
Sweden	Home care Institutional care	Programs at Canton level; health promotion for the elderly by Old Age Insurance	Universal
Switzerland	Home care Institutional care	Programs at Canton level; health promotion for the elderly by Old Age Insurance	Means-tested for institutional care
United Kingdom		Social service	Means-tested
	Home care (cash)	Social Security Benefits	Means-tested
Australia	Institutional care	Residential care	Partly means-tested
	Home care	Community Aged Care Package (CACP)	Means-tested
		Home and community care (HACC)	Means-tested
		Carer allowance	Means-tested
Austria	Home care	Long-term care allowance	Universal
	Institutional care	Long-term care allowance	Universal
Canada	Home care	Provincial programs	Usually means-tested
	Institutional care	Provincial programs	Usually means-tested
Germany	Home care	Social Long-term Care Insurance	Universal
	Institutional care	Social Long-term Care Insurance	Universal
Hungary	Home care/ Institutional care	Social protection and social care provision program	Means-tested
Ireland	Institutional care	Nursing Home Subvention Scheme	Means-tested
		Public long-term care	Means-tested
	Home care	Community-based care	Partly means-tested
Japan	Home care Institutional care	Long-term Care Insurance System	Universal
United States	Home care (in-kind) Insurance care (in-kind)	Medicaid	Means-tested

Source: S. Korea: Choi (2009) and others: OECD (2005)

[22] Although OECD consists of 31 member countries, OECD (2005) reported only the selected 19 countries due to a lack of available data. The 19 nations included are S. Korea, Netherlands, Luxemburg, Norway, Sweden, Austria, Germany, Japan, Mexico, New Zealand, Poland, Spain, Switzerland, United Kingdom, Hungary, Ireland, United States, Australia, and Canada.

To date, all of the care quality models investigated in the literature in the field of long-term care assume a means-tested system. This limitation in the literature can be explained by the fact that almost all research on quality of care models comes from the United States, which has a means-tested system of long-term care. Although care quality issues in long-term care markets are common in many countries, the disclosure of providers' care quality has been limited either to public providers or geographically, to a specific region only. As the disclosure of all nursing homes' care quality, implemented by the United States was unique, it was natural that researchers built care quality models based on a means-tested system. Certainly, the United States, until recently, appeared to be the only nation in which the care quality data of all nursing homes was publicly available. However, the bias towards means-tested systems and, indeed, towards one country in the existing care quality model research literature creates problems and limitations when searching for data to support the definition, design and implementation of the best possible model for quality care.

In recent years, Japan has emerged as a possible case counterbalance to this problem. As the result of recent reforms, Japan now publicizes all providers' care quality information in its community-based services[23]. Under the universal long-term care insurance system implemented in 2000, Japan introduced a mandatory third-party evaluation system to the community-based services in 2006.

Despite this alternative, there has been little effort to build a care quality model with a universal system using the Japanese data. A major reason for this may lie in the language barrier issue. Even among Japanese researchers, however, the data in Japan has been used only for the empirical investigation

[23] Mandatory third-party evaluation (*gaibu hyouka*). This evaluation is, thus far, mandatory for community-based services only.

of the models developed from the case of the United States. No one has yet criticized the means-tested based models developed in the United States or tried to create a care quality model based on a universal system.

History of Care quality Model

The current care quality model derives from an earlier research by Scanlon (1980) that modelled the access to nursing homes. At that time, many nations applied a means-tested policy (e.g., Medicaid in the United States) and mainly used private companies to provide long-term care. Using this as his basis, Scanlon assumed that the nursing home maximized profits π from two types of care recipients: private and Medicaid. In this model, private care recipients pay p and have demand x (p). The nursing home receives reimbursement rate r for each Medicaid care recipient. The total bed supply is $\bar{x}$. Costs $c(\bar{x})$ are the same for private and Medicaid care recipients. Therefore, as long as the nursing home is full, total costs are fixed. Nursing homes maximize profits with respect to private price:

(1) $$\max_{p} \pi = px(p) + r(\bar{x} - x(p)) - c(\bar{x}).$$

As quality of care became an issue in long-term care provision, several authors expanded Scanlon's model to quality of care (Nyman 1985; Dusansky 1989; Gertler (1989), Gertler (1992), Gertler & Waldman (1992). Norton (2000) compiled those models into one model, assuming that private care recipients care about quality, and that the cost function depends on quality. The model is described in the formula:

(2) $$\max_{p,q} \pi = px(p,q) + r(\bar{x} - x(p,q)) - c(q \mid \bar{x}).$$

The nursing home takes Medicaid reimbursement r and its own bed supply $\bar{x}$ as given, and chooses private price p and quality of care q to maximize

profits π.

This model (hereinafter, Existing CQM) does not possess the mechanism to enhance the quality of care in order to solve the problem of poor quality of care. As argued in Chapter 2, the care quality model that possesses both price and quality components, at the same time, will inevitably accommodate 'inexpensive but poor quality as well as 'expensive but good quality.' The following section further explains the weaknesses of the model.

Weaknesses of the Existing Care Quality Model

Existing CQM has significant weaknesses on directing market competition to enhance the quality of care. First, Medicaid care recipients may not pay attention to care quality since the reimbursement rate *r* is independent of care needs and care quality[24]. That is, Medicaid care recipients go to a nursing home, not necessarily because they really need care (*note*: the Medicare reimbursement is in-kind[25] only), and if they do not actually need care, they probably are not concerned about the quality of care[26]. The nursing home, on the other hand, responds to their needs opportunistically: they admit the Medicare recipients who require a smaller amount of care in order to minimize their costs. Moreover, the nursing home makes more profits by increasing care recipients' reimbursement, despite the quality of care they provide. Therefore, the nursing home tends to lower quality of care with an increase in Medicaid reimbursement rate because the pool of care recipients able to pay for quality shrinks (Norton, 2000). This reduction of the private care recipients' ratio raises the marginal cost of quality among the remaining private care recipients and results in reduced quality. Nyman (1988) found

[24] The reimbursement rate paid to nursing home depends on historical costs and is independent of a care recipient's health (Norton, 2000).
[25] The benefit is a care service, not cash.
[26] They would care for something irrelevant to the quality of care (e.g., the beauty of the nursing home building), rather than the quality of care.

that in markets where excess demand was likely, an increased percentage of Medicaid care recipients were associated with a lower quality of care. In contrast, where excess demand was unlikely, an increased percentage of Medicaid care recipients were unrelated to lower quality care. In Existing CQM, therefore, the market does not possess the mechanism to improve quality of care since a group of users in the market do not care about the quality of care.

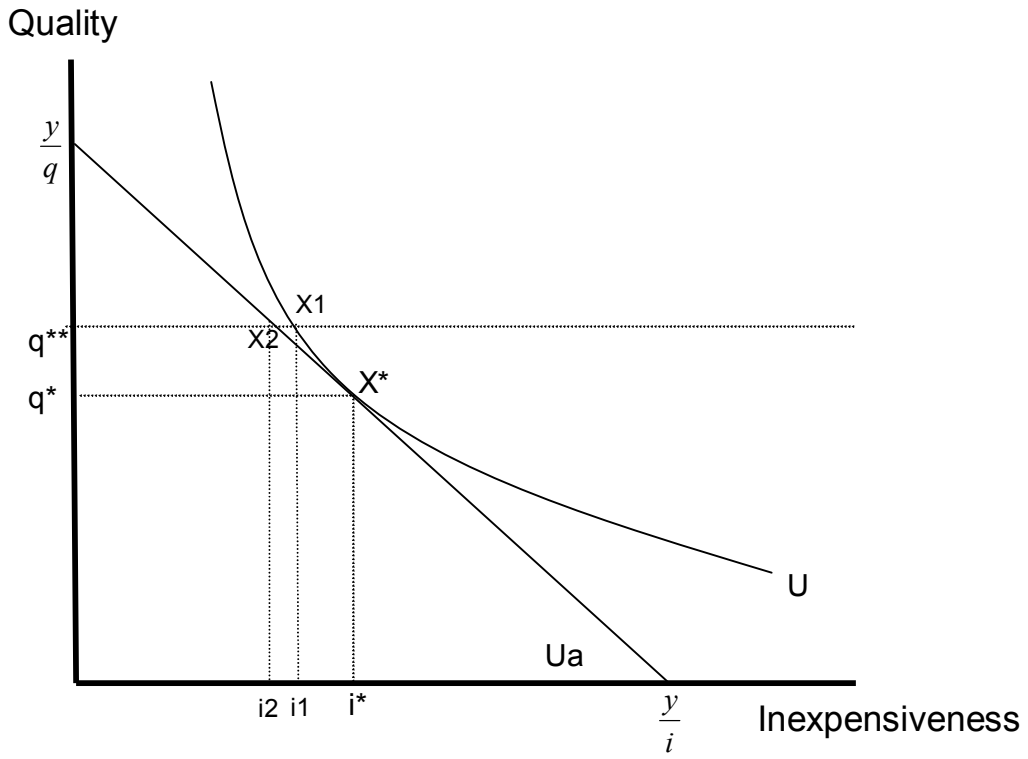
Second, although private care recipients pay for quality, Existing CQM does not eliminate poor quality of care from the market. Figure 3-1 illustrates the behaviour of private care recipients in the quality of Existing CQM. As Existing CQM deals with price and quality for care recipients choosing a provider, one assumes that care recipients look for high-quality care (q) and inexpensiveness per unit of care (i) [27]. The indifference curve (U) represents care recipients' in different combinations of high quality and inexpensiveness: $U = u\ (q, i)$. Note that the price becomes inexpensive to the right of the figure, unlike many other explanations in microeconomics. That is, at each point on the curve, care recipients do not prefer high quality over inexpensiveness and vice versa. The line ($y = qx + ix$) indicates the necessary care amount for care recipients. Therefore, the utility of care recipients (U) is commonly maximized at (X*): the breaker point of the indifference curve and the necessary amount of care ($y = qx + ix$). Importantly, nevertheless, the scale of (q) and (i) is unique to each care recipient. The demand for lower quality care continues to exist as long as there are care recipients who cannot afford expensive and good quality care (e.g., non-wealthy private care recipients). The quality (q*) is very poor if the price (i.e., inexpensiveness) (i*) is very cheap. Therefore, Existing CQM does not solve the issue of low care quality.

One might think that governments can still eliminate poor quality of care via

[27] The term "inexpensive" may sound strange in economics, but the term is necessary to describe *price* component in the association with *quality* in indifference curve: the utility needs to be greater to the right (or the above) of the figure.

regulatory policies. In this Existing CQM, however, the workability of regulations is very limited. Suppose governments intervene in the market and remove the quality below (q^{**}), setting (q^{**}) as the minimum quality standard. Care recipients, then, feel that the care level (q^{**}) is too expensive because (q^{**}) meets the necessary care amount line ($y = qx + ix$) at (X2), which is located on the left (i.e. expensive) side from the break point (X1), where care recipients feel happy about the quality-inexpensiveness combination. In other words, care recipients see that (q^{**}) is overpriced as much as (i1-i2). As a result, care recipients are dissatisfied with the minimum quality standard and some even lose access to long-term care due to the price rise.

Figure 3-1. Care Differentiation and Equilibrium



Ideal CQM:

Directing Market Competition to Improve Quality of Care

This section presents an alternative care quality model (Ideal CQM), which is

tested and discussed throughout the remaining chapters of this thesis. As shown above, the current means-tested based Existing CQM does not solve the care quality problems in the long-term care market.

The following section modifies Existing CQM in two ways. The first modification is to remove the care recipients who do not care about quality of care from the market, associating reimbursement r with care recipients' health conditions. If standardized contents of care are provided according to care recipients' conditions, care recipients can compare the quality of care of providers. In addition, providers cannot behave opportunistically as long as the data shows, in public, the condition of the recipients they serve. The nursing homes, thus, focus on the competition for a better quality of care. The second modification removes price p from Existing CQM. As seen earlier, price p leaves low quality in the market, as there is always a group of people who cannot afford expensive, high quality care. If quality q is the only factor, those who care about quality naturally give nursing homes incentives to enhance quality of care because they choose nursing homes based on quality of care. In sum, these adaptations redirect market competition away from financial competition and towards care competition so that the competitive climate works to improve quality of care and, thus, to eliminate poor quality of care.

Unlike Existing CQM, Ideal CQM is based on a universal system. Under such a system, the people co-purchase necessary long-term care and distribute it according to individual needs dictated by health conditions. Setting certain criteria for each level of care needs, the government outsources distribution to the providers in the market.

In Ideal CQM, therefore, the providers (i.e. nursing homes) compete for a better quality of service. As for the providers' profit maximization, accepting the care recipients who need constant care certainly increases their income,

but it also consumes many resources (the expenses of the nursing home increases) and vice versa. As long as there is competition in the market, the nursing homes with low quality of care are unlikely to be chosen by care recipients.

In Ideal CQM, universal long-term care insurance holders[28] h (i.e. all care recipients) care about quality. The providers, therefore, maximize profit with respect to quality of care:

$$\max_{q} \pi = hx(q) - c(q \mid \bar{x}), \quad (3)$$

where q is quality, c is cost, and $\bar{x}$ is total bed supply.

In sum, because Existing CQM in the literature does not possess the mechanism to solve the problems in the human service market, an alternative care quality model is necessary. The alternative is Ideal CQM, which directs market competition solely for better care quality. It requires three conditions for application: a) a universal long-term care system, b) standardized content of care according to care recipients' conditions, and c) no price competition.

Questions Regarding Ideal CQM

Ideal CQM logically solves the care quality issue in the market because low quality of care is automatically eliminated by market competition in the model. Nevertheless, several empirical and theoretical questions remain regarding Ideal CQM. The first is its *empirical applicability*. Is it possible to meet the following requirements: a) universal long-term care system, b) standardized content of care according to care recipients' condition, and c) no price competition? Chapter 4 will answer this question in investigating a case

[28] This indicates the universally insured people, meaning the same people under the universal long-term care system with taxation.

that introduces Ideal CQM.

The second question is about the *empirical workability* of Ideal CQM. Ideal CQM assumes that all care recipients have access to a provider's care quality information and can compare providers based on their care quality. However, that assumption conflicts with information asymmetry models in the care market. That is, these models claim that care recipients do not have access to the signals of providers' care quality and thus cannot choose a provider based on care quality. This issue is addressed in Chapter 5.

The last issue is the *financial sustainability* of Ideal CQM. As indicated, Ideal CQM is based on a universal system, in which governments are responsible for service provision to all people. Compared to a means-tested system, many researchers claim that a universal system is more costly because coverage is much wider. Since the demand on human service is increasing, Ideal CQM, based on a universal system, may not be realistic. This argument is examined in Chapter 6.

Chapter 4. Testing the Ideal CQM: Applicability

The previous chapter presented an Ideal CQM, which theoretically overcomes the tension between quality and price that has hampered government efforts to ensure quality in the field of human service markets. This chapter begins to test the Ideal CQM by assessing whether the three conditions for that model can be realised in practice. Specifically, the research underpinning this chapter examined the systems of long-term care provided across OECD nations to identify whether any existing system fulfilled the three preconditions of Ideal CQM:

(Condition 1) a universal long-term care system;

(Condition 2) standardized content of care according to care recipients' conditions; and

(Condition 3) no price competition.

An initial survey of OECD countries showed that the long-term care market in Japan was the only country to fulfil all three conditions of the Ideal CQM. Across the OECD, eight nations apply universal long-term care (insurance or taxation) systems: Austria, Germany, Japan, Luxemburg, Netherlands, Norway, Sweden, and S. Korea (see Table 3-1). Among these eight nations, only four have systems that standardize content of care according to care recipients' conditions: Germany, Luxemburg, Japan, and S. Korea. Japan is the only country that excludes price competition in the long-term care market.

The evidence presented in this chapter demonstrates that the three preconditions of the Ideal CQM are sustainable in practice and, therefore, provides support for the theoretical model tested in this thesis. The three sections of this chapter describe how each of the conditions is met by the Long-Term Care Insurance (LTCI) market in Japan. As the first study of this type, the exploration of each condition contributes to the empirical

knowledge on practice in this area of study. More importantly for the aims of this thesis, the evidence of this chapter provides empirical support for the practical workability of the Ideal CQM.

Condition 1: The Long Term Care System in Japan is Universal

The Government of Japan implemented a universal, public, long-term care system, which is centrally funded and universally available. The so-called "long-term care insurance" (LTCI) was introduced in 2000, in response to increasing social needs. Half of the funding comes from insurance contributions and the rest from general taxes, including 25 percent each from local and central governments. Those who are aged 40 or above pay an insurance fee according to their income (see Table 4-1 for details).

Table 4-1. Insurance Fee, according to income level

Income Level	Insurance fee (per a year)	Remarks
1	JPY20,400 (AUD 255)	Family receiving public assistance
2	JPY20,400 (AUD 255)	Lower income ↑ Standard fee ↓ Higher income
3	JPY35,700 (AUD 446)	
4	JPY51,100 (AUD 639)	
5	JPY66,400 (AUD 830)	
6	JPY71.500 (AUD 894)	
7	JPY86,800 (AUD 1,085)	

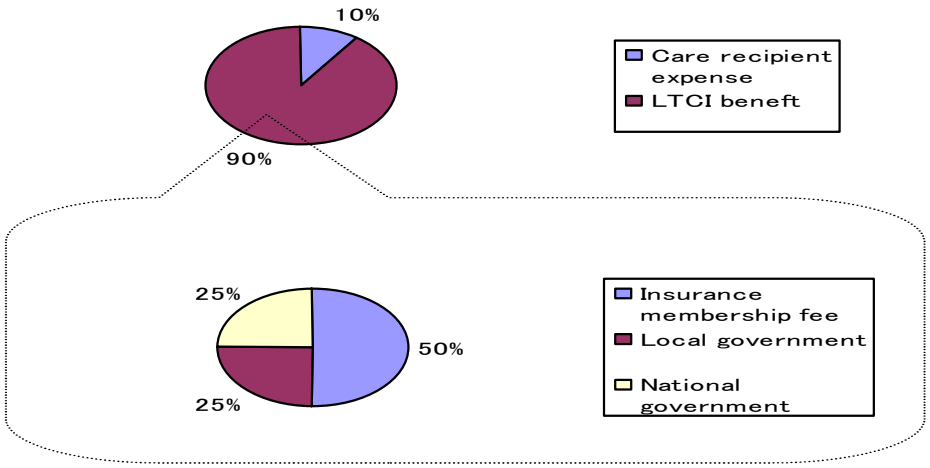
Source: Niigata City (2008)

In return, insurance holders[29] receive necessary care when needed. Ninety percent of the cost of care is covered by the LTCI and the remaining 10 percent falls to the care recipients (Figure 4-1). There are two significant features of a LTCI market: a) every organization can enter the LTCI market as a service provider as long as it registers with the local governments, and b) the prices of all services in a LTCI market are publicly fixed. These characteristics are due to the government's intention to let the providers focus

[29] The insurance holders include all care recipients in Japan aged 65 or above plus those aged 40 or above who suffer from elderly-related diseases such as Alzheimer's. For those who are not eligible for LTCI but still require long-term care, other national programs such as handicapped care and the health care program are available.

on competition for better service quality.

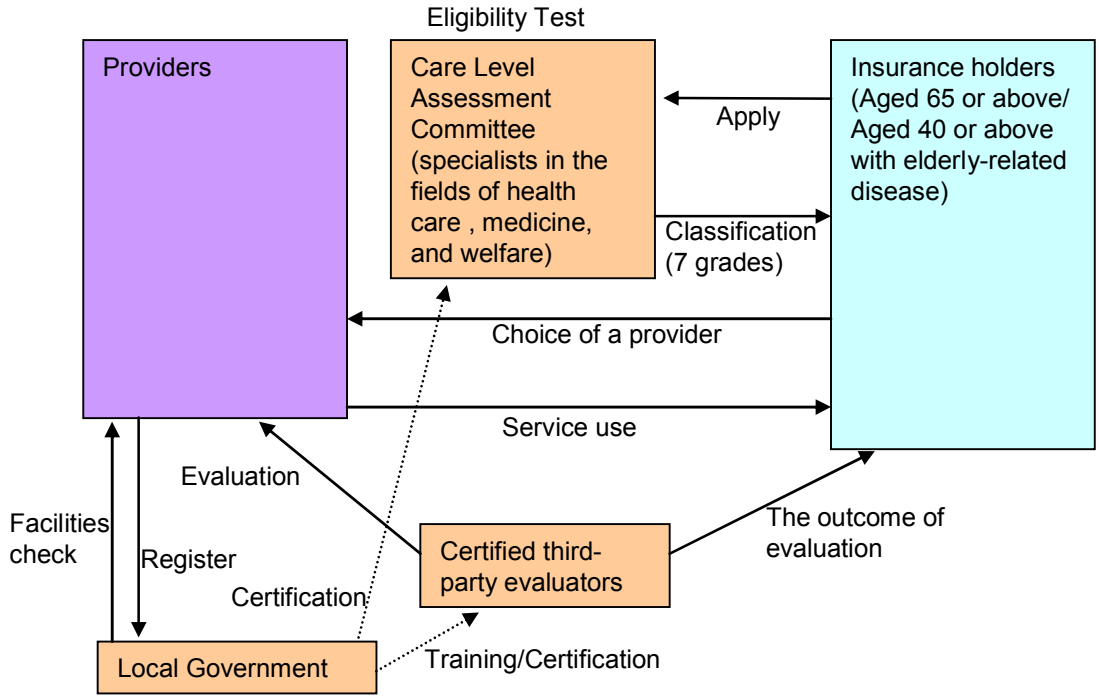
Figure 4-1. LTCI Benefit and Source of Fund



Condition 2: The Long Term Care System in Japan Provides Standardized Content of Care According to Care Recipients' Conditions

The overall process of LTCI benefits is described in Figure 4-2. First, the insurance holders (everyone aged 65 or above and aged 40 or above with elderly-related disease) apply for the eligibility test. The eligibility test consists of three parts: a) Quantitative Computer Analysis based on the standardized 82 criteria, b) Qualitative Analysis based on interviews and observations by Publicly Certified Investigators (*Kaigo Shien Senmon-in*), and c) personal physicians' opinions. The results are examined by the Care Level Assessment Committee (*Kaigo Nintei Shinsa Kai*), a group of specialists in the fields of healthcare, medicine, and welfare. Then, the applicants are classified by eight grades (seven eligible grades plus "not eligible"), according to their health conditions.

Figure 4-2. Overall Process of LTCI Benefit



Note: Orange colour indicates governments (and/or public bodies).

The approximate standards of these grades are seen in Table 4-3. Support 1 indicates the lightest condition, whereas Care 5 means "bed-ridden." The elderly with Care 3 or above require full ADL support and many of them suffer from dementia. As seen in Table 4-3, each grade occupies approximately 8-20 percent of the beneficiaries.

Table 4-2. LTCI Beneficiaries by Grades (as of April 2006)

	Support 1	Support 2	Care 1	Care 2	Care 3	Care 4	Care 5
Ratio* Number (thousand) Total: 2,506 k	8.2% (206.5)	9.1% (227.2)	19.9% (499.6)	18.7% (469.8)	16.5% (413.4)	14.6% (365.7)	12.1 (303.8)

* The rest, 0.8% (20.1 k), receive benefits as a care grade interim measure.
Source: MHLW (2008a: p. 16)

Table 4-3. Approximate Standards of the seven Grades

	Support 1	**Support 2**	**Care 1**	**Care 2**	**Care 3**	**Care 4**	**Care 5**
Overall	Needs daily methodological support to keep their condition	Needs some assistance for daily life	Needs partial care occasionally	Needs partial care for daily life	Needs constant care	Difficult to live daily life without constant care	Not capable of spending daily life without constant care
Standing and moving on foot		Needs some assistance occasionally	Needs some assistance	Needs some assistance	Needs some assistance	Not capable	Not capable
Standing up/keep standing on a single leg	Needs some assistance occasionally	Needs some assistance	Needs some assistance	Needs some assistance	Not capable	Not capable	Not capable
Excretion				Needs partial assistance occasionally	Needs partial assistance occasionally	Needs full assistance	Needs full assistance
Eating					Needs partial assistance occasionally	Needs partial assistance	Needs partial assistance
Daily routine such as nail cutting and changing clothes	Needs partial assistance occasionally	Needs partial assistance occasionally	Needs partial assistance occasionally	Needs partial assistance	Needs full assistance	Needs full assistance	Needs full assistance
Symptoms of Decreasing Comprehension	can be seen occasionally	can be seen occasionally	can be seen partially	Can be seen partially	can be seen entirely	can be seen entirely	can be seen entirely
Abnormal Behaviour	can be seen occasionally	can be seen occasionally	can be seen occasionally	Can be seen occasionally	can be seen occasionally	can be seen occasionally	can be seen entirely

Source: Niigata City (2008)

Those who are eligible can choose to combine a range of long-term care services. Table 4-4 indicates the benefit limit of each grade (note that benefits are in-kind, not paid in cash).

Table 4-4. Benefit Limit of Each Grade

Grade	**Monthly maximum coverage**
Support 1	JPY 49,700 (AUD 621)
Support 2	JPY 104,000 (AUD 1,300)
Care 1	JPY 165,800 (AUD 2,073)
Care 2	JPY 194,800 (AUD 2,435)
Care 3	JPY 267,500 (AUD 3,344)
Care 4	JPY 306,000 (AUD 3,825)
Care 5	JPY 358,300 (AUD 4,479)

Source: Niigata City (2008)

There are diverse care services available in the Japanese market. Table 4-5 indicates available types of services. Users usually choose a suitable type service from the choices. For example, if users choose a Group Home for elderly with dementia (hereinafter, Group Home) provider, the cost of care is seen in Table 4-6. As mentioned earlier, the users' expense for care service is 10 percent of the whole cost and the reset is covered by the insurance benefit.

Table 4-5. Choice of Major Care Services

At-home care	Institutional care
Home-visit services - Home-help service - Home-visit nursing - Home-visit bathing service - Home-visit rehabilitation **Commuting services** - Day care service - Day rehabilitation service **Short-stay services** - Short-stay for the elderly requiring care - Short-stay for the elderly requiring medical care	**Community-based services** - Group Home for the elderly with dementia **Facility Services** - Health Services Facilities for the elderly - Special Nursing Homes for the elderly - Sanatorium-type Medical Care Facilities

Note: The names for care services are often confusing, because care services usually have two different names: the address term and law term. Special Nursing Homes for the elderly indicates *Kaigo-Roujin-Hoken-Shisetsu* (or *Tokubetsu-Yougo-Roujin-Houmu*), which is sometimes translated as Assisted Nursing Homes. In addition, Health Service Facilities for the elderly means *Kaigo-Roujin-Hoken-Shisetsu* (or *Rouken-Shisetsu*), which is sometimes translated as Intermediate Nursing Homes (see Sugahara, 2010 for an example).

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Table 4-6. Cost of Group Home for elderly with dementia

Level	Cost (per a day)	Personal Expense (per a day)
Support 2	JPY 8,310 (AUD 104)	JPY 831 (AUD 10.4)
Care 1	JPY 8,310 (AUD 104)	JPY 831 (AUD 10.4)
Care 2	JPY 8,480 (AUD 106)	JPY 848 (AUD 10.6)
Care 3	JPY 8,650 (AUD 108)	JPY 865 (AUD 10.8)
Care 4	JPY 8,820 (AUD 110)	JPY 882 (AUD 11)
Care 5	JPY 9,000 (AUD 112)	JPY 900 (AUD 11.2)

Note: Support 1 is not eligible to use for Group Home services. Care 2 or below cannot reside at a Group Home.

Condition 3: There is No Price Competition in the Long-term Care Market in Japan

A unique feature of the LTCI in Japan is the exclusion of price competition. In the LTCI market, therefore, care is provided based on necessity, not preference. Even if economically wealthy elderly people with Care 1 want to reside at a Group Home, for example, they would not be allowed (see *Note* in Table 4-6) because it is not necessary for their condition. In addition, care providers do not provide/receive anything other than the designated care/price.

Nevertheless, insufficient 'quantity' of care provision automatically creates a new market that has price competition outside the managed market. As discussed earlier, an important purpose of human service provision is to ensure a certain quality level. If human service provided through the managed market does not achieve the purpose, people have to look for necessary care outside the market.

In that case, the effect of "no price competition" in the managed market would be limited, because the markets outside the managed one would have price competition. Therefore, we need to investigate whether sufficient care is provided through the LTCI market in order to confirm the workability of the condition: no price competition. The following section investigates this, examining the possible long-term care market outside of the LTCI scheme in Japan.

Market Outside of LTCI scheme

While several private long-term-care-related markets exist in Japan, they operate only as a supplement to the managed LTCI scheme. As for facility services, a type of provider called Elderly Home (*Keihi Roujin Houmu*) serves the semi-independent elderly in Japan. The Elderly Home is classified into type A to C; type A and B are accommodations only, whereas type C offers meal service as well. Although they must register with the local government to open the business, service price can be set freely, except for the administration fee, which has to be progressive according to a resident's financial condition[30]. However, these Elderly Homes may not provide long-term care. Although they serve the elderly particularly, they do not provide anything other than hostel-type services such as accommodations, meals, and laundry. If care recipients (i.e., residents) require "care" with entitled grades, they must either move to institutional care service providers or request at-home care services providers (see Table 4-5 on page 65) while living at the Elderly Home.

Similarly, the market of home-delivery services outside of the LTCI scheme cannot substitute for the LTCI scheme. Although many private companies deliver several Activities of Daily Living (ADL) related services, including meal delivery, personal shopper, and electric device replacement (e.g., electric bulbs) for the elderly, they do not provide "care."

[30] The ranges of the administration fee are 0-120,000 yen [0-1,500 AUD]/month for type A; 15,000-30,000 yen [188-375 AUD]/month for type B; and 10,000-90,000 yen [125-1,125 AUD]/month for type C.

As for insurance, some companies offer private long-term care insurance, but the impact is, again, limited. There are logical reasons for this. First, compared with other insurances, such as health and car, selling long-term care insurance tends to be costly. Selling insurance becomes most attractive principally when "risk" is the care recipient's adverse choice. This works to sell health and car insurance because insurance holders normally try hard not to suffer from sickness or accidents. In the case of long-term care, however, a care recipient's expectation of being in a nursing home is highly positively correlated with purchasing long-term care insurance, even after controlling for observable expenditure risks such as health status (Sloan and Norton, 1997). Insurance companies, therefore, have to invest a great amount of money to screen for bad "risks." According to Norton (2000), they typically have to deny 10 to 20 percent of elderly applications. This screening procedure certainly adds to the burden of making profits. According to the study of Cutler (1996), the administrative load is typically half to two-thirds of the total cost. High costs raise the premiums, which in turn, reduces demand. For these reasons, private long-term care insurer rates among the Japanese are very small: 5.4% for age 40s; 4.6% for age 50s; 6.9% for age 60s or above (The General Insurance Association of Japan, 2002). Private long-term care insurance, as a result, occupies only 1.3% of the entire private insurance market in Japan (The Life Insurance Association of Japan, 2002).

In sum, the private long-term care market in Japan plays only a supplemental role to the LTCI market, and both markets are uncompetitive. Therefore, the

LTCI feature that excludes price competition remains in Japan.

Access to Care Quality Information: A Fourth Condition to Ideal CQM

The evidence thus confirms that the Japanese LTCI meets the three conditions of Ideal CQM, but the research also highlights the importance of access to care quality information in ensuring the operation of the LTCI system. The section below discusses the necessity for transparency in the dissemination of information regarding the quality of care associated with all care providers in the market. All recipients must have access to the same care quality evidence to support care choices. The significance of this factor suggests that access to care quality information should be established as a condition required to make Ideal CQM work. Therefore, it is the fourth condition to introduce Ideal CQM that governments publicise providers' care quality information.

Overall Care Quality Assurance System in Japanese LTCI

The Japanese LTCI market has two types of provider care-quality-assurance systems: annual facility inspections by local governments and annual external evaluations by certified examiners. The facility inspection is mandatory for all providers; it establishes that the providers meet the basic requirements. Disqualified providers are ordered to suspend business. The external evaluation consists of three types, which are summarise in Table 4-7 and discussed below.

First, Care Service Information (CSI) is mandatory for all providers, aiming to provide users with objective information about the providers in the market. CSI provides two types of information: a basic report and a surveyed report. Whereas the basic report includes the capacity and staff allocation of a provider, the surveyed report mentions matters that are more detailed: "whether or not the provider has a guideline for staff training," and "whether or not the provider has a database of provided service." A significant feature of SCI is that all the included information holds "objectivity" that is based on fact. SCI does not provide any "subjective" report: the provider has a "good" guideline for staff training. Instead, SCI states facts like, "the provider has a guideline for staff training." Care recipients, therefore, can get non-biased information on providers.

Table 4-7. Quality Assurance systems in Japanese LTCI

Name of evaluation	Target providers	Remarks
Care Service Information (*Kaigo jouhou saabisu jouhou*)	All and mandatory	-CSI consists of self report and investigated report -All information is based on facts -CSI aims to provide care recipients unbiased information
Third-party evaluation (*Daisansha hyouka*)	All but optional	-The evaluation aims to enhance providers' care quality by giving them a consultation
Mandatory third-party evaluation of care quality (*Gaibu hyouka*)	Community-based services (i.e., Group Home) providers and mandatory	-The evaluation assesses the care quality on behalf of frail elderly

Source: Health and Welfare Statistics Association, Japan (2008) The system of care service information (kaigo saabisu jouhou no kouhyou seido)

Second, third-party evaluation is available to all providers, but it is optional. The purpose of this evaluation is to enhance providers' care quality by professional consulting. Examining a provider's care service and managerial structure, the evaluators, licensed by the municipality, give feedback to the provider. The outcome is open to the public. However, care recipients do not usually utilize the information to compare providers, because not all providers are evaluated. Some municipalities strongly encourage providers to use the evaluation annually, but most municipalities still leave this as an option.

Third, third-party evaluation of care quality is mandatory for community-based service providers. Most care recipients at community-based services are dementia-suffering elderly who cannot exercise their rights as consumers. Therefore, certified third-party evaluators[31] assess the providers' care quality on behalf of care recipients. The care quality indicators are designed by the central government and updated every three years. The outcome is public and care recipients are expected to use this information when choosing a provider.

Despite implementing these quality assurance systems, the Japanese LTCI system is still cautious of measuring care quality. In fact, mandatory third-party evaluation of care quality is the only system that publicizes care quality information in order for care recipients to choose a provider. Care recipients, therefore, have access to care quality information only when choosing a community-service provider.

[31] They are licensed by a municipality.

Community-based service in the LTCI market consists of several services, including Group Homes. However, because Group Homes occupy a very significant portion of community-based services, the terms Group Home and community-based service are often used interchangeably in this thesis. From here onwards, therefore, this chapter specifically investigates mandatory third-party evaluations in the Japanese Group Home market.

Mandatory Third-party Evaluation

The content of mandatory third-party evaluation of care quality (hereinafter, mandatory third-party evaluation) covers a diverse field of quality of care. FY2005/2006 introduced this evaluation system to the Group Home market to publicize/enhance service quality[32]. Table 4-8 indicates the index of mandatory third-party evaluation of service quality.

[32] There was a two-year trial period prior to the introduction: the providers that had already entered the market before 2005 had to disclose evaluation outcomes at least once within the trial period.

Table 4-8. The Index of Mandatory Third-party Evaluation[33]

Index	Sub-index
Ⅰ Corporate philosophy	1) Publicity about the corporate philosophy (4 items)
Ⅱ Life environment	2) Homely living space (4 items)
	3) Customized living space (6 items)
Ⅲ Care service	4) Care management (7 items)
	5) Basic care implementation (8 items)
	6) ADL[1] support (10 items)
	7) Life support (2 items)
	8) Medical and health support (9 items)
	9) Community life (1 item)
	10) Interaction with family (1 item)
Ⅳ Managerial structure	11) Administrative procedures (10 items)
	12) Response to complaints (2 items)
	13) Interaction between GH and family (3 items)
	14) Interaction between GH and community (4 items)

Note: GH indicates Group Home
Source: Welfare And Medical Service Agency (2010a)

Like any other measurement, certainly, the mandatory third-party evaluation is not an absolute indicator of quality of care. However, this evaluation covers important details of care, including some background of care implementation: Life environment and Managerial structure. Moreover, the items of each sub-index mention details; these are particularly important in quality of long-term care because many care recipients today cannot always express their complaints adequately (Braithwaite, 2006). Wiener, *et al*. (2007), who internationally compared quality assurance for long-term care, points out the comprehensiveness of the mandatory third-party evaluation, saying, "Japan appears to be the only country to have developed special approaches to assure the quality of care in facilities for people with dementia" (p.8).

[33] The index has been gradually updated since 2008, but this thesis uses the old index, which was used mainly prior to 2008, due to data accessibility.

Summary and Discussion

This chapter confirmed that Ideal CQM, presented in the previous chapter, is possible in practice by demonstrating that the conditions for implementation are met in the LTCI in Japan. Specifically the LTCI system in Japan incorporates: a) a universal long-term care system, b) standardized content of care according to care recipients' conditions, and c) no price competition.

Nevertheless, in order for Ideal CQM to work, the LTCI system in Japan shows that providers' care quality information needs to be publically available. Otherwise, care recipients are not able to compare the care quality of providers and choose one based on its delivery of quality care. To this end, the care quality information of all community-based service (i.e., Group Home) providers in Japan is publicly available. Publicizing providers' care quality information, the fourth condition, is therefore necessary for Ideal CQM to work in the market.

The next chapter takes a further step in testing the Ideal CQM by examining whether the 'access to quality information" condition can resolve the problem of information asymmetry in the market.

Chapter 5. Testing Ideal CQM: Empirical Workability

In presenting Ideal CQM, this paper has claimed that care recipients ought to be able to choose a provider based on quality of care, so that the market competition sustainably enhances quality of care. So far, we have found that in the Group Home market in the Japanese LTCI scheme, the detailed evaluation of quality of care seems to serve as an almost single factor to choose a provider. Does the case of the Group Home market justify the validity of Ideal CQM? If so, the case should be able to achieve the following three conditions: a) care recipients choose a provider based on quality of care, b) the competition among providers enhances quality of care, and c) new market entries bring increased qualified care into the market because they know that providers are chosen based on quality of care. Under these conditions, Ideal CQM is justified and quality of care concerns are resolved.

Nevertheless, there are three models that conflict with the idea that these conditions can be achieved, because of possible information asymmetry between care recipients and providers in the long-term care market:

a) the Contract Failure model, which claims care recipients perceive non-profit providers as a sign of good service quality.
b) the Medical Arms Race (MAR) model, which argues that competition in the care market tends to lower quality of care.
c) Suzuki and Satake's (2001) model, which claims that new entries in the care

market do not contribute to improvement in the market's quality of care. This chapter, therefore, specifically examines the validities of the three models that disagree with the achievement of Ideal CQM, investigating the outcomes of the mandatory third-party evaluation in the Group Home market in Japan.

Reviewing Testing Models

In order to investigate the validity of Ideal CQM, this section discusses the details of the three, above-mentioned, testing models of service quality improvement in the long-term care market. This examination uses the analysis of 1,093 Group Home providers' care quality data in the Japanese LTCI market.

The Contract Failure Model: The Care Recipients May Not Choose a Provider Based on Service Quality

The Contract Failure model introduced by Hansmann (1980) claims that in the care market, care recipients cannot choose a provider based on service quality because there is information asymmetry between care recipients and providers. Thus, the care recipients see the ownership of providers as a signal of service quality; they therefore choose non-profit providers rather than for-profit providers whom, they believe, tend to behave opportunistically (Hansmann, 1980; Hirth, 1999).

However, this does not necessarily mean that the care quality of non-profit providers is actually better than that of for-profits (Endo, 1995; Suzuki, 2002). There are three arguments for this proposition. First, due to the limitation of the ownership, non-profits do not have incentives to improve cost-effectiveness and service quality as much as for-profits do (James and Rose-Ackerman, 1986). Second, the incentive to improve service quality is difficult to identify, regardless of the ownership of providers, if the market is protected from price competition (Tuckman and Chang, 1988; Nanbu, 2000). Third, the development of information technology that minimizes information asymmetry may benefit the for-profit providers (Ben-Ner, 2002).

Many empirical studies reflect this dispute. On one hand, Weisbrod (1980) and Cohen and Spector (1996) investigated the long-term care market in the United States and concluded that the service quality of non-profits was superior to that of for-profits. Gertler (1984), who also surveyed the care market in the United States, claimed the opposite. However, Nyman (1988) and O'Brien *et al* (1983) concluded there was no significant difference. Endo (2006) argued that these different outcomes stemmed from the absence of a clear definition of service quality.

Nevertheless, the hypothesis of "contract failure" may be true. Certainly, as Hansmann (1980) says, if the service quality of non-profits is better than that of for-profits, the care recipient's "signal" would be correct. This means there is no "contract failure." However, as seen above, the correlation between the

provider's ownership and the service quality is still not clear.

The solution to this "contract failure" is for the care recipients to be able to access service quality information from the providers. Hirth (1999) points out that repeat purchasing helps care recipients grasp a provider's service quality level. Although this may not be realistic in purchasing long-term care services, it is still important to fill the information gap between the care recipients and providers, as information asymmetry is the condition of "contract failure."

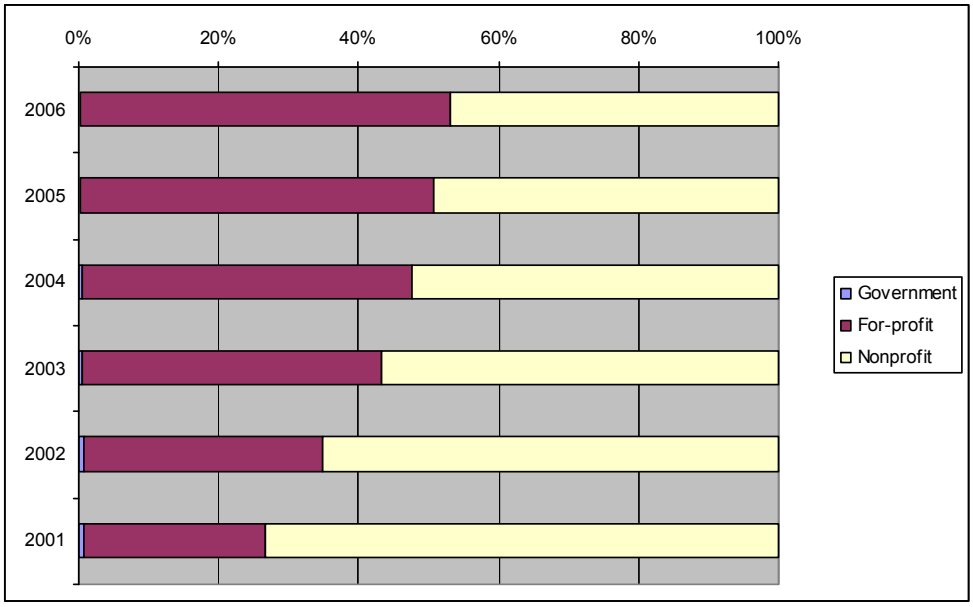
The LTCI market in Japan has been actively involved in filling the information gap. Implementing the LTCI in 2000, the Japanese government has shaped a standardized care quality measurement and built a database of evaluation outcomes. The optional third-party evaluation system (*daisansha-hyoka*) in 2003, mandatory third-party evaluation system (*gaibu-hyoka seido*) for community services in 2005, and LTCI information disclosure scheme (*kaigo service johou koukai seido*) in 2007 are all examples of this measurement[ii]. As for the database that makes this information available to the public, the Welfare and Medical Service Network (WAM-NET) system has been operating since 2001.

Nevertheless, the dispute over whether or not the ownership of providers affects care quality is evident in Japan as well. Morozumi (2007) surveyed Group Home providers for the elderly with dementia (hereafter, Group Home) in the Tokyo metropolitan area and Osaka city. She claimed that non-profits provide better quality care recipient transfers than those of for-profits because

of diversification. Suzuki (2002), on the other hand, surveyed at-home care providers in the Kanto area in 2001 and claimed that there was no significant difference between the ownerships of providers in care quality, yet 75 percent of the market share in that year was occupied by non-profits. Suzuki (2002) pointed out that this was "contract failure." Six years after Suzuki's claim, the market share of for-profits increased to nearly 50 percent of the market share. Sakurai (2008) analysed the service quality of Group Home providers in Kyoto and Shiga prefectures and claimed that there was still no significant difference between non-profits and for-profits in service quality; he implied that the difference in service quality between non-profits and for-profits reflected the market share (Figure 5-1). This meant there was no "contract failure" in the Japanese LTCI market.

Figure 5-1. The transition of market share by the type of provider

(as of October in each year)



Source: MHLW (2007) and Health and Welfare Statistics Association (2007; p. 189-191).

This paper, on the proposed model Ideal CQM, aimed to rectify two deficiencies in previous research. The first was about the quality and quantity of the data to be analysed. The sample size of the surveys by Suzuki (2002) and Morozumi (2007) was only a few hundred people (Suzuki: 437; Morozumi: 108), though those sample sizes were acceptable for the research environment at the time. Sakurai's (2008) research utilized data in only two prefectures out of 47. These outcomes have left a question about the validity of the data. The second aspect was about the investigation of the reasons for the dispute over whether the ownership of providers influences care quality or not. This paper, therefore, analysed the features of providers' ownership.

Medical Arms Race (MAR) Model: Competition May Not Enhance Service Quality

The MAR model argues that the competition in the care market tends to lower care quality. To be competitive in the market, providers spend money on advertising or renovation of buildings and equipment rather than on improving care quality itself (Hersch, 1984; Luft *et al*., 1986; Robinson, 1988).

This model has been actively researched in the healthcare market in the United States, and many providers have acknowledged the phenomenon. Defining competitiveness as market intensity[34], Wilson and Jadlow (1982) claimed that

[34] The intensity of competitiveness was measured by (referral) radius × (hospital

the more competitive a market, the less technically efficient it is. According to Farley (1985), care tends to be expensive at hospitals in competitive markets. However, Robinson and Luft (1985) found the opposite was true. Zwanziger and Melnick (1988) claimed that this phenomenon was due to the over-prescription of the hospitals in competitive markets. Devers *et al*. (2003) and Berenson et al. (2006) argued that over-prescription was spreading from medical treatment to the amenity of hospitals.

There are a few criticisms of the MAR model. Dranove, Shanley, and Simon (1992) claimed that hospitals in competitive markets needed to respond to the need for high-tech medical treatment, introducing the latest equipment. Thus, it was natural that treatment at such hospitals cost more, and this was not a matter of inefficiency. Moreover, by defining "care quality" as mortality, and "market competitiveness" by the Herfindahl-Hirschman Index (HHI), Shortel and Hughes (1988) denied the correlation between care quality and the market mechanism. Kessler and McClellan (1999) also denied the hypothesis of the MAR model, claiming that market competitiveness lowered the mortality rate. As for the research on nursing homes in the United States, Gertler and Waldman (1992) claimed that the market mechanism enhanced the service quality; Nyman (1994) criticized the policy that regulated nursing homes' capacity in order to avoid the MAR syndrome, claiming that the policy discouraged providers' efforts to be effective.

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density) × (population density) (Wilson and Jadlow, 1982: p.447).

There is little research on this issue in the Japanese LTCI market. The notable exceptions are the theoretical research of Nanbu (2000) and the empirical study of Zhou and Suzuki (2004). Pointing out that there is no price competition in the market, Nanbu (2000) discussed the possibility that market competition would lead providers to compete for a better care quality, not just rent seeking and advertising. Zhou and Suzuki (2004) surveyed the long-term care providers in the Kanto area in September 2001, right after the implementation of the Japanese LTCI, and claimed that there was little correlation between care quality and market competitiveness.

This paper investigated the relationship between care quality and market competitiveness many years after the implementation of the Japanese LTCI. If there were relationships between them, the research also searched for the reasons behind the relationship.

Suzuki and Satake's (2001) Model: New Entries May Not Bring a More Qualified Service into the Market

Suzuki and Satake's (2001) model claims that new entries in the care market do not contribute to improving the market's care quality. In general, new entries are expected to bring a more qualified care into the market, but in the case of the care market, they may spend resources on advertisement rather than on care quality improvement. Suzuki and Satake (2001) point out that the

advertisement costs out of the total cost of new entries is greater than that of old entries, surveying 445 at-home care providers in the Kanto area in 2000.

Nanbu (2000) presented a different view. He assumed that new entries entered the market with the break-even price (Ps), which was lower than that of existing providers (Pr). Thus, they might use their excess profit (Pr-Ps) for the improvement of care quality. In this case, however, Pr-Ps might still be spent on something other than care quality improvement (e.g., advertisement), as Suzuki and Satake (2001) argued. This competition on advertisements could also drag Pr up into balance with Ps.

However, Suzuki and Satake's (2001) model still needs to be validated. The model was investigated right after the implementation of the Japanese LTCI. The existing providers at the time were dominantly non-profits, whereas the majority of new entries were for-profit, due to the market deregulation at the time. In addition, as mentioned above, the government has made efforts to solve this problem, bridging the information gap between care recipients and providers. Thus, this paper on this model investigates whether new entries bring a more qualified level of care into the market today.

Methodology

Method

In order to examine the validity of the above-mentioned three models, this research primarily investigates the correlation between providers' quality of care (i.e. the outcome of mandatory third-party evaluation) and providers' various attributes. These attributes are the ownership for the Contract Failure model, the market competitiveness of the providers' located area for the MAR model, and the timing of market entry for Suzuki and Satake's (2001) model.

Data Source

The data source used is the WAM-NET database[35] for the Group Home providers of the fiscal year (FY) 2006/2007[36]. The sample was 1,093 Group Home providers[37] in six prefectures in the Kanto area[38], which occupied 13 percent of all Group Home providers in Japan. Table 5-1 indicates the distribution of providers by ownership. Although the overall distribution of this research is similar to the national census, there are slightly more for-profits

[35] WAM-NET is a search engine of long-term care providers run by the Social Welfare and Medicaid Agency.
[36] The data of FY 2007/2008, the latest fiscal year in which this research was conducted, were not available in a uniform way, because the evaluation criteria in many prefectures were modified during the fiscal year.
[37] This was all Group Home providers in the market at the time.
[38] The Tokyo metropolitan area was not included in this research because its care quality evaluation was exceptionally different from that of other prefectures.

and fewer medical corporations in the investigated area. This research does not investigate public providers.

Definition of Group Home

As mentioned earlier, Group Home in Japanese long-term care insurance scheme indicates a small sized community-based service for the elderly with dementia. According to Welfare and Medical Service Agency (2010a), the definition include a) the number of care recipients per unit (i.e., building) must be 9 or less (up to 3 units in one place); b) the care recipients must have a private room[39]; c) the residents must be with care grade 3 or above (see Table 4-3 for the definition of care grade).

Table 5-1. Distribution of Providers by Ownership

Ownership		This research	National census
For-profit providers	Stock corporations, limited private companies	646 (60.43%)	4,417 (52.9%)
Non-profit providers	Social welfare associations	196 (18.33%)	1,826 (21.9%)
	Medical corporations	144 (13.47%)	1,554 (18.6%)
	Cooperative associations	0 (0%)	31 (0.4%)
	Civil corporations	1 (0.09%)	29 (0.3%)
	Specified NPOs	81 (7.48%)	453 (5.4%)
	Other organizations	1 (0.09%)	23 (0.3%)
Public providers	Local public organizations	0 (0%)	17 (0.2%)
	Social welfare corporations (excluding social welfare associations)	0 (0%)	0 (0%)
Sum		1,069 (100%)	8,350 (100%)

Note: The national census data is as of October 2007 and quoted from MHLW (2007). The categorizations of ownership refer to Shimizutani and Suzuki (2002: 17) [41]. There are 24 providers missing ownership information due to a broken link; they are excluded from this table.

[39] This is not the case if the care recipient shares the room with his/her spouse.

Quantifying Providers' Quality of Care

Providers' quality of care is quantified by the average item-achievement rate of each sub-index in the mandatory third-party evaluation (Table 5-2). All items indicated in Table 5-2 are the standardized sub-index measurement implemented by the central government. Although prefectural governments may add some local items of sub-indices to the standardized content, this research only considers a standard format in order to collect the data by inter-prefecture. The outcome of the mandatory third-party evaluation shows what items a provider passes or fails with some remarks. In this research, therefore, the achievement rate of each sub-index is calculated by the number of the item a provider clears, out of the total item number(s) in the sub-index. For example, sub-index 11, Administrative procedure, has 10 items. If a provider clears 6 items out of 10, the providers gets a 0.6 (or 60%) achievement rate in the sub-index. That applies to all sub-indices. The total score of care quality (hereinafter, "total score") is the average achievement rate of all 14 indices.

Table 5-2. Mandatory Third-party Evaluation

Index	Sub-index	Item
Ⅰ Corporate philosophy	1) Publicity about the corporate philosophy (4 items)	a)Publicity b)Clear indication c)Staff members' tasks d)Education
Ⅱ Life environment	2) Homely living space (4 items)	a) The atmosphere of entrance b) The atmosphere of common place c) The atmosphere of living room d) Customizing own room (bedroom)
	3) Customized living space (6 items)	a) Supportive devices b) Layout c) Noise proof and lighting d) Air infiltration e) Clock display f) Facilities
Ⅲ Care service	4) Care management (7 items)	a) Care planning

Index	Sub-index	Item
		b) Sharing care plans among staff members c) Meeting care recipients' requests d) Reviewing care plan e) Care recording f) Communication g) Team building
	5) Basic care implementation (8 items)	a) Respecting care recipients b) Friendly attitude c) Respecting care recipients' past experiences d) Respecting care recipients' life styles e) Hearing care recipients' request f) Respecting care recipients' independence g) Respecting care recipients' physical freedom h) Unlocking door policy
	6) ADL[iii] support (10 items)	a) Hearing meal requests from care recipients b) Eating utensils c) Customized cooking method d) Recording nutritional needs e) Enjoyable cuisine f) Customized elimination support g) Mental aspects in elimination support h) Customized bathing support i) Hair/facial treatment support j) Support for quiet sleep
	7) Life support (2 items)	a) Management of care recipients' property b) Recreation
	8) Medical and health support (9 items)	a) Assisting medical consultation b) Collaboration with medical institutions c) Supporting care recipients' routine health checkups d) Exercising e) Troubleshooting f) Assisting dental care g) Assisting medicine taking h) First aid i) Policy on infection and disease
	9) Community life (1 item)	a) Interaction with local community
	10) Interaction with family (1 item)	a) Interaction with family
IV Managerial structure	11) Administrative procedures (10 items)	a) Locus of responsibility b) Hearing the voices of care staff members c) Sufficient number of staff members d) Staff training e) Stress control f) Application screening process g) Supporting care recipients' move-out h) Hygienic i) Item control j) Reporting and knowledge management
	12) Response to complaints (2 items)	a) Accepting external evaluator b) Setting complaint office
	13) Interaction between GH and family (3 items)	a) Hearing the voice of care recipient's family b) Reporting to care recipient's family c) Management of care recipient's financial property
	14) Interaction between GH and community (4 items)	a) Interaction with local municipality b) Interaction with local residents c) Public relations d) Facility sharing

Source: Welfare and Medical Service Agency (2010a)

In addition, this research also utilizes the quality care score of the principal component. The above-mentioned total score treats all sub-indices equally. For example, however, sub-index 3, customized living space, may not be as important as sub-index 4, care management, and vice-versa. Calculating each sub-index's principle component score, therefore, this research weights the score of each sub-index. As Table 5-3 indicates, the percent of variance in the primary component (i.e., component 1 in the table) is only about 20 percent and the rest is less than 10 percent each. Thus, it is certainly reasonable to clean the data by combining similar sub-indices, such as sub-index 2, Homely living space, and sub-index 3, Customized living space, in order to increase the percent of the variance. This research, nevertheless, leaves all sub-indices as they are, because they are exactly what care recipients investigate on choosing a provider. Instead of combining sub-indices, therefore, this research uses component 1 only, multiplying the score of each sub-index by the weight of component 1 (see Table 5-4). The score of the principal component of index 1 is, for example, 0.556n. The total score of the principal component is the average of each sub-index's score of principal component.

Furthermore, this research investigates the improvement of care quality. Collecting care quality information from the previous year, the research compares the yearly care quality transitions of the providers. The improvement score is thus the subtraction of the score in the researched FY from that in the previous year. Thus, the numbers above 0 mean improvement and those below 0 indicate decline: the size of the number is the degree.

Table 5-3. Total Variance Explained

Component	Initial Eigen values			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.898	20.696	20.696	2.898	20.696	20.696
2	1.280	9.141	29.838	1.280	9.141	29.838
3	1.149	8.205	38.042	1.149	8.205	38.042
4	.979	6.990	45.032			
5	.973	6.947	51.979			
6	.938	6.698	58.677			
7	.857	6.123	64.800			
8	.829	5.922	70.723			
9	.785	5.609	76.332			
10	.743	5.304	81.636			
11	.695	4.966	86.602			
12	.670	4.788	91.390			
13	.621	4.432	95.822			
14	.585	4.178	100.000			

Extraction Method: Principal Component Analysis.

Table5-4. Component Matrix (a)

Sub-Index	Component		
	1	2	3
1) Publicity about the corporate philosophy	.556	.215	-.080
2) Homely living space	.415	-.550	-.067
3) Customized living space	.435	-.478	-.253
4) Care management	.474	.200	-.362
5) Basic care implementation	.456	-.328	.178
6) ADL[iv] support	.521	-.090	.115
7) Life support	.368	.110	.371
8) Medical and health support	.567	.114	-.296
9) Community life	.360	-.312	.464
10) Interaction with family	.275	.102	.552
11) Administrative procedures	.636	.149	-.321
12) Response to complaints	.251	.455	.168
13) Interaction between GH and family	.381	.426	.115
14) Interaction between GH and community	.498	.051	.088

Extraction Method: Principal Component Analysis.

a) 3 components extracted.

Quantifying the Attributes

This research first investigates the Contract Failure model, comparing care quality between for-profit and non-profit providers. In the case of the Japanese market, for-profit provider indicates Stock Corporations and Limited Private Companies, whereas non-profit provider means Social Welfare Associations, Medical Corporations, Cooperate Associations, Civil Corporations, Specified NPOs, and other non-profit organizations (e.g. voluntary associations). This research does not consider Public providers that consist of Local Public Organizations and Social Welfare Corporations (excluding Social Welfare Associations), because the sample is too small (see Figure 5-1).

In regards to the MAR model, this research measures market competitiveness by the HHI. The HHI is probably the most used measurement of market competitiveness in economic research, but no one has applied it to the study of the Japanese LTCI market until this paper. The HHI in this research is estimated as follows. First, the market share of each provider is defined as providers' capacity divided by the whole capacity in the municipality[40] because the occupancy rate of Group Homes was nearly 100 percent in the fiscal year[41] and the care fee in the market was uniformly regulated. Second, the HHI formula is applied;

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[40] Because Group Home is categorized as a community-based care service in Japan (MHLW, 2006a), it can be assumed that the market of Group Home providers indicates the municipality.

[41] According to the census of MHLW, the average number of Group Home care recipients (excluding short-term care recipients) in Japan in FY2006/2007 was 11,9433.3 per month (MHLW, 2008: p.95), whereas the capacity of whole Group Home providers (as of Oct, 2006) was 123,580 (MHLW, 2007). This indicates about 97 percent occupancy rate through the year. The occupancy rate is, therefore, about 97 percent.

$$H = \sum_{i=1}^{N} s_i^2 \ .$$

For example, in a market where two providers each have a 50 percent market share, the HHI equals $0.50^2 + 0.50^2 = 0.5$. Therefore, the correlation between a provider's quality of care and HHI examines/determines the validation of the MAR model.

As for Suzuki and Satake's (2001) model, this research defines providers as new providers, first evaluated in the data-collected fiscal year (FY); the providers first evaluated prior to the FY are old providers. The care quality comparison of the new and old providers assesses the validation of Suzuki and Satake's (2001) model.

Quantifying Other Attributes

This research also utilizes some other attributes to eliminate possible data biases. First, it utilizes a subsidiary business as a provider's attribute. In the Japanese LTCI scheme, as mentioned earlier, care recipients can freely choose/combine care services within the limit of the benefit. As shown earlier in Table 4-4 and 4-6, Group Home residents can look for additional care services, because the benefit of Group Home residents (i.e. grade 3 or above) is more than the Group Home's residential fee. These care recipients with grade 3 or above might possibly choose a Group Home provider based on its additional service choices, not just quality of care. Therefore, this research sets dummy variables (i.e. if 'yes' it is 1, otherwise 0) of Group Home providers' major subsidised

businesses: day care, community at-home care, and at-home care.

Second, we consider the provider's capacity. Although the maximum resident number per provider is regulated (9 residents per unit at most and the maximum unit number is 3), capacity varies by provider. The size of the residence may affect the provider's quality of care. The collected data indicates that the maximum capacity is 28, the minimum 5, and the standard deviation is 15.4. Considering the gap to other variables that are smaller than or equal to 1, however, this research converts the original data into a natural logarithm: y = ln (n), where n is capacity. If capacity is 9, therefore, ln (9) is 2.20.

This research, however, does not consider the providers' rent and meal fees that are outside of the care fee regulation. Sugahara (2010), who wrote an invited counter argument to this research[42], pointed out the fact that the prices of room rent and meal fees at Group Homes are not regulated. He then claimed that care recipients might consider these prices when choosing a provider rather than the quality of care. Unlike the care fees, certainly, the price of rent and meal fees at Group Homes vary by provider. The room rent at some Group Home providers costs even more than 100,000 yen (about AUD 1,250) per month (MLHW, 2006b). Nevertheless, the influence of these price components is very limited. The room at a Group Home is almost unexceptionally a studio type. The care recipients at Group Homes do not need a larger room due to their limited ADL

[42] The empirical part of this chapter was already published in Journal- Kadoya, Y (2010) Managing the Long-Term Care Market: The Constraints of Service Quality Improvement, Japanese Journal of Health Economics and Policy, Vol.21 (E1): 247-264. Corresponding to the paper, Sugahara wrote an article under the title of "Invited Counter Argument for "Managing the Long-Term Care Market."

capabilities[43]. As for the meals, the prices cannot be very different due to the municipality's Group Home facility inspection. Moreover, the meal satisfaction is already taken into account as part of care quality. (See the care quality criteria in Table 5-2, especially items c), d), e) in 6) ADL support.) Therefore, the influence of the different prices is considered to be small.

Table 5-5 indicates the descriptive statistics of all quantified data used in this research.

Table 5-5. Descriptive Statistics

	N	Min	Max	Mean	Std. Deviation
New entry dummy	1090	0.00	1.00	0.22	0.42
Subsidiary business dummy					
Day care	1078	0.00	1.00	0.78	0.29
Community at-home care	1078	0.00	1.00	0.02	0.14
At-home care	1078	0.00	1.00	0.01	0.12
Ownership (for-profit) dummy	1069	0.00	1.00	0.60	0.49
ln (Capacity)	1070	1.61	3.33	2.65	0.42
HHI	1076	0.01	1.00	0.22	0.25
New entry dummy 2005/2006	407	0.00	1.00	0.86	0.34
Total service quality score	1093	0.47	1.00	0.92	0.08
Total service quality score of principle component	1093	0.23	0.51	0.47	0.04
Improvement service quality score	409	-0.35	0.37	0.06	0.08
Improvement service quality score of principal component	409	-0.17	0.18	0.03	0.04

Note: The reason the sample number of improvement scores is small is that many providers failed to disclose the evaluation outcome through WAM-NET within FY2005/2006, the initial year of the annual mandatory third-party evaluation system. MHLW later urged municipalities to instruct providers to disclose this data within the fiscal year (MHLW, 2006).

[43] The residents of a Group Home are at grade 3 or above (see Table 4-3 for the details).

Analysis

Result 1: Contract Failure Model was Not Supported

The Contract Failure model claimed that care recipients in the care market do not choose a care provider based on care quality due to the information asymmetry between care recipients and providers. Specifically, according to Hansmann (1980), care recipients tend to choose non-profit providers because they assume that non-profit care quality is better than for-profit care quality. This argument has provoked controversy among researchers. Therefore, the first part of this section investigates the assumption of non-profits' superiority and the syndrome of contract failure. Then, the latter part of the section further discusses the cause of the disputes in previous literature by describing the implication of the examination.

Simple Comparison between For-profits and Nonprofits

Table 5-6 employs the 14 sub-indices seen in Table 5-2 to present the mean scores by ownership of two types of providers (for-profit and non-profit). This study prepared two sets of scores to measure quality of care. As explained earlier, the "total score" is simply the average achievement rate of all 14 indices. The "total improvement score" is the subtraction of the "total score" in FY2005/2006 (note) from that in FY2006/2007. Thus, the numbers above 0 mean improvement and those below 0 indicate decline: the size of the number is the degree. The "principal component score" and "principal component

improvement score" are estimated by principal component analysis, in which each index is evaluated with different weights. The column (simple) next to these numbers indicates the significance of the difference by means of the independent-samples t test. "F" indicates that the score of for-profits is significantly higher than that of the score for nonprofits, while "N" refers to the reverse. The column "controlled" will be explained later in this section.

Table 5-6. Comparison of Service Quality by Ownership of the Providers

		For-profit	Non-profit	Simple	Controlled
1	Publicity about the corporate philosophy	0.87(0.19)	0.88(0.19)		
2	Homely living space	0.94(0.14)	0.94(0.13)		
3	Customized living space	0.95(0.11)	0.95(0.10)		
4	Care management	0.90(0.16)	0.91(0.15)		
5	Basic care implementation	0.95(0.10)	0.96(0.08)	N**	N*
6	ADL support	0.95(0.08)	0.95(0.09)		
7	Life support	0.91(0.19)	0.92(0.18)		
8	Medical and health support	0.92(0.11)	0.93(0.10)	N*	N*
9	Community life	0.95(0.22)	0.94(0.23)		
10	Interaction with family	0.98(0.13)	0.99(0.08)		
11	Administrative procedures	0.89(0.13)	0.92(0.11)	N**	N**
12	Response to complaints	0.95(0.15)	0.95(0.15)		
13	Interaction between GH and family	0.94(0.16)	0.92(0.17)	F**	F*
14	Interaction between GH and community	0.77(0.26)	0.80(0.24)	N*	
	Total score (average score of all indices)	0.92(0.08)	0.93(0.07)		
	Score of the principal component	0.47(0.04)	0.47(0.04)		
	Improvement score (average improvement score of all indices)	0.05(0.08)	0.06(0.08)		
	Improvement score of the principal component	0.03(0.02)	0.03(0.02)		

Note: The numbers in brackets indicates the standardized deviation.
* means 5% significant level.
** means 1% significant level.

First, we look at the overall difference between for-profits and nonprofits. For-profit providers and non-profit providers have an average achievement score of 0.92 and 0.93, respectively. The score of non-profit providers is slightly higher than that of for-profit ones, but the difference is not statistically significant. This is also the case for the principal component score. In addition, because the improvement scores are similar, the outcome does not seem to be

temporal. There is, thus, no significant difference in service quality between for-profits and non-profits.

Controlled Comparison

However, this simple comparison could be misleading, because providers' other variables were not controlled. This research thus investigated the following variables of the providers: 1) HHI as market environment, 2) subsidiary businesses, and 3) timing of market entry (whether or not the providers newly entered the market)[44]. Table 5-7 illustrates the distribution of these variables by ownership. For-profit providers appear to accommodate more care recipients, have day service as a subsidiary business, and have more entries that are new.

Table 5-7. The Distribution by Ownership of the Providers

		For-profits	Nonprofits
Sample		646	423
Market environment	Herfindahl Index of the market (average)	0.2186	0.2133
Subsidiary business	Day service	63 (10%)	21 (5%)
	Community At-home care service	18 (3%)	3 (1%)
	At-home care service	14 (2%)	1 (0%)
Timing of market entry	New entry	167 (26%)	75 (18%)
Size	Capacity (average)	15.70	14.95

Table 5-8 shows the outcomes of regression analysis with the care quality "total score" and "principal component score" as dependent variables, respectively. The ownership dummy does not scientifically affect either "total score" or

[44] The providers that participated in the mandatory third-party evaluation for the first time in FY2006/2007 are defined as new entries.

"score of the principal component" (total score: p value=0.319>0.05; score of the principal component: p value=0.236>0.5). This means, against Hansmann's (1980) argument, there is still no significant difference in the care quality between for-profits and non-profits.

Table 5-8. The Influence of Other Variables

Dependent variable		Total score	Score of the principal component
		Std. coefficients (p value)	Std. coefficients (p value)
Market environment	Herfindahl-Hirschman Index	-0.092 (0.003**)	-0.090 (0.004**)
Subsidiary business	Day service dummy (1=yes, 0=otherwise)	0.071 (0.038*)	0.071 (0.037*)
	Community at-home care service dummy (1=yes, 0=otherwise)	-0.016 (0.673)	-0.017 (0.653)
	At-home care service dummy (1=yes, 0=otherwise)	-0.038 (0.309)	-0.040 (0.284)
Timing of market entry	New entry dummy (1=new, 0=otherwise)	-0.093 (0.003**)	-0.093 (0.003**)
Size	ln (capacity)	-0.045 (0.139)	-0.044 (0.152)
Ownership	Ownership dummy (1=for-profit, 0=non-profit)	-0.031 (0.319)	-0.037 (0.236)
Adj. R^2		0.016	0.016

The difference in the care quality by ownership appears to be reasonable. The comparison of for-profits and non-profits in care quality indicates the difference in market share, which represents the care recipients' choice, as seen in Figure 5-1. As a result, the market contained no contract failure syndrome.

It is, nevertheless, hard to conclude that care recipients in the market chose a provider based on its care quality. The variables related to the care recipients' choice, other than the ownership, of course, need to be controlled. More importantly, many of the care recipients in FY2006/2007 might not even have

been able to choose a provider due to the excess of demand over supply in the market. In fact, almost all Group Home providers in the market were fully occupied through the year (see footnote 16). As seen in Table 5, more for-profits entered the market. Many care recipients chose for-profits simply because they were the only available Group Home providers. Therefore, it may be necessary to wait until the market provides sufficient supply over demand before drawing conclusions that "contract failure" exists.

Empirical Implication to the Model:

The Reason for the Disputes in Existing Literature

This study examines the controversy of this Contract Failure model in existing literature, looking at the feature of service quality by ownership. The last column of Table 5-8 shows the difference in the service quality between for-profits and non-profits, with other variables controlled by regression analysis and each index as a dependent variable.

The result is characteristic. Whereas non-profits are superior in the indices for care service itself, including "Basic care implementation," "Medical and health support," and "Administrative procedure," for-profits excel in relations with families. The reason for this is that the families represent the voice of the care recipients who tend to be very dependent[45]; for-profits are more sensitive to the voice of independent care recipients.

[45] Group Home residents need to hold Care level 3 or above (see Table for the details).

These characteristic differences between for-profits and non-profits are the cause of the disputes in previous literature: depending on the viewpoint, both ownerships could perform better. Morozumi (2007), for example, preferred the non-profits, assessing their service quality from care recipients' viewpoints only. Suzuki (2002), on the other hand, claimed that the for-profits were possibly superior, including the aspect of information disclosure[46] to the index of service quality.

Result 2: MAR Model was Not Supported

The MAR is the argument that market competitiveness lowers care quality. This section first presents the measurement of market competitiveness, and then compares care quality between providers in competitive markets and those in non-competitive markets. Lastly, the section discusses the implication of the outcomes.

Although the negative correlation between care quality and HHI has already been shown in Table 6, this section further investigates the impact, categorizing the providers into two groups: the HHI 0.1 or below as the competitive market, and the HHI 0.18 or above as the non-competitive market[47].

[46] This includes issuing a newsletter for the members (care recipients' families).
[47] According to Parkin and Bade (2006), HHI 0.18 or above indicates concentration (i.e., low competition), whereas HHI 0.1 or below means un-concentration (i.e., high competition).

Comparison between "Competitive" and "Non-competitive"

Table 5-9 illustrates the distribution of the variables of each market. The competitive market has more new providers. The capacity of the providers in the competitive market is greater.

Table 5-9. The Distribution by Market Competitiveness of the Providers

		Competitive	Non-competitive
Sample		435	426
Ownership	For-profit	256 (59%)	252 (59%)
Subsidiary business	Day service	32 (7%)	44 (10%)
	Community at-home care service	9 (2%)	12 (3%)
	At-home care service	9 (2%0	6 (1%)
Timing of market entry	New entry	119 (27%)	73 (17%)
Size	Capacity (average)	16.1	14.7

Table 5-10 presents the mean scores of care quality indices by providers' market competitiveness. The "principal component score" and "principal component improvement score" are estimated by different weights based on principal component analysis. The Independent-Samples t test compares both markets in the "simple" column. In the "controlled" column, on the other hand, the comparison is weighted by the variables seen in the table, by regression analysis. "C" indicates that the score of the providers in the competitive market is significantly higher than that of non-profits, while "N" refers to the reverse.

Table 5-10. The Comparison of Care Quality
by Market Competitiveness of the Providers

		Competitive	Non-competitive	Simple	Controlled
1	Publicity about the corporate philosophy	0.91 (0.16)	0.85 (0.20)	C**	C*
2	Homely living space	0.95 (0.13)	0.93 (0.15)	C**	
3	Customized living space	0.97 (0.09)	0.95 (0.12)	C**	
4	Care management	0.93 (0.13)	0.89 (0.16)	C**	C*
5	Basic care implementation	0.97 (0.10)	0.94 (0.07)	C**	
6	ADL support	0.96 (0.07)	0.95 (0.08)	C*	
7	Life support	0.94 (0.16)	0.90 (0.20)	C**	
8	Medical and health support	0.94 (0.09)	0.91 (0.11)	C**	
9	Community life	0.96 (0.19)	0.94 (0.24)		C*
10	Interaction with family	0.99 (0.10)	0.99 (0.12)		
11	Administrative procedures	0.92 (0.11)	0.89 (0.14)	C**	
12	Response to complaints	0.96 (0.14)	0.95 (0.15)		
13	Interaction between GH and family	0.95 (0.14)	0.92 (0.18)	C**	C*
14	Interaction between GH and community	0.81 (0.24)	0.75 (0.26)	C**	
	Total score (average score of all indices)	0.94 (0.07)	0.91 (0.07)	C**	C**
	Score of the principal component	0.48 (0.19)	0.46 (0.04)	C**	C**
	Improvement score (average improvement score of all indices)	0.04 (0.08)	0.07 (0.08)	N**	
	Improvement score of the principal component	0.02 (0.01)	0.04 (0.02)	N**	

Note: The number in brackets indicates the standardized deviation.
* means 5% significant level.
** means 1% significant level.

The outcome shows that the overall care quality of "provider in the competitive market" (hereafter "competitive") is significantly better than "provider in the non-competitive market" (hereafter "non-competitive") is. The total score is 0.94 for competitive and 0.91 for non-competitive; the score of competitive is higher than that of non-competitive and the difference is statistically significant. This is also the case for the "score of the principal component." The resultd, therefore, fail to support the hypothesis of the MAR model.

The MAR model suggested that market competition lowers service quality.

Some critics of the MAR model argue that there is also little incentive to improve service quality in the non-competitive market, but they were not correct. The improvement score describes the transformation of the service quality of the providers for the two years that the data are available for (FY2005/2006 and FY2006/2007). The scores of competitive and non-competitive are 0.04 and 0.07, respectively. Both numbers are positive, which indicates the improvement of care quality. This is also the case for the improvement score of the principal component.

Empirical Implication of the Model

"Competitive" (the providers in competitive markets) appears to excel, especially in the indices related to public relations, such as "publicity about the corporate philosophy," "community life," and "interaction between GH and family." However, their strength also reaches the categories of *life environment* and *care service*. This paper is the first empirical study of MAR with the HHI and a comprehensive service quality evaluation in the long-term care market. The outcome indicates that the mandatory third-party evaluation that makes a provider's service quality information available to the public is very useful to prevent MAR syndrome, which is caused by the information gap between care recipients and providers.

This minimized information gap also creates incentive for "non-competitive" (the providers in non-competitive markets) to enhance the care quality. As seen in Table 8, the average improvement score of non-competitive is even higher

than that of competitive. As a result, the mandatory third-party evaluation enhances the service quality of the market.

Result 3: Suzuki and Sateke's Model (2001) was Partly Supported

Suzuki and Satake's (2001) model assumed that new entries do not enhance service quality in the care market. To investigate the validity of this assumption, this research defined the providers that were first evaluated in FY2006/2007 as new entries and the providers first evaluated prior to FY2006/2007 as old ones. This section presents the comparison between them and the implications from the model.

Comparison Between New and Old Entries

Table 5-11 illustrates the distribution of the variables of new and old entries. New entries tend to enter a more competitive market. An old entry is more likely to have a day care service as a subsidiary business.

Table 5-11. The Distribution by Market Entry of the Providers

		New	Old
Sample		241	849
Subsidiary business	Day service	10 (4%)	74 (9%)
Market environment	Community at-home care service	3 (1%)	12 (1%)
	At-home care service	0 (0%)	4 (0%)
	Herfindahl-Hirschman Index	0.17	0.23
Size	Capacity (average)	15.1	15.5
Ownership (for-profit dummy)		164 (68%)	481 (57%)

Table 5-12 indicates the mean scores of service quality indices by the timing of market entry of the providers. The "principal component score" and "principal component improvement score" are estimated by different weights based on principal component analysis. The Independent-Samples t test compares both types of providers in the "simple" column. In the "controlled" column, on the other hand, the comparison is weighted by the variables seen in the table by regression analysis. "N" indicates that the score of the new entries is significantly higher than that of non-profits, whereas "O" refers to the reverse.

Table 5-12. Comparison of Service Quality by Market Entry of the Providers

		New	Old	Simple	Controlled
1	Publicity about the corporate philosophy	0.86 (0.19)	0.88 (0.19)		
2	Homely living space	0.93 (0.15)	0.94 (0.13)		
3	Customized living space	0.87 (0.13)	0.92 (0.10)	O*	O**
4	Care management	0.95 (0.18)	0.95 (0.15)	O*	O**
5	Basic care implementation	0.95 (0.10)	0.95 (0.09)		
6	ADL support	0.95 (0.08)	0.95 (0.08)		
7	Life support	0.92 (0.19)	0.92 (0.19)		
8	Medical and health support	0.90 (0.12)	0.93 (0.10)	O**	O**
9	Community life	0.95 (0.23)	0.95 (0.23)		
10	Interaction with family	0.99 (0.11)	0.99 (0.12)		
11	Administrative procedures	0.89 (0.13)	0.90 (0.13)		
12	Response to complaints	0.93 (0.17)	0.95 (0.14)	O*	O**
13	Interaction between GH and family	0.90 (0.19)	0.94 (0.15)		O**
14	Interaction between GH and community	0.75 (0.27)	0.79 (0.25)		O*
	Total score (average score of all indices)	0.91 (0.09)	0.93 (0.07)	O**	O**
	Score of the principal component	0.46 (0.05)	0.47 (0.04)	O**	O**
	Improvement score (average improvement score of all indices)	-	0.06 (0.03)	-	-
	Improvement score of the principal component	-	0.02 (0.01)	-	-

Note: The numbers in brackets indicate the standardized deviation.
* means 5% significant level.
** means 1% significant level.

The total score in Table 5-12 is 0.91 for new entries and 0.93 for old entries. The score of old entries is slightly higher than that of new entries, and the difference is statistically significant. This is also the case for the principal component score. The outcomes, thus, support the hypothesis of Suzuki and Satake's (2001) model.

Suzuki and Satake (2001) also suggested that new entries spend their "excess profit" not on improving service quality, but on something else, like advertising. To investigate the validity of this explanation, Table 11 presents the transformation of the service quality of the "old" providers for which data is available for both years (FY2006/2007 and FY2005/2006). Moreover, among them, this study redefines the providers that entered the market in FY2005/2006 as "new" entries and the rest as "old" entries, so that the improvement of new and old entries can be compared. As Nanbu (2000) suggested, however, Table 5-13 shows that new entries improved care quality better than old ones.

Table 5-13. Comparison of Care Quality Improvement by Market Entry of the Providers

		New	Old	Simple	Controlled
	Improvement score (average improvement score of all indices)	0.06 (0.03)	0.02 (0.02)	N**	N**
	Improvement score of the principal component	0.03 (0.02)	0.01 (0.01)	N**	N**

Note: The number in brackets indicates the standardized deviation.
* means 5% significant level.
** means 1% significant level.

The results, thus, demonstrate that new entries do not bring a competitive care quality into the market. They do, however, improve care quality, possibly

spending excess profit towards that improvement.

Empirical Implications to the Model

The score of each index in Table 5-12 describes the features by the timing of market entry. It appears that the old entries perform better in the sub-indices in the index[48] of *management structure,* such as "response to complaints," "interaction between Group Home and family," and "interaction between Group Home and community." On the other hand, in the category of *care service*, there is, with the exception of "medical and health support," very little difference between new and old entries. This implies that experience is more important in the management aspect of long-term care.

Summary and Discussion

In order to investigate the empirical workability of Ideal CQM, this chapter examined the validity of three care-market information-asymmetry models that conflict with Ideal CQM. These information asymmetry models are a) Contract Failure model, b) MAR model, and c) Suzuki and Satake's (2001) model. The analysis was based on the examination of 1,093 Group Home providers' care quality data in the long-term care market in Japan.

This chapter presented three major empirical findings. First, there was no

[48] There are four indices for the sub-indices, as seen in Table 5-2.

non-profit superiority in the care quality in the market. The preference in care quality might vary depending on the viewpoint—care recipients might prefer the care of non-profits, whereas the family might chose the family-interaction of for-profits. However, the overall difference in care quality between for-profit and non-profit was not statistically significant. Second, the disclosure system of providers' care quality information bridged the care information gap between care recipients and providers, which led the market competition to enhance care quality. Third, although new market entries were inferior to old entries (existing providers) in care quality, the improvement of new entries in the following year was greater than that of old entries. The challenge of new entries was rather the managerial structure of care than care itself.

In conclusion, none of the three testing models was fully supported. The Group Home providers compete with each other for a better care quality in order to respond to the care recipients' needs:

$$\max_{q} \pi = hx(q) - c(q \mid \bar{x}).$$

Therefore, the empirical workability of Ideal CQM was empirically proven in the case of a Group Home market that meets, along with the care quality evaluation system, the conditions to implement Ideal CQM.

This chapter also justified the importance of measuring and publicizing providers' care quality. Certainly, the three testing information asymmetry models argued that care recipients would not be able to compare the providers' care quality and choose one based on care quality However, the investigations

of this chpater proved these models were not supported where governments emasure and publicize providers' care quality information.

Therefore, publicizing care-quality information becomes a fourth condition to introduce Ideal CQM. Now, the conditions of Ideal CQM are a) a universal long-term care system, b) standardized content of care according to care recipients' conditions, c) no price competition, and d) publicizing providers' care quality evaluation.

This indicates that all other long-term care markets, including Japanese at-home care and institutional care, should meet these conditions to solve the long lasting care quality issue, directing market competition to enhance providers' care quality by Ideal CQM.

Chapter 6. Testing Ideal CQM: Financial Practicability

Is a Universal Care System Costly?

The previous chapter concluded that all long-term care markets ought to aim to introduce Ideal CQM in order to solve the long-lasting care quality issue. However, this implementation requires several conditions: a) a universal long-term care system, b) standardized content of care according to care recipients' conditions, c) no price competition, and d) publicizing providers' care quality evaluation.

Among them, the universal system is often criticized, as it is costly. In fact, about half of OECD nations apply a means-tested system, not a universal one, in the long-term market (see Table 3-1). This chapter, therefore, investigates Ideal CQM in terms of financial practicability.

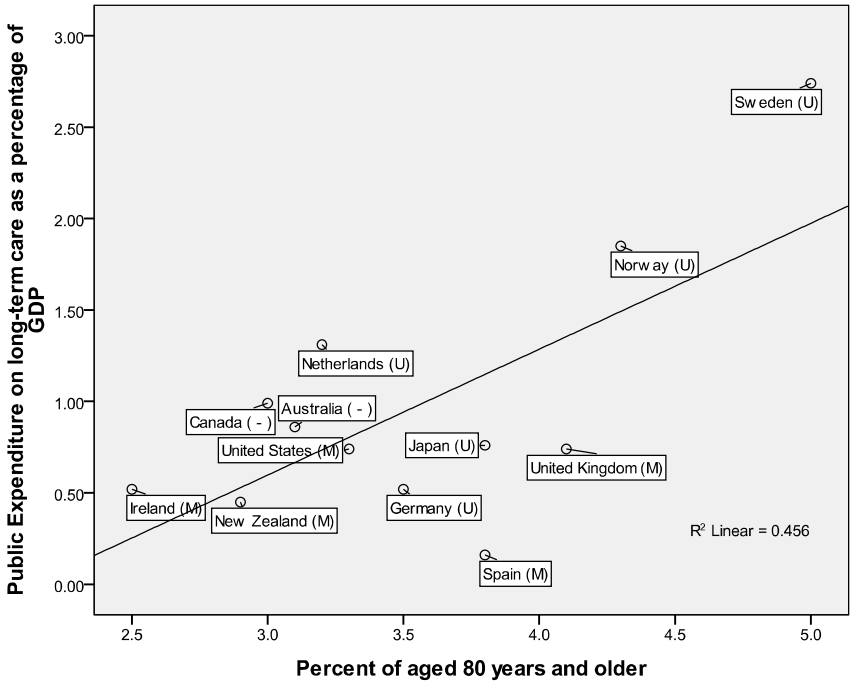
Finding 1: Universal Care Provision is Not Necessarily Costly

One can normally assume that universal care costs more than means-tested care. The number of universal care recipients is certainly greater than that of means-tested: universal care is for everyone; means-tested care is for the economically vulnerable only. Therefore, one can infer that many governments have hesitated to introduce a universal system due to their responsibilities to respond to increasing long-term care needs within a limited budget.

However, there is no significant cost difference between the two types of markets. Figure 6-1 plots: Y = expenditure of public long-term care as a percentage of GDP; X = share of very old people in the population; the bracket U indicates universal, whereas M indicates means-tested. As seen, the

countries with bracket U do not necessarily spend more than those with M do: the cost of Japan (U) and Germany (U) are less than the average, whereas that of Ireland (M) is above the average.

Figure 6-1. The Correlation between Public Long-Term Care Spending and the Population Share of Very Old People (aged 80+)



Source: Figure 2-1, 2-2, and Table 3-1.

The existence of universal long-term care contributes to the minimization of the private long-term care expenditure. Table 6-1 indicates the ratio of private expenditure in the total long-term care expenditure. The average private expenditure ratio of the countries with universal care is only about 30% of that of the countries with means-tested care.

Table 6-1. Ratio of Private Expenditure to Total Long-Term Care Expenditure (%)

Universal		**Means-tested**		**Other**	
Sweden	5	Ireland	16	Canada	2
Japan	8	New Zealand	34	Australia	28
Netherlands	9	United Kingdom	35		
Norway	14	United States	42		
Germany	3	Spain	73		
Average	**13**	**Average**	**4**	**Average**	**24**

Source: Figure 6-1.

Introducing a universal system is a condition to apply Ideal CQM and the long-term care expenditures of the countries with a universal system are not different from those with means-tested systems. Therefore, why have not all countries applied a universal system?

The reason that a universal system is not always costly: Long-term care as a good

To investigate the premise to the introduction of a universal system, one, first, needs to grasp what, on the ground, a universal system is. This section discusses this issue using the theory of economics. First, we argue long-term care as a good. Then, we examine the difference between a universal system and a means-tested system.

Public good and Private good

In economics, long-term care can be categorized as a private good, not a public good. A public good is a good that is non-rivalled and non-excludable, whereas a private good is the opposite. Non-rivalled and non-excludable means, respectively, that consumption of the good by one individual does not reduce availability of the good for consumption by others, and that no one can be effectively excluded from using the good. In the real world, there may be no such thing as an absolutely non-rivalled and non-excludable good, but economists think that some goods approximate the concept closely enough for the analysis to be economically useful. For example, if one citizen is secured by the national defence, the security of the national defence is still available for others in the country and it is very difficult to exclude anyone from the security of the country; it is thus a non-rivalled and excludable public good. Conversely, eating a cake reduces the amount of cake available to others and people can be effectively excluded from eating the cake;

therefore, a cake is a private good. Likewise, so is long-term care[49]. Unlike a private good, therefore, a public good cannot exclude a free rider. This means, in other words, the government does not necessarily provide long-term care in theory, because it is not a public good.

Long-term care as a merit good

Historically, as the social structure changed, governments began to provide many non-public goods (or private goods), with the idea of merit goods. A merit good, an idea introduced by Musgrave (1957, 1959), is a good, judged as necessary for an individual or society based on a norm other than respecting consumer preferences. A merit good is, in other words, a not-public good, which is important for a governmental region (a country in most cases), but is difficult for market-mechanisms to elicit its needs.

As seen in Figure 6-2, for example, primary school education is not a public good in nature. It is excludable and rivalled to some extent. In that sense, it is possible to provide primary education from the private sector only, with the exclusion of free riders. Nevertheless, today's governments commonly intervene in providing primary education, because giving a primary education to all citizens without exception is so beneficial for the society (country) that the citizens in the society share the cost by paying a tax (or social insurance fee). In short, a primary education is a merit good in today's society. This idea is also applicable to the case of long-term care in some countries today. Although long-term care as a good is rather private, it is beneficial for the society in some countries to co-purchase necessary long-term care and share it with all members in the society: a universal care system.

[49] However, long-term care may not be as "rivalled" as a cake: a care may be available to plural customers.

Figure 6-2. Idea of Good in Economics

Public

Non-rivalness	Non-excludability: Strong	Non-excludability: Weak
Strong	National Defence Open road Rubbish disposal	Cable-TV Primary Education Highway Pool Theatre
Weak	Security service Wild animals (e.g., a fish in a river)	Healthcare Long-term care Foods

Created by the author

Private

What makes a merit good benefit the whole society? The factors certainly include a significant number of the population needing a good. For example, long-term care would not be a merit good in a country with little aging population because it benefits only a minority. Nevertheless, the size of the population that needs a good is not the only factor. As seen in Figure 6-1, the percentage of people aged 80 years and older in the United Kingdom and Spain, countries without a universal system, is larger than that in Japan, Germany, the Netherlands and Austria, countries that apply a universal system.

A uniformity of good is required to be a merit good. This is to exercise scale economics in co-purchasing a good. Increasing returns in scale economics refer to how the marginal contribution of a factor of production dramatically increases at some point as more of the factor is used, taking advantage of the scale merit. According to this relationship, in a production system with fixed and variable inputs (say capacity of institutional care and carer) beyond some point, each additional unit of the variable inputs yields greater and greater

increases in output. Conversely, producing one more units of output costs less and less in variable inputs. Each unit, therefore, cannot be very different.

For example, 'food' as a good is necessary to every single member of a society. Therefore, many societies in history co-purchased food and distributed it to the members of the society, applying a universal system in the food market. However, this system did not work in most cases, because the preference of food is usually too individually diverse to exercise scale economics: some prefer rice, whereas others prefer bread; some like beef and others like chicken. Health care, as a good, has been, on the other hand, successfully co-purchased and distributed in many societies,[50] because the content of health care (i.e., medical treatment against illness) is not as diverse as the choice of food; there is usually a certain treatment for each health condition.

It was, therefore, due to scale economics that the long-term care expenditures of the countries with universal systems were not very expensive compared to those of the countries with means-tested systems.

What makes human service diverse is income gap. Table 6-2 lists the above-mentioned countries' market types (either universal or means-tested) and the Gini coefficient[51]. There is a clear tendency for the economical gap in the countries with universal care to be comparatively small; the countries with means-tested care are the opposite. In order to apply universal care (i.e., to utilize scale merit to co-purchase a good), therefore, this economical gap needs to be minimized. Concretely, a Gini coefficient of approximately 35% or below seems to be required.

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[50] See for example, NHS in the United Kingdom, NHI in Japan, and Medicare in Australia.

[51] The Gini coefficient is a measure of statistical dispersion developed by Carrado Gini (Gini, 1912). It is commonly used as a measure of inequality of income or wealth.

Table 6-2. The Gini coefficient and market type

	Gini coefficient	Highest 10%	market
Japan	24.9%	21.70%	U
Sweden	25%	22.20%	U
Norway	25.8%	23.40%	U
Germany	28.3%	22.10%	U
Netherlands	30.9%	22.90%	U
Spain	32.5%	25.20%	M
Canada	33.1%	25.00%	-
Australia	35.2%	25.40%	-
Ireland	35.9%	27.60%	M
United Kingdom	36%	28.50%	M
New Zealand	36.2%	27.80%	M
United States	40.8	29.90%	M

Source: World Bank (2005:p.74) World Development Indicators Database

This reveals that the gap in long-term care needs differs according to the wealth of individuals. For example, the long-term care that a wealthy citizen wants is very different from what an economically vulnerable citizen wishes to receive. The larger the economic gap a country has, the harder it is for the country to set a certain level of service with which everyone will agree. More importantly, it is always harder to convince wealthy people to lower their requirements: a standardized level of long-term care is a bonus for the economically vulnerable, whereas it is the result of compromises for wealthy people. In a country with a large economic gap, therefore, standardized long-term care service units tend to be rather expensive for the budget. This means that people do not consider universal long-term care service as a merit good.

Quality Improvement in Means-tested System

The previous section explained that a universal system, a basis of Ideal CQM, is difficult to implement in a market with a larger economic gap. Certainly, all means-tested markets should intend to apply a universal system in order to

implement Ideal CQM that solves the long-lasting care quality issues. Nevertheless, minimizing the economic gap to apply a universal system would take a long time since gap minimization is not just a matter of long-term care policy. Meanwhile, then, does a means-tested system with a large economic gap have nothing to do with long-lasting care quality issues? This section discusses the solution for means-tested markets with a large economic gap.

Model for the Means-tested Market with a Large Economic Gap

As mentioned earlier, Existing CQM of a means-tested market is:

$$\max_{p,q} \pi = px(p,q) + r(\bar{x} - x(p,q)) - c(q \mid \bar{x}),$$

where Medicaid reimbursement r and its own bed supply $\bar{x}$ is a given, and people choose private price p and quality of care q to maximize profits π.

First, reimbursement (r) needs to be associated with the current condition of each Medicaid care recipient. As stated earlier, reimbursement (r) does not reflect a care recipient's condition (see Chapter 3), so it is important to categorize the Medicare care recipients into several grades, as seen in Table 4-3[52], and pay them reimbursement (r) accordingly. Thus, Medicare care recipients begin to consider price and quality of care as much as private care recipients, and are not just given reimbursement (r):

$$\max_{p,q} \pi = px(p,q) + rx(p,q) - c(q \mid \bar{x}). \quad (2\text{-}1)$$

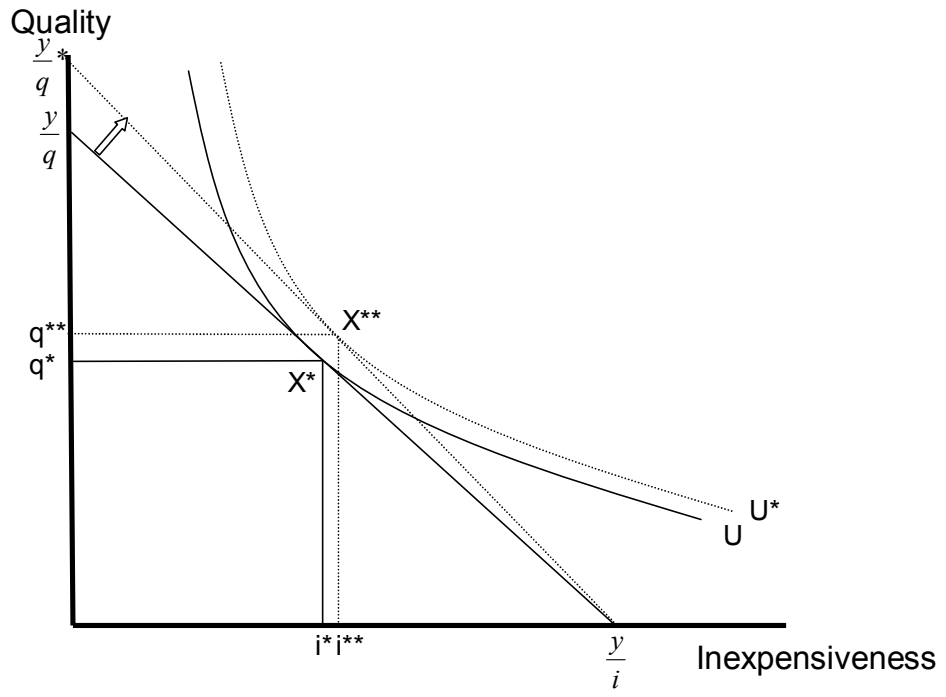
[52] The classification (i.e., the number of categories and their measurement) is not necessary to the same classification as Japan.

Leveraged Model

The care quality control by governments needs to shift from a reputational approach to, what this research calls, a Leveraged Model, which enhances care quality without adding extra cost. As explained in Chapter 3, a regulatory approach by setting a minimum quality standard may dissatisfy care recipients due to the price rise along with the quality improvement. A leveraged model, on the other hand, enhances quality by shifting the necessary care amount line from (y = qq* +ii*) to (y = qq**+ii**). Therefore, care is purchased at (X**), the breaker point between the line (y = qq**+ii**) and care recipients' new indifference curve (U*). (X**) is better in quality and inexpensiveness than (X*). In short, Governments can enhance the quality of care without dissatisfying any care recipients.

The Leveraged Model is based on analysing the mechanism of care quality improvement. Revealing how providers improve their care quality, the Leveraged Model looks for inexpensive ways to enhance quality.

Figure 6-3. Care Differentiation and Equilibrium



Method

The method is to examine the correlations among quantified quality indicators by Pearson's product-moment correlation coefficient. Suppose there are *n* sets of variables *X* and *Y*; the formula is expressed as:

$$(4) \qquad r = \frac{\frac{1}{n-1}\sum_{i=1}^{n}(Xi-\overline{X})(Yi-\overline{Y})}{\sqrt{\frac{1}{n-1}\sum(Xi-\overline{X})^2}\sqrt{\frac{1}{n-1}\sum(Yi-\overline{Y})^2}}$$

Table 6-3 indicates the Leveraged Model applied to the Japanese Group Home market. The index numbers (i.e., "no. 1," "no. 2," and "no. 3" in the Table) mean the sub-index numbers of the mandatory third-party evaluation (see Table for details). The outcomes mean the correlation between the indicators. For example, no. 1 (publicity about the corporate philosophy) significantly correlates with no. 2 (homely living space), and the p value is 0.244.

Looking for the indicator that most positively correlates with the others, this study found that "no. 1," that is, "leverage," meets this criterion. The Leveraged Model focuses on improving leverage. What governments can do to implement the model is, for example, to collect the best practices at the next care quality evaluation and compile these practices into a handout to distribute to each provider. This would not cost much, but would be effective in enhancing providers' care quality.

Significance of Leveraged Model

Since the Leveraged Model finds the most efficient indicator, the model is effective to improve care quality. It is, of course, useful for both a universal and a means-tested market. The cost effective feature of the Leveraged model is, however, particularly important in a means-tested market, where

not-wealthy care recipients suffer the most from the existing regulatory policy. In a means-tested system, not-wealthy care recipients may lose access to necessary long-term care because regulatory policy cannot avoid increasing long-term care prices in the market (see Chapter 3 for details).

The concept of best practice used in the Leveraged Model is not new. Similar models have been actively researched in many fields, such as management. In long-term care, the improvement of care recipients' physical capabilities has been investigated from the view of best practice. North America based *InterRAI* is known as such a research group.

Nevertheless, the Leveraged Model is among the very first attempts to improve providers' overall quality of care. This is mainly because providers' care quality indicators, such as mandatory third-party evaluation, still remain unique. Unlike other evaluations, the third-party evaluation includes both direct and indirect factors to enhance the quality of care. For instance, the indicators of care implementation rather directly influence the care quality, whereas those of managerial structure may affect the quality of care in terms of the sustainability (see Table 5-2 in Chapter 5 for detailed indicators). Analysing the quantified data of such multi-dimensioned care quality measurement, Leverage Model may present the best practice of care quality improvement in a more comprehensive way.

Possible Further Research of Leveraged Model: Mechanism to Improve Care Quality

The limitation of the research on the Leveraged Model is that it has not been able to reveal the mechanism of care quality improvement. Certainly, the findings from the demonstration in the case of the Group Home market are useful for the Japanese market, but may not be for others. Since there is no

absolute care quality measurement, it is not easy to reveal the mechanism. This author suggests, however, if many other markets apply quality measurement systems such as mandatory third-party evaluation, the Leveraged Model will be used more frequently, and a generalizable mechanism to improve care quality will be found.

Table 6-3. The Leveraged model of the Japanese Group Home market

		no1	no2	no3	no4	no5	no6	no7	no8	no9	no10	no11	no12	no13	no14	Total	Principle
no1	Pearson Correlation	1	.244**	.228**	.300**	.259**	.272**	.208**	.330**	.215**	.129**	.336**	.178**	.293**	.387**	.642**	.672**
	Sig. (2-tailed)		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093
no2	Pearson Correlation	.244**	1	.386**	.145**	.243**	.265**	.136**	.176**	.145**	.120**	.199**	.020	.092**	.233**	.449**	.447**
	Sig. (2-tailed)	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.504	.002	.000	.000	.000
	N	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093
no3	Pearson Correlation	.228**	.386**	1	.282**	.315**	.261**	.099**	.282**	.150**	.097**	.277**	.095**	.103**	.180**	.463**	.473**
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.001	.000	.000	.001	.000	.002	.001	.000	.000	.000
	N	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093
no4	Pearson Correlation	.300**	.145**	.282**	1	.200**	.257**	.200**	.353**	.138**	.088**	.422**	.141**	.263**	.258**	.557**	.584**
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000	.000	.000	.004	.000	.000	.000	.000	.000	.000
	N	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093
no5	Pearson Correlation	.259**	.243**	.315**	.200**	1	.286**	.214**	.274**	.224**	.143**	.270**	.110**	.135**	.259**	.499**	.504**
	Sig. (2-tailed)	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093
no6	Pearson Correlation	.272**	.265**	.261**	.257**	.286**	1	.253**	.320**	.152**	.238**	.270**	.143**	.185**	.192**	.503**	.507**
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093
no7	Pearson Correlation	.208**	.136**	.099**	.200**	.214**	.253**	1	.221**	.205**	.114**	.200**	.134**	.170**	.156**	.489**	.462**
	Sig. (2-tailed)	.000	.000	.001	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093
no8	Pearson Correlation	.330**	.176**	.282**	.353**	.274**	.320**	.221**	1	.130**	.120**	.425**	.151**	.183**	.274**	.545**	.573**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000
	N	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093
no9	Pearson Correlation	.215**	.145**	.150**	.138**	.224**	.152**	.205**	.130**	1	.146**	.157**	.053	.162**	.203**	.494**	.449**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.083	.000	.000	.000	.000
	N	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093
no10	Pearson Correlation	.129**	.120**	.097**	.088**	.143**	.238**	.114**	.120**	.146**	1	.162**	.169**	.148**	.178**	.368**	.327**
	Sig. (2-tailed)	.000	.000	.001	.004	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000
	N	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093
no11	Pearson Correlation	.336**	.199**	.277**	.422**	.270**	.270**	.200**	.425**	.157**	.162**	1	.150**	.280**	.312**	.598**	.630**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000
	N	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093
no12	Pearson Correlation	.178**	.020	.095**	.141**	.110**	.143**	.134**	.151**	.053	.169**	.150**	1	.186**	.077*	.355**	.301**
	Sig. (2-tailed)	.000	.504	.002	.000	.000	.000	.000	.000	.083	.000	.000		.000	.011	.000	.000
	N	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093
no13	Pearson Correlation	.293**	.092**	.103**	.263**	.135**	.185**	.170**	.183**	.162**	.148**	.280**	.186**	1	.219**	.494**	.481**
	Sig. (2-tailed)	.000	.002	.001	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000
	N	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093
no14	Pearson Correlation	.387**	.233**	.180**	.258**	.259**	.192**	.156**	.274**	.203**	.178**	.312**	.077*	.219**	1	.622**	.644**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.011	.000		.000	.000
	N	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093
Total	Pearson Correlation	.642**	.449**	.463**	.557**	.499**	.503**	.489**	.545**	.494**	.368**	.598**	.355**	.494**	.622**	1	.994**
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000
	N	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093
Principle	Pearson Correlation	.672**	.447**	.473**	.584**	.504**	.507**	.462**	.573**	.449**	.327**	.630**	.301**	.481**	.644**	.994**	1
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	
	N	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093	1093

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Interim Conclusion

The purpose of Part I was to answer the research question: How should governments design the human service market in order to keep the capacity to ensure the quality of service? To answer this, the research takes a model-testing approach: the research first presents Ideal CQM that directs the market competition to enhance service quality along with the indicators set by government authority. The rest of Part I tests the model in terms of applicability, workability, and financial sustainability.

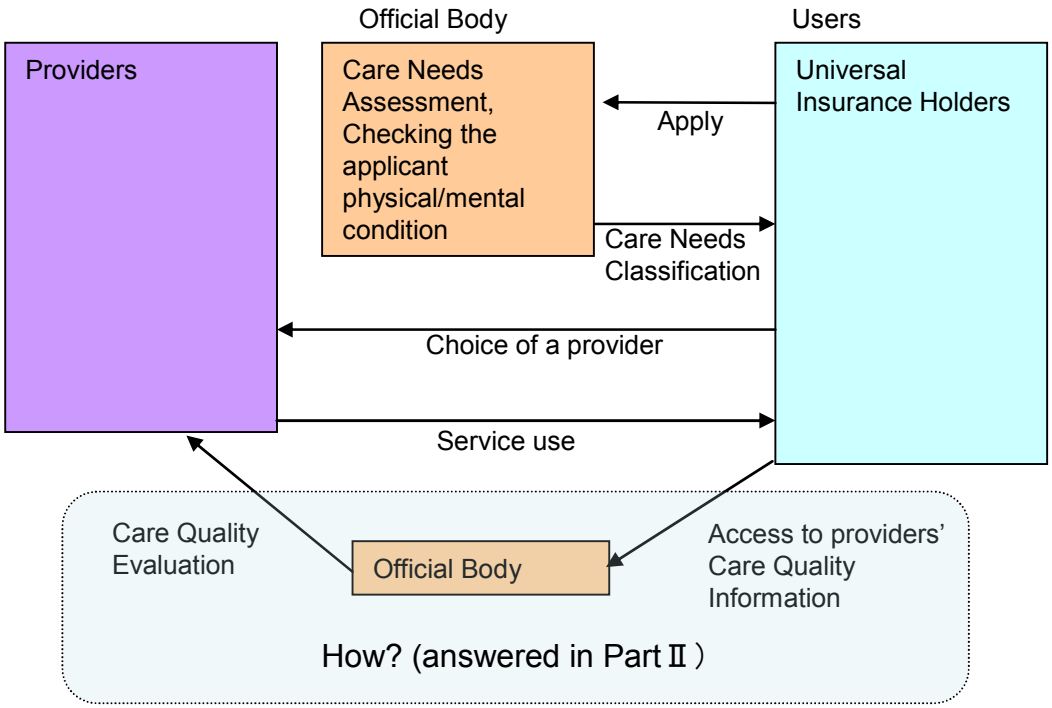
Ideal CQM

Removing the price component and reimbursement rate, Ideal CQM offers an environment in which care recipients choose a provider solely based on care quality. To this end, Ideal CQM requires four preconditions: a) universal long-term care system; b) standardized content of care according to care recipients' condition; c) no price competition; and d) publicizing care quality information.

The image of Ideal CQM introduction can be described as following. First, as the service provision is universal, all users are eligible to receive the service by applying for a care needs test. Second, since care content is standardised according to care recipients' conditions, governments (or official bodies) examine users' care needs. Third, with the classification of care needs, users choose a provider. Since, there is no price competition in the market, users choose a provider solely based on the service quality. However, due to the information asymmetry between users and providers in the human service market, governments (or official bodies) need to publish the providers' care

quality information.

Figure 6-4. Image of Ideal CQM



Finding 1: Ideal CQM is Applicable

The research proved that Ideal CQM is applicable. Surveying the long-term care markets in OECD nations, the research found that the Japanese Long-term Care Insurance market meets all four preconditions. Together with Japan, Austria, Germany, Luxemburg, Netherlands, Norway, Sweden, and S. Korea meet the first condition of universal care. Furthermore, Germany, Luxemburg, and S. Korea also clear the standardized content of care according to care recipients' conditions. However, Japan is the only country that meets the third condition: no price competition.

Finding 2: Ideal CQM is Workable

The research endorsed that Ideal CQM is workable. Although the assumption that users have access to providers' care quality information contradicts information asymmetry models in the care market, the research proves that none of these conflicted models are fully supported. Moreover, the research found that the more competitive the market becomes the better quality of service it provides, when governments (or public bodies) publicize providers' care quality information. The findings also added empirical implications to the literature of care-market information-asymmetry models: a) Contract Failure model, b) MAR model, and c) Suzuki and Satake's (2001) model.

Finding 3: Ideal CQM is Financially Sustainable

The research suggested that Ideal CQM is financially sustainable. Analysing the long-term care expenses of OECD nations, the research discovered that the universal system does not necessarily cost more than the means-tested system does. Investigating merit good theory and scale of economics, the research uncovered that the cost efficiency of the universal system is rooted in the small income gap of the markets with the universal system. This indicates that a small income gap is a precondition of the universal system.

Supplemental Argument to Ideal CQM

Finding 4: the Use of Leverage Model

The research presented a tool to improve quality, especially for the markets that do not meet the precondition of a universal system. The tool, named 'Leverage Model,' finds the care quality indicator that has the most positive influence on other indicators. Initiating providers to focus their resources on improving that

indicator, governments can efficiently enhance the quality of service, even in a means-tested system.

As seen, the research proved that Ideal CQM is applicable, workable, and sustainable. That is, Ideal CQM sustainably directs the market competition to enhance the quality of service along with the care quality indicators approved by governments. The remaining question is, as seen in Figure 6-4, how to measure the providers' care quality. The answer to this question is in Part II.

Part II. Performance Measurement for Human Service Market

Chapter 7. Process-based Performance Measurement Model for the Human Service Market

Analysing the Group Home market in Japan, Part I demonstrated that Ideal CQM directs the market competition to enhance care quality according to performance indicators. By setting appropriate performance indicators in Ideal CQM, therefore, governments can logically solve the long-standing care quality issue, because performance measurement offers users guidance on choosing a provider.

The purpose of Part II is to investigate the best way to measure the providers' performance in order to solve the long-standing care quality issue. This chapter specifically compares outcome-based performance measurement and the alternative, process-based performance measurement.

Clarifying Performance Measurement in This Research

The terms performance measurement, or performance indicator(s), in this thesis are often rephrased by the terms care quality measurement or care quality indicator(s). Since this thesis defines providers' care quality as the providers' performance, these terms are interchangeable in this thesis.

Why is it necessary to measure performance? As discussed earlier, governments are required to assure the quality of human service because governments are responsible for providing people with a certain standard of living. Furthermore, most human service is provided through a competitive market in order to respond to increasing needs. Without performance measurement, it is difficult to ensure a level of standard care within this market. In addition, there tends to be information asymmetry between users and providers in human service markets. Without performance measurement, therefore, it is difficult for users to choose providers based on quality of services.

A key concept in performance measurement is viewpoint. Depending on the point of view, what to measure varies. For example, the CEO of a care institution may measure profit from care services, whereas some users may measure the price of care services. Therefore, Behn (2003) presents a scheme to clarify the answer to the question "*how* should *who* hold *whom* accountable for *what*?" [1] As indicated in Table 7-1, *How* is identified with rewards and punishments. *Who* means the accountability holders, whereas *Whom* is the accountability holdees. Then, *What* is decided (i.e., the measurement).

The definition of the performance indicators in this study clarifies the study's point of view. The rewards and punishments come from a competitive market mechanism. If a provider performs well, it attracts more users (i.e., rewards) and vice versa (i.e., punishments). There are accountability holders: users who

[1] Behn (2003) presents two different ways of answering the accountability question, but this research only utilizes his simple "traditional way" to clarify the viewpoint.

need to know providers' care quality when choosing a provider and governments that manage the competitive market[2] (see page 80 for details). In other words, users and governments are the "who", in control of the rewards and punishments. Providers constitute the "whom" and should be held responsible for quality care provision. The performance indicators by which users and governments hold providers responsible are the "what". Governments are in charge of performance evaluation.

Table 7-1. A Way of Answering this Accountability Question:

How Should *Who* Hold *Whom* Accountable for *What*?

The Question	Accountability	Players
How?	With rewards and punishments	Market competition
Who?	The accountability holders	Users/Governments
Whom?	The accountability holdees	Providers
What?	Standardized test scores	Performance measurement set by public authority

Source: Behn (2003)

The Problem of Outcome-based Performance Measurement in Human Service

The existing outcome-based, performance measurement conflicts with the ambiguous policy goals of human service. In order for governments to implement outcome-based, performance indicators, there needs to be clearer

[2] In most human service provisions, providers enter the market with the licence issued by governments (see Chapter 2 for details).

goals. Along with the goals, performance measurement provides guidance for service users, especially when choosing a provider. Thus, market competition based on performance indicators directs providers to enhance service quality using the indicators that will lead to the achievement of the goals. "The clearer the goals and the better developed the performance measures, the more finely tuned guidance can be" (Lipsky, 1980: p. 40): providers become loyal to the guidance of performance indicators. On the other hand, the less clear the goals, the more poorly developed the indicators and the less accurate the feedback, the more individuals in a service provision facility will be on their own (Lipsky, 1980: p.40). That is, non-government providers, particularly for-profit ones, aim at their own interests (i.e., profit maximization) rather than following the guidance of performance indicators. Nonetheless, the policy goals of human service are ambiguous. The provision of long-term care for elderly people, for example, commonly aims to ease aging-related ADL[3] concerns and the degree of success in achieving such aims is very difficult to measure.

One may think that such an ambiguous goal can still be achieved. If the care addresses the elderly people's physical concerns such as a knee problem, for instance, that would ease their concerns, meaning the achievement of the policy goal of long-term care. In addition, one may believe that implementing 'customer's satisfaction' measures by questionnaires is a good idea to measure the outcome of care.

[3] Activities of Daily Living

These ideas have merit. However, these methods cannot solve the care quality issue, as they are applicable only to a group of care recipients. Many care recipients today have suffered from unrecoverable conditions such as dementia. In the United States, for example, Alzheimer's disease prevalence is estimated to be 1.6 percent in the 65-74- year-old age group, with the rate increasing to 19 percent in the 75-84-year-old group and to 42 percent in the greater-than-84-year-old group (Hebert *et al*, 2003). The number of patients may continue to increase, as people's life expectancies become longer. Moreover, in most case, the care recipients with such cognitive problems are incapable of answering the questionnaire. The ambiguous policy goals of human service still get in the way of outcome-based performance measurement.

The ambiguity of the goals comes from human service' idealized dimension (Lipsky, 1980), which is unexceptionally evident in official policy statements. For instance, the Japanese long-term care system aims "to facilitate a system in which the society as a whole supports those who are facing the need of long-term care, society's major cause of concern in terms of becoming old." Such goals, to respond to "concerns" regarding people's living, are indeed "more like receding horizons than fixed targets" (Landau, 1973).

The origin of human service contributes to the above-mentioned idealized dimension of goals, making the ambiguity of these goals inevitable. That is, as discussed in chapter 2, human service originates from the idea that governments ensure people a certain standard of living. In the case of long-term

care, therefore, goals like "easing aging-related ADL concerns" surely derive from the nature of human service.

Process-Based Performance Measurement

Process-based performance measurement, used in traditional public bureaucracy (see Table 2-8 in Chapter 2), suits the ambiguous policy goals of human service. Unlike outcome-based performance measurement that focuses on *how much* is done, process-based performance measurement pays attention to *how* it is done. As process-based performance measurement does not look for the result but the process, this approach can accommodate the ambiguity of the policy goals.

The measurement specifically assesses the behaviour and training of front-line care workers (Lipsky, 1980[4]). As an example of the measurement, suppose one assesses a nursing home's meal service by behaviour. Instead of evaluating how much is done towards goals, the measure constructs the evaluation, assessing the process of meal service including choice of utensils, customized cooking methods, taking meal requests, and recording nutritional needs. Such services are also assessed in terms of caregivers' skill-training backgrounds. Certainly, many ADL-related supports do not seem to require an experience and/or a skill, but a slight difference in experiences and skills can make significant differences

[4] Lipsky (1980) describes such front-line care workers as "street-level bureaucrats."

in the quality of care. For example, undressing frail care recipients is a simple but very delicate task and care to the elderly with cognitive problems often requires well-above-normal communication techniques. These surrogates represent qualities that are hypothetically associated with good performance (Lipsky, 1980).

Problem of Process-based Performance Measurement

Process-based performance measurement has a significant weakness. The measurement requires very close communication between policy makers and front-line care workers, because the measurement of care worker's behaviour and training is all about *know-how* of the service. As mentioned in Chapter 2, nonetheless, governments today do not have the *know-how* of the service, as they no longer provide care directly. Indeed, the distance between governments and providers is one of the main reasons that outcome-based performance measurement is applied to the current marketing utilisation governance scheme.

To make matters worse, another nature of human service makes the problem of process-based measurement even more serious. Unlike lower-level workers in most organizations, care workers in the field of human service have a considerable amount of discretion in determining the nature, amount, and quality of benefits and sanctions provided by their agencies (Lipsky, 1980). The

needs of human service are quite diverse and care workers need to customise their service for each user. For that reason, human service is very complicated and it is difficult to make 'manuals' that would have general applicability. This makes process-based measurement even more difficult in the era of market utilising, public administration schemes.

Process-based Outperforms Outcome-based in the Field of Human Service

This chapter has reviewed the weaknesses of both outcome-based and process-based performance measurement in the field of human service. As seen in table 7-2, both measurements have positive and negative aspects due to the nature of human service.

Table 7-2. Strengths and Weakness towards the Features of Human Service

	Outcome-based	Process-based
Ambiguous goals	-	+
Discretion of front-line workers	+	-

Nonetheless, this thesis claims that process-based measurement outperforms the existing outcome-based performance measurement. Whereas one can compensate for the weaknesses in process-based performance measurement, the downside of outcome-based performance measurement is crucial to the very quality of human life. For further discussion, this research first explains

the most important considerations for performance measurement.

Citizen's Demands as the Most Important Factor

Performance measurement focuses on reflecting citizen demands for evidence of program effectiveness (Wholey, 1997). As human service and all other public services are for the benefit of the people, performance indicators need to coincide with people's demands. This value, in its purest form, is a basis of today's democratic societies. The people's (or citizens') demands in human service indicate service users (care recipients).

It is widely believed, therefore, that policy makers need to hear the voices of the current/potential service users to reflect their voices in the services. In fact, most successful public services have been designed, implemented, and modified based on the users' voice. The earlier-mentioned cases of telecommunication, delivery, and public transportation services are good examples.

Nonetheless, in the field of human service, this 'valuing users' voice' has served as an obstacle to service quality improvement. First, the demands of human service do not often come from the users themselves. In many cases, their family members are the source of the demands. Focusing on the users' voice, the measurement tends to overlook this aspect of users' needs. Second, more importantly, many of the users who need care the most are not capable of expressing their needs. Due to physical and cognitive constraints, a significant

number of the users cannot properly deliver their needs to the policy makers. Moreover, unlike in the fields of telecommunication and public transportation, 'a little voice' in human service does not mean 'unnecessary' at all. The purpose of human service is rather to respond to such 'a little voice'.

In human service, those who know the best about the users' needs are the front-line care workers. They are the only players who interact with both users and their families. Constantly interacting with users, only care workers can uncover hidden but very important care needs.

In sum, performance measurement in human service must always include the voices of front-line care workers, because this is the only way to reflect users' needs in measurement. For that reason, the weakness of process-based performance measurement is compensable. In human service, policy makers always need to interact with care providers.

Outcome-based Performance Measurement as a Crucial Cause of Low Quality Care

The weakness of outcome-based performance measurement is a crucial cause of the long-standing care quality issue in the human service market. Human service, under this performance measurement, is likely to end up with the following two scenarios. First, government manages to set up a tangible policy goal to measure providers' performance, but any goal dissatisfies the users. As previously indicated, this is the nature of human service. In human service, a tangible (i.e., measurable) goal inevitably dissatisfies a group of users. For

example, resident's longevity may sound like a reasonable goal that can measure the performance of nursing homes. That is, the measurement assumes that the better care the nursing home provides, the longer the residents live. Nevertheless, achieving the goal does not necessarily satisfy the users. Due to the measurement, the nursing home may no longer accept unhealthy users. In addition, users may suffer from 'unwanted care' that expands the residents' life expectancies. In this case, those who lose the access to nursing homes and the residents who dislike the life lengthening 'care' would feel unhappy about the goal along with the performance measurement.

Second, outcome-based performance measurement is inevitably inflexible. The measurement does not easily reflect updated behaviour of the front-line care workers, because the relationship between governments and care providers is based on 'outsourced contracts.' The users' needs are, on the other hand, continuously changing. For example, only a few decades ago, there was little demand for care for the elderly with dementia. Today, however, such care occupies a significant portion of long-term care needs. Changes in people's life styles, socio-economic factors, and technological developments dramatically influence human care needs and responses to them. Those who know the best about these changes are front-line care providers, not high-ranking bureaucrats. The absence of front-line ideology and/or meaningful connections makes it difficult for governments to adjust to the changing needs[5].

[5] It may be thought that the market mechanism solve the gap between actual needs and policy goals. However, we must remember that care related markets have information asymmetry between users and providers as mentioned in Chapter.

The long-standing care quality issue in human service has been partly caused by the use of outcome-based performance measurement, as both of the above scenarios indicate. The weakness of process-based measurement is compensable whereas the weakness of outcome-based measurement is crucial in terms of the care quality in human service. This thesis, therefore, argues that governments need to replace the existing outcome-based performance measurement with the alternative process-based performance measurement.

Modifying Public Administration Theory for the Use of Process-based Measurement

In order to replace outcome-based performance measurement with process-based performance measurement, governments need to modify the current public administration theory. The current theory is designed to suit the use of outcome-based performance measurement, which does not require a close interaction between governments and providers. Such interactions are, on the other hand, necessary for the use of process-based performance measurement.

However, this modification does not aim to shift back from the current public administration theory to the traditional bureaucratic theory. This thesis agrees with human service provision through a competitive market, as Chapter 2

shows that such provision through market is necessary to respond to increasing service needs. Moreover, Part I in this thesis justifies the market use in terms of the care quality model.

The purpose of this section is to explain how governments and providers connect within the scheme of current governance of market utilisation. This section specifically investigates how the interaction between governments and providers has been underestimated, analysing "a logic of governance" presented by Lynn *et al* (2000) in the era of the current governance scheme. The research, then, gives a theoretical modification to the logic of governance in order to promote government-provider interaction, which is an important condition for the use of process-based performance measurement.

Change of Governance Theory

Since the 1970s, governments have become less hierarchical, more decentralized, and increasingly willing to cede their role as dominant policy actor to the private sector (Kettl, 2000). The last few decades have seen the rise of such governance and a reduction in its role as a direct supplier of public services. As a result, the role of governments has shifted to management of the service market, ensuring that the competition among the service providers leads to enhancement of the quality of public services, not letting the market competition sacrifice service quality over cost.

These changes inevitably influenced a good deal of existing public

administration theory. To keep up with the new reality, public administration scholars have been forced to re-conceptualize their theoretical foundations. For example, Peters and Pierre (1998) argue that four basic elements characterize discussion of governance. They are 1) dominance of networks; 2) the state's declining capacity for direct control; 3) blending of public and private resources; and 4) use of multiple instruments. According to their model, governance is a body of theory that comprehends lateral relations, inter-institutional relations, the decline of sovereignty, the diminishing in importance of jurisdictional borders, and a general institutional fragmentation. In addition, Kettl (2000) sets out six core issues of New Public Management (NPM) – a nominal designation of the new style of governance. The six core issues are 1) productivity; 2) marketisation; 3) service orientation; 4) decentralization; 5) policy; 6) accountability (see Appendix 2 for the details). NPM particularly characterizes a global public management reform movement that has redefined the relationship between government and society. This is, in fact, evident in nations associated with the Westminster model[6] (e.g., Australia, New Zealand, Canada, and the United Kingdom), where NPM followed on from serious attempts to reform the public sector by defining and justifying what government should and should not do, and to reshape public service provision by attacking the pathologies of bureaucracy (Kettl, 2000).

[6] Another model is reinventing government, which came much later and is unique to the United States, where there is less privatization because local, state and national governments in the United States share responsibility in most policy arenas and are subject to different political motivations. There is no central agent powerful enough to force functional re-organizations on the scale pursued by the Westminster model (Frederickson and Smith, 2003).

Nevertheless, among the most significant contributions to the literature of the current public administration theory is the work of Lynn *et al* (1999, 2001; Heinrich and Lynn, 2000). Lynn *et al* compiled and analysed the dispute of governance, laid the logic of governance, and then, based on the logic, presented the governance model for government research.

Lynn et al's (2000) Model

As a result of the discussion, Lynn *et al.* (2000) present "a logic of governance" to model the market-utilising public administration theory. From here, this thesis calls the logic Lynn *et al*'s (2000) model. As a step towards meeting governance's changing definition, this model intends to establish a logic of governance to help support systematic research (Frederickson and Smith, 2003). In reduced form, Lynn *et al*. (2000: p.15) present their logic of government as a model that takes the following form:

O = *f* [E, C, T, S, M]

O = Outputs/outcomes. The output/outcomes indicate the product of a governance regime.

E = Environmental factors. These can include political structures, level of authority, economic performance, the presence, or absence, of competition among suppliers, resource levels, and dependencies, legal frameworks, and the characteristics of a target population.

C = Client characteristics. They include the attributes, characteristics, and

behaviour of clients.

T = Treatments. These are the primary work or core processes of the organizations within the governance regime. They include organizational missions and objectives, recruitment and eligibility criteria, methods for determining eligibility, and program treatments or technologies.

S = Structures. These include organizational types, levels of coordination and integration among the organizations in the governance regime, relative degrees of centralized control, functional differentiations, administrative rules or incentives, budgetary allocations, contractual arrangements or relationships, and institutional culture and values.

M = Managerial roles and actions. These include leadership characteristics, staff-management relations, communications, and methods of decision-making, professionalism/career concerns, and mechanisms for monitoring, control, and accountability.

Although Lynn *et al*'s (2000) model is useful for conceptualizing today's public administration theory, there has been some criticism. By trying to encompass governments' complexity, the model is ambiguous. Ellwood (2000) claims that the model comes "close to the economist's criticism of political science: by including everything, one runs the danger of explaining nothing."

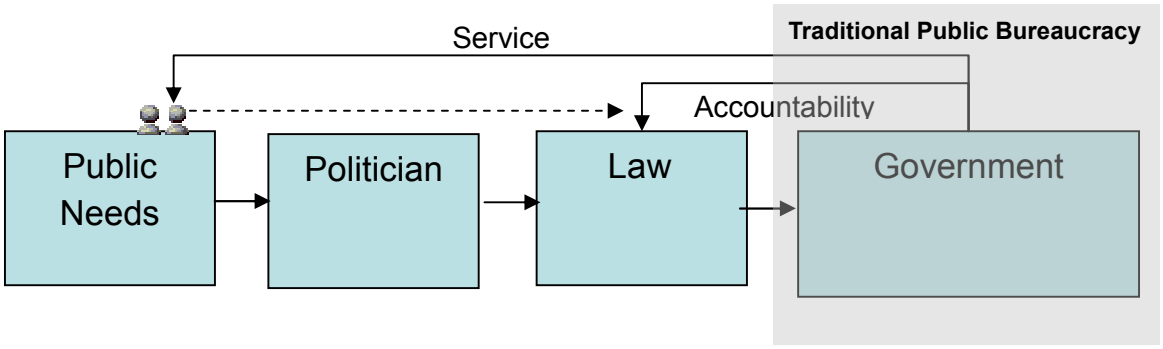
Nevertheless, these criticisms may turn out to be premature. Lynn *et al.* did not claim to have a fully functional theory of public administration; their goal was simply to foster a research program that theoretically and empirically

addressed the governance of public policies and contributed to improving their criterion, implementation, and administration (see Lynn *et al.* 2000). That research program has already attracted scholars to its standard (Frederickson and Smith, 2003).

Theoretical Challenge

The challenge of building a close relationship between governments and providers is illustrated as Figure 7-1, with the comparative traditional public administration theory shown in Figure 7-2. In the traditional theory, public services were predominantly provided by governments, based on the people's pressure through politicians. Thus, the governments could easily measure the service process[7] for its own service provision.

Figure 7-1. Structure of Traditional Public Administration Theory



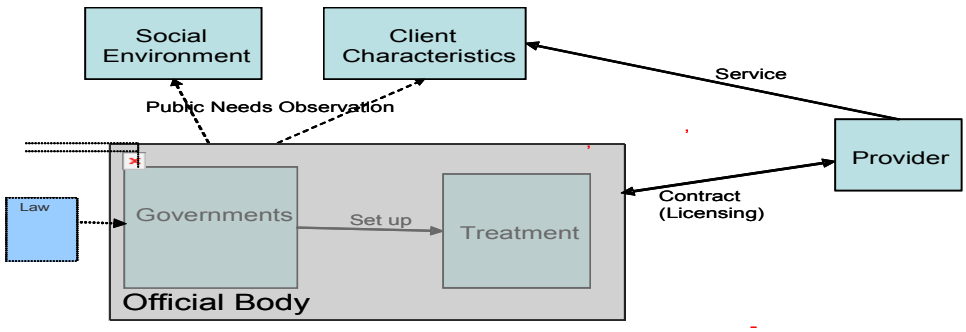
In the current public administration theory, on the other hand, public services are mainly provided by outsourced non-government sectors based on the

[7] This includes the behaviour and the training of service providers (i.e., street-level bureaucrats in this case).

"treatment" (i.e., performance measurement) set up by the governments. This model is thus, as Lynn *et al* (2000) described, "O = *f* (E, C, T, S, M)." The policy "Outcome" depends on governance in that the government: 1) grasps the public needs by observing the "Social Environment"; 2) sets up the "Treatment (i.e., performance measurement)," based on the "Client Characteristics": 3) builds the "Structure" of the market outsourcing of public service provision to non-government sectors; and 4) finally "Manages" the public service market.

The current public administration theory works well with outcome-based performance measurement, which is useful in many fields of public services. As mentioned earlier, the services such as telecommunication, delivery, and public transportation, for example, tend to have tangible goals and providers are usually expected to work precisely along the targets. Therefore, the outsourcing relationship between government and providers works effectively, even though they do not closely interact. Such conditions of tangible goals allow governments to measure the outcome-based performance of providers.

Figure 7-2. Structure of Current Public Administration Theory



Note: The dotted arrows indicate observation

Nonetheless, the current public administration theory is not suited for process-based performance measurement. The theory tends to treat the relationship between public administration (i.e., governments in a broad sense) and providers as a contract-based, outsourcer-outsourcee relationship. In human service provision, however, it is very difficult to implement outcome-based performance measurement due to the ambiguity of the policy goals and the considerable discretion of providers. On one hand, the current public administration theory has achieved decentralized policy networks; on the other hand, the theory is devoid of government-provider interaction.

Certainly, this does not mean that current public administration theory has completely overlooked the importance of the interaction between governments and providers. Lynn *et al* recognize the need of the interaction in their logic of governance. According to Lynn *et al* (2000, 2001), any public governance regime is the outcome of a dynamic process that can be summarized by a core logic. The process may be expressed in a set of hierarchical interactions in logic of governance (Figure 7-3). The concept of governments-provider interactions is mentioned specifically in processes (d) and (e) in the logic.

Figure 7-3. Hierarchical Interaction in Logic of Governance

between (a) citizen preference and interests expressed politically and (b) public choice in enacted legislations or executive policies;

between (b) public choice and (c) formal structures and processes of public agencies;

between (c) the structures of formal authority and (d) discretionary organization, management, and administration;

between (d) discretionary organization, management, and administration and (e) core technologies, primary work, and service transactions, overseen by public agencies;

between (e) primary work and (f) consequences, outputs, outcomes, or results;

between (f) consequences, outputs, outcomes, or results and (g) stakeholder assessments of agency or program performance; and, to close the circuit.

between (g) stakeholder assessments and (a) public interests and preferences.

Reference: Lynn *et al* (2000; 2001)

Nonetheless, the public administration theory does not satisfactorily highlight the importance of the interaction. Their model of public administration theory (i.e., O = *f* [E, C, T, S, M)] does not include such interactions. As mentioned earlier, this would be fine for the provision of other public services such as telecommunication, but it is not fine for the provision of human service. The model, thus, needs to be modified in order to fit the features of human service provisions.

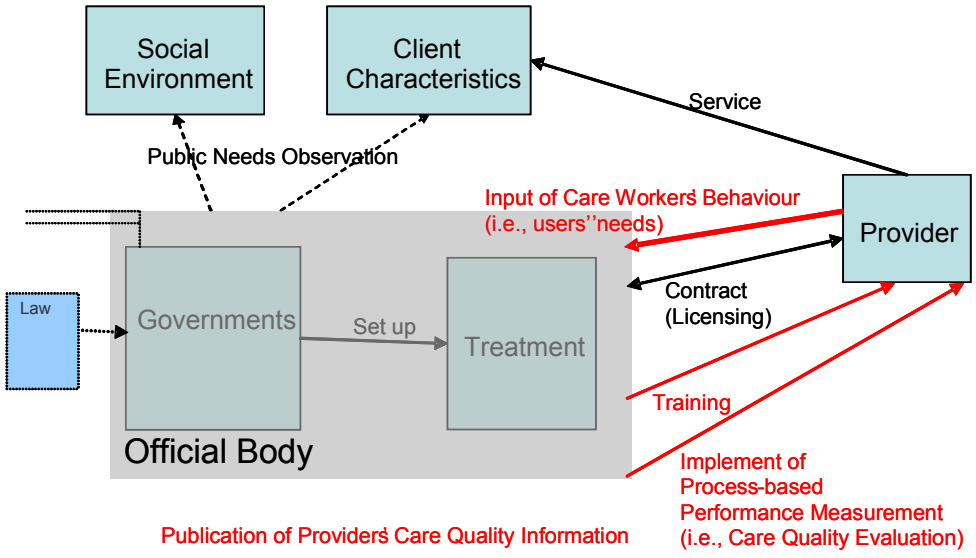
Modifying the Current Public Administration Theory

This thesis suggests a modification to the current public administration theory.

The modified model adds care workers' behaviour (B) and the original model becomes O = *f* (E, C, B, T, S, M). Because receiving and acknowledging the input of provider's behaviour is very important to access users' needs and to reflect the needs in performance measurement, this modification would solve the existing mismatch between performance measurement and users' needs.

The modified model of public administration theory is described in Figure 7-4. Besides the observation of social environment and client characteristics, government receives updated care workers' behaviour[8]. Then, the government inevitably listens to the voice of the front-line care workers. As a result, the treatment (i.e., performance measurement) truly reflects the users' needs.

Figure 7-4. Modified Public Administration Theory



[8] Care workers' behaviour indicates, for example, how care workers (i.e., providers) serve meals for care recipients. See Table 5-2 for the details.

Summary

Outcome-based performance measurement in the current public administration theory was questioned in Chapter 2. This chapter compared outcome-based performance measurement and the alternative process-based performance measurement. The chapter found weaknesses in both measurements. Process-based performance measurement did not fit the current public administration theory; outcome-based performance measurement did not fit the ambiguous policy goals of human service. Favouring process-based performance measurement in terms of solving the care quality issue, the research then modified the current public administration theory to fit the use of process-based performance measurement.

Questions Regarding the Process-based Performance Measurement

Process-based performance measurement, with modified public administration theory (hereinafter "process-based performance measurement model"), logically solves the care quality issue in the market, because the measurement reflects the users' needs and guides users to choose a provider based on its care quality.

Nevertheless, several empirical questions remain regarding the process-based

performance measurement: Is it empirically applicable? Is it really possible to implement the process-based performance measurement model? Chapter 8 will answer this question, investigating a successful case in which the measurement reflects users' needs. This study will specifically examine the case with the comparison of another case, based on existing outcome-based performance measurement.

The second question issue is about the training of care workers. This chapter claimed that training improves the quality of care, but what kind of training is needed? In addition, it is assumed that training all care workers is very costly, especially when the number of care workers has been increasing in the era of an aging society. Is the necessary training financially sustainable? Chapter 9 will answer questions regarding cost, explaining the impact on care quality improvement and national economies.

Chapter 8. Investigating the Empirical Applicability of Process-based Performance Measurement in Human Service Provided Through a Competitive Market

The purpose of this chapter is to investigate the empirical validity of the presented process-based performance measurement model, in the human service market. To do so, this chapter specifically compares two typical cases: the Japanese long-term care market that favours the presented process-based performance measurement and the United States long-term care market that focuses more on the existing outcome-based performance measurement. Certainly, both 'process' and 'outcome' are sometimes interchangeable. For instance, care workers' skill up is a process toward providing a good quality of care, but such achievement could also be recognised as the outcome of a short-term goal toward providing a good quality of care. There is in reality no absolute process-based performance measurement nor outcome-based performance measurement. Nonetheless, the cases of Japan and the United States, as later mentioned, clearly show their preferences.

The bottom line is that care quality in the Japanese market is less problematic than that in the United States with the hollow governance model. Weiner *et al* (2007) compares quality assurance for long-term care internationally in the selected OECD member nations and areas[9]. Using the extent to which care

[9] The research compares England, which is a part of the United Kingdom, together with

quality is perceived as a problem, they rate nursing homes in the United States as the most problematic, whereas those in Japan are rated as the least problematic. Because the definition of long-term care varies by nations, this does not necessarily mean that care quality in Japan is superior to that in the United States. Nonetheless, the result indicates that Japan, with process-based performance measurement, responds better to perceived care needs.

The following sections, therefore, after defining the providers in both countries, first analyse how outcome-based performance measurement fails to take users' needs into account in the United States, and how process-based performance measurement succeeds in reflecting them in the performance indicators in Japan.

Table 8-1. Models and Cases

Case	Performance Measurement	Public Administration Theory
The United States	Outcome-based	O = f(E, C, T, S, M)
Japan	Process-based	O = f(E, C, **B**, T, S, M)

Note: O = policy outputs/outcomes; E = environmental factors; C = client characteristics; B = care workers' behaviour; T = treatment (i.e., performance measurement); S = structure; M = management. See chapter 7 for details.

Definition of Care Worker in the United States and Japan

As mentioned above, the definition of long-term care is slightly varied by

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the United States, Germany, Japan, and Australia.

nation and so are the definitions of providers (i.e., street-level bureaucrats). That is, we need to identify who provides care in both nations. As seen in Table 8-2, in the United States, the care worker is often called a Direct-Care Worker. Furthermore, Direct-Care Workers consists of three categories: a) Nursing Aides, b) Home Health Aides; and c) Personal and Home Care Aides. . In the case of Japan, on the other hand, the term 'care worker' usually indicates Certified-Care Worker, and Trained Home-Helper. Certainly, Assistant Nurses in Japan often works for long-term care providers as well, but this chapter does not include them, because their main work place is hospitals, not long-term care providers' facilities (see page 193 for details). For these reasons, 'care worker' in this chapter indicates Direct-Care Worker, Certified Care Worker, and Trained Home-Helper; otherwise, Direct-Care Worker is used only in the context of the United States and Certified Care Worker and Trained Home-Helper in the context of Japan.

Table 8-2. Care workers in the United States and Japan

<table>
<tr><th></th><th colspan="2">The United States</th><th>Japan</th></tr>
<tr><td rowspan="3">Care Workers</td><td rowspan="3">Direct-Care Worker (DCW)</td><td>Nursing Aides, Orderlies and Attendants</td><td>Certified Care Workers (CCW)</td></tr>
<tr><td>Home Health Aides</td><td rowspan="2">Trained Home Helpers (THH)</td></tr>
<tr><td>Personal and Home Care Aides</td></tr>
</table>

Outcome-based Performance Measurement in the United States

The Minimum Data Set (MDS), a uniform instrument used in nearly every nursing home in the United States, has served, and continues to serve, as the source of outcome-based performance measurement. That is, to clarify 'human service' ambiguous goals, the government has utilized MDS as the providers' performance measurement tool.

Background of Introducing Outcome-based Performance Measurement

The MDS was originally developed to assess the conditional status of nursing home residents. Responding to the Omnibus Reconciliation Act of 1987, which was concerned about nursing homes' care quality issues, the Institute of Medicine (IOM) first designed MDS to assess the functional, medical, mental, and psychosocial status of each resident (IOM, 1987; p.74). Licensed healthcare professionals (usually registered nurses) who worked at the nursing home conducted the assessments.

The MDS committee recognized that the collected data could and should be used in a regulatory capacity (IOM, 1986). Surveyors could use the data to draw their resident samples and governments could use the outcome data to evaluate care providers' performance. That is, governments interpreted residents' functional, medical, mental, and psychosocial status as indicators of care quality[10].

[10] This outcome-based performance measurement is heavily influenced by Donabedian (1965)'s model, which uses the concept of structure, process, and outcome. The model claims that outcome is assumed to result from process; process is assumed to require structure. In the model, therefore, a good outcome justifies the process and then the structure.

This was the turning point where the United States began to apply outcome-based performance measurement. As in human service, the goal of long-term care in the United States contains ambiguity. The service is provided under the governmental aim of "providing essential human services, especially for those who are least able to help themselves."[11] Due to the ambiguity of this goal for long-term care, the government had not previously measured the performance of providers. When poor care quality became a social issue, however, the government conducted actual condition surveys by investigating the physical and mental conditions of nursing home residents. Analysing the results of resident assessments, the government began to examine the use of outcome-based performance measurement to evaluate nursing homes' care quality. In other words, the government translated the goal of "essential human services" into the care to maintain (or improve) the users' physical and mental conditions.

Since then, the MDS has been used to develop publicly reported quality measures based on these conditional statuses of residents (Rahman and Applebaum, 2009). Table 8-3 indicates the development of MDS-based (i.e., outcome-based) performance measurement. In 1999, Centres for Medicare and Medicaid Service (CMS) started requiring surveyors to use MDS-based measurement to guide their nursing home evaluations. In 2002, CMS launched the Nursing Home Compare Web site, a consumer information site that

[11] Department of Health and Human Services, The United States < http://www.hhs.gov/about/ >

presents MDS-based quality ratings for virtually all nursing homes. Certainly, the MDS was initially criticized on its data collection. The data collection method was not well instructed, for example, and the time frame for assessment was based on a resident's admission, and then, on assessments undertaken every 90 days only, although major resident changes that happened after the 7- or 14-day look-back period were supposed to trigger a new assessment (Mehdizadeh and Applebaum, 2005). As the MDS has actively been revised, however, the instructions for data collection have been repeatedly updated and many nursing homes have gradually introduced assessment that is more frequent.

As a result, there have been undeniable improvements in resident outcomes (Rahman and Applebaum, 2009). According to the study of Feng *et al* (2006), for example, the pressure ulcer incidence of residents has clearly dropped, despite increases in resident acuity, and restraint use has decreased for those provided with care. As for the extent that the use of the MDS, or the MDS-based performance measurement, contributed to care quality improvement, a series of studies, reported in 1997, evaluated the effect of MDS use on selected resident outcomes (Fries *et al*, 1997; Hawes *et al*, 1997; Philips *et al*, 1997). On the whole, the researchers found improvement in outcome measures from pre- to post-MDS implementation.

Table 8-3. History of MDS

Year	Development
1990	First MDS introduced
1991	First MDS nationally implemented
1991	Enhanced MDS, the MDS+, developed for resource utilization group and quality indicator development project
1995	MDS 2.0 nationally implemented
1995	Zimmerman *et al* (1995) report on 24 MDS-based quality indicators
1998	Nursing homes required to electronically submit MDS data to CMS
1999	State surveyors required to use the quality indicators to guide nursing home evaluations
2006	Nursing home Pay-for- Performance demonstration project launched
2008	MDS 3.0 final draft published
2010	MDS 3.0 nationally implemented (planned in October)

Source: Rahman and Applebaum (2009)

Nonetheless, nursing home care quality in the United States has been perceived as problematic. Weiner *et al*. (2007) compared quality assurance for long-term care in the United States, the United Kingdom, Australia, Germany, and Japan. They rated the nursing homes in the United States, together with England, as problematic in the category of the extent to which [care] quality is perceived as a problem. Due to the absence of a common measurement, this did not necessarily mean that the care quality of the United States' nursing homes was among the worst. However, to be perceived as problematic by the public is a serious matter in the provision of human service that aims to ensure people's minimum standard of living.

Outcome-based Performance Measurement as a Cause of Users' Dissatisfaction

This care problem in public perception is not due to a lack of effort to develop a

quality assurance system. As mentioned in Chapter 3, in fact, only the United States and Japan have introduced nation-wide providers' care quality, evaluation systems, which target all providers in the long-term care market and the United States has a longer history of developing a viable system than other countries do.

The failure in the case of the United States is a result of its theoretical base: the outcome-based performance measurement with the existing public administration theory. Faced with requirements for tangible goals, necessary for outcome-oriented performance measurement, the government simplified the original ambiguous goals of long-term care by translating the physical and mental conditions of residents into enhanced, measurable outcomes.

Certainly, such conditional status of residents may have occupied a significant component of the original goals, initially. Nevertheless, as mentioned in the previous chapter, human service needs continuously change. Although most users wanted to improve their conditional status when the performance measurement was implemented, such desire has gradually decreased (or become an assumption of basic care) and residents, and their families, have begun to look for other conditions, programs, and environments promoting 'quality of life.' Today, in fact, many elderly people suffer from incurable conditions, such as dementia (see page 131). Those who suffer from such conditions find no value in the outcome-based performance measurement, because the condition is not curable. It is natural for these residents to prefer

other factors, such as peaceful environments and relaxed atmospheres, to the MDS-based rehabilitations.

Many researchers have also questioned the MDS's value as a performance measurement tool, citing problems with its dearth of residents' quality-of-life indicators (Ouslander, 1997; Schnelle, 1997; Uman, 1997; Bates-Jensen *et al*, 2003; Schnelle *et al*, 2003; Simmons *et al*, 2003; Rahman and Applebaum, 2009). However, there is no tangible definition of "quality of life." Conducting a research survey, Slevin *et al* (1998) revealed that the correlation between medical doctors' definitions of "quality of life" and patients' definitions of "quality of life" was very poor. Outcome-oriented approaches cannot be implemented in the field of human service that deals with "quality of life."

This is, indeed, what the previous chapter mentioned: the weakness of outcome-based performance measurement in the human service market. The measurement creates gaps between the measures and users' needs and the gaps cause the users to be dissatisfied. In the case of long-term care in the United States, as health concerns and trends change, many users value their quality of life over the improvement of their physical and mental conditions. Outcome-based performance measurement has not accommodated the changes, because the measurement systematically lacks input from care workers. As a result, the voice of users who do not intend to (or cannot) improve their conditions is overlooked and many who suffer from incurable conditions lose access to long-term care because the more improvement that can be shown in

the users' conditions, the better the assessment of the nursing home and the better the services the nursing home is perceived to provide in the context of outcome-based performance measurement.

Process-based Performance Measurement in Japan

The care quality in Japan's long-term care market is perceived as least problematic (Weiner *et al*, 2007). The process-based performance measurement in the Japanese market is based on the modified public administration theory, which adds "care workers' behaviour" into the existing model: O = f (E, C, B, T, S, M). Like all other human service markets, the Japanese long-term care market aims at ambiguous goals. The strength of process-based performance measurement is, however, the measurement that can accommodate the ambiguous goals as they are.

Background of Introducing Outcome-based Performance Measurement

Process-based performance measurement in Japan originates from the idea that society should adjust to the convenience of frail elderly. As seen in Table 8-4, the government declared the reconstruction of the social security system for long-term care provision. Although responding to long-term care needs is commonly a social security issue in OECD nations, the emphasis is, indeed, slightly different from the case of the United States that has perceived

elderly-related issues as 'danger of (to) individual's independent life' and challenges from the physical constraints of aging.

A major reason for Japan's strong attitude towards long-term care is, of course, the intensive increase of the long-term care needs. In fact, unlike the United States and many other OECD nations, the proportion of elderly in Japan's population suddenly began to increase around 1990 (Figure 8-2). Furthermore, according to MHLW[12] (2002), about 13 percent of the elderly, 65 or above, in 2000, needed long-term care[13] and the proportion is expected to reach up to 16 percent[14] in 2025.

However, the approach to the long-term care issue also comes from the idea of long-term care service as the substitute for family care giving. Since the preparation period of the long-term care insurance policy (approximately 1987-), the government has actively surveyed the demography of insufficient family caregivers[15] and planned the policy to back up the absence. These surveys included the condition of care recipients (Table 8-5), demography of bedridden elderly (Figure 8-2) and the future estimation (Figure 8-3), care givers for bedridden elderly (Figure 8-4, 8-5), and female labour participation ratios (Figure 8-6). In addition, the training for the licensing of Certified Care

[12] Ministry of Health, Labour and Welfare, Government of Japan.
[13] The elderly people who need care in 2000 (2800,000 people)/elderly population in 2000 (21,700,000) = 12.9 percent
[14] The elderly people who need care in 2025 (5200, 000 people)/elderly population in 2000 (32,400,000) = 16 percent.
[15] The survey entitled *Comprehensive Survey of Living Conditions of the People on Health and Welfare* is well known and has been revised every 3 years since 1987.

Workers began prior to 1987.

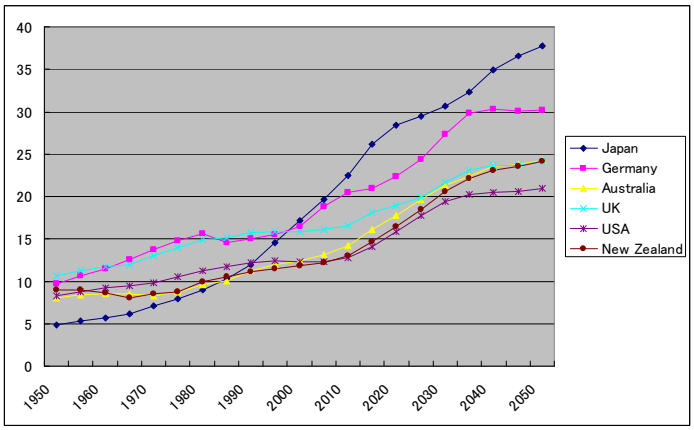
In sum, because Japan considers long-term care service as the substitute for care recipients' families' tasks, it is natural for performance measurement to focus on the care process rather than the care outcome.

Table 8-4. Objectives of Japanese Long-Term Care Insurance Policy

(implemented in 2000)

- To facilitate a system in which society as a whole supports those who are facing the need for long-term care, society's major cause of concern in terms of becoming old.
- To establish a system in which the relationship between benefits and burdens is made clear, by way of introducing a social insurance approach, which can easily gain public understanding.
- To reconstruct the present, vertically divided system (health, medical, and welfare services) and to establish a system of comprehensive services from a variety of institutions, chosen at the user's discretion
- To separate long-term care from the coverage of health care insurance, and to establish a system which aims to decrease cases of "social hospitalization" as the first step toward restructuring the social security system as a whole.

Figure 8-1. Percentage of Population Aged 65 and Above



Source: United Nations (2006). World Population Prospects: The 2006 Revision Population Database.

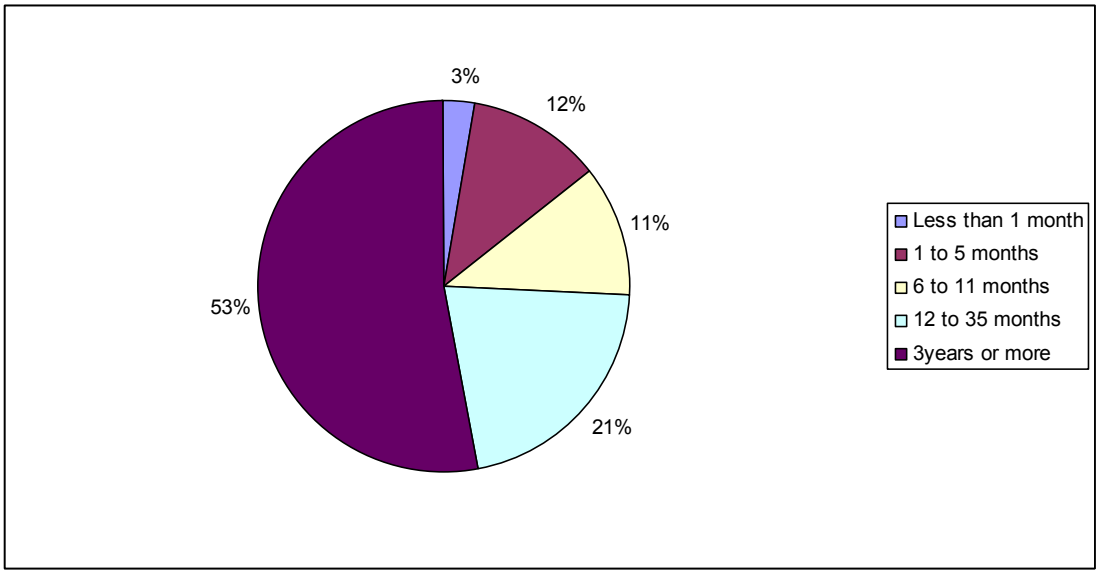
Table 8-5. Conditions of Care Recipients

(Unit: 10,000 people)

Category	1993	2000	2010	2025
Physically weak elderly persons	100	130	190	260
Suffering from dementia and in need of needs long-term care (except for the bedridden elderly)	10	20	30	40
Bedridden elderly (including bedridden and suffering from dementia)	90	120	170	230
Total (elderly needing long-term care etc.)	200	280	390	520
Population of elderly persons (aged 65 or over)	1,690	2,170	2,770	3,240

Source: Ministry of Health, Labour, and Welfare, Japan (2002)

Figure 8-2. The Percentage of Bedridden Persons by Bedridden Periods

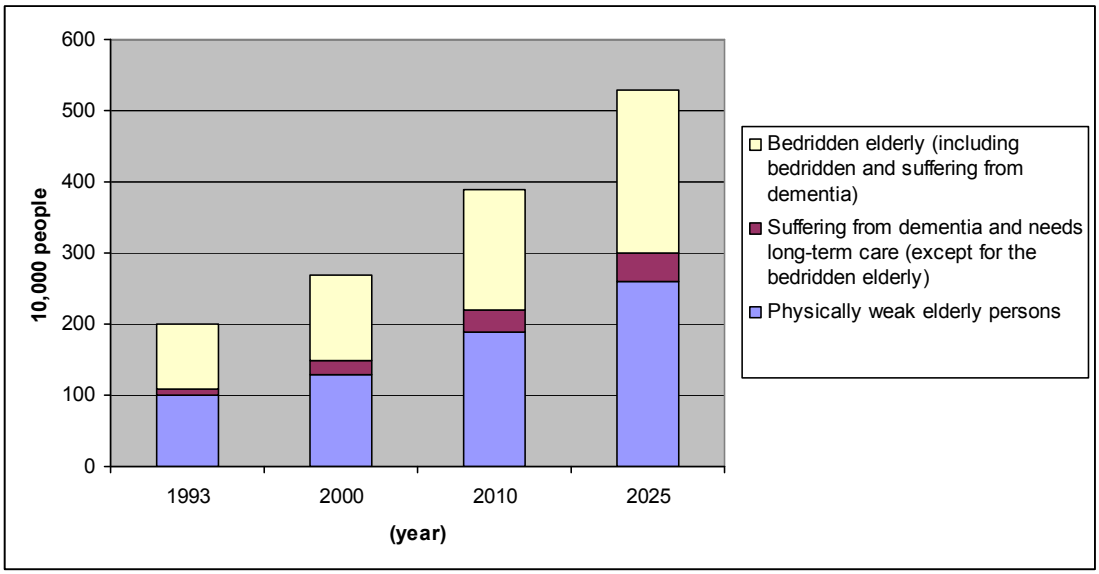


Source: Ministry of Health and Welfare, Japan[16] (1995)

[16] This ministry changed the name from “Ministry of Health and Welfare, Japan” to “Ministry of Health, Labour, and Welfare, Japan” in 2001.

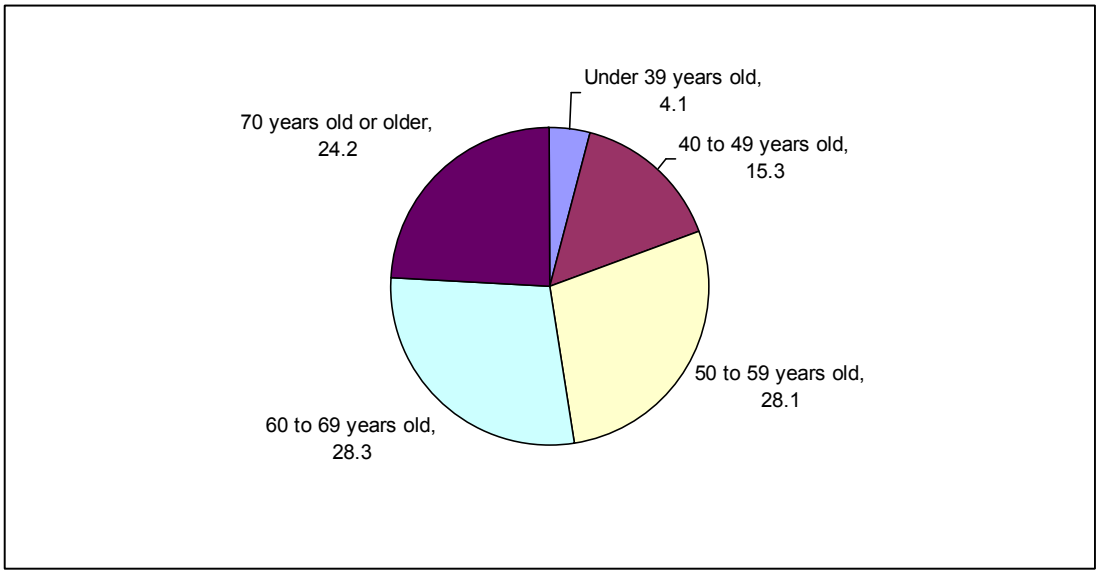
Figure 8-3. Future Estimation of the Bedridden Elderly/

Elderly Persons Suffering from Dementia



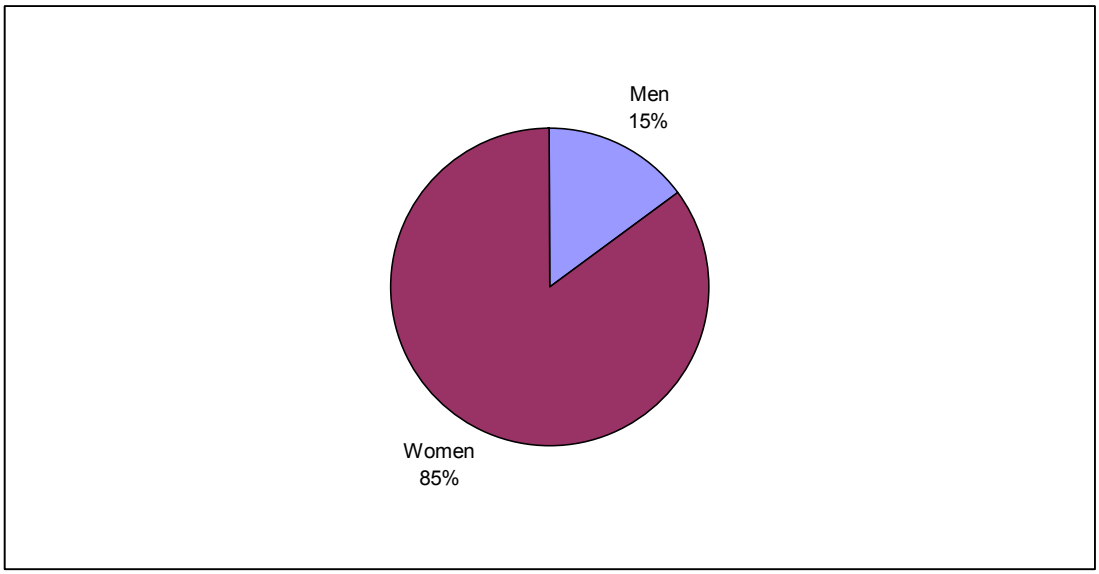
Source: Ministry of Health, Labour, and Welfare, Japan (2002)

Figure 8-4. Care Givers for the Bedridden Elderly (Age Group)



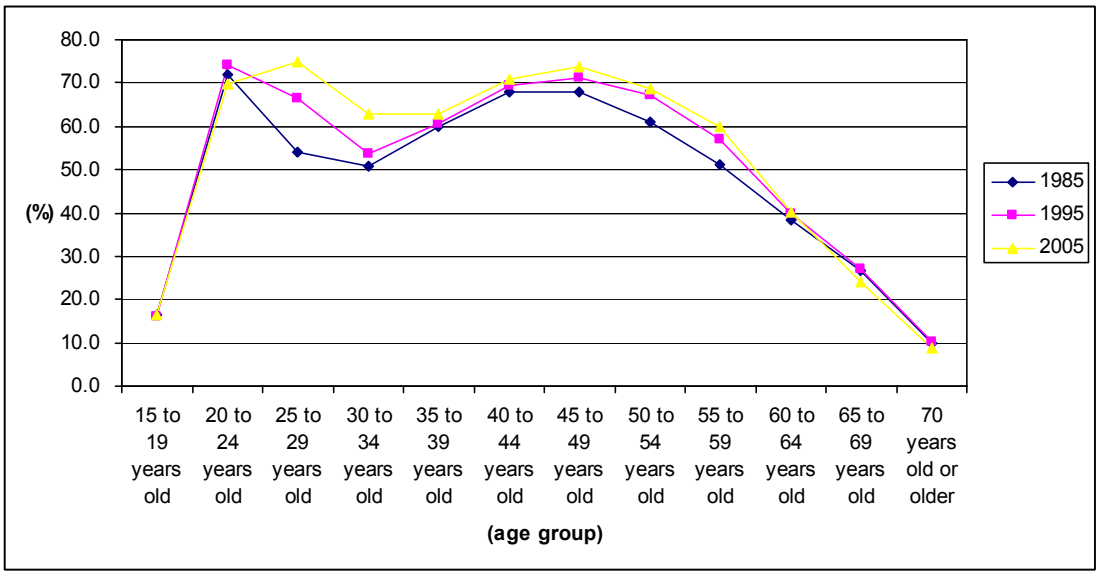
*Main care givers who live with bedridden persons aged 65 or over: 244,000 persons
Source: Ministry of Health and Welfare, Japan (1995)

Figure 8-5. Care Givers for the Bedridden Elderly (Male and Female)



Source: Ministry of Health and Welfare, Japan (1995)

Figure 8-6. Female Labour Participation Ratio in Japan



Source: Ministry of General Affairs, Japan (2006)

Process-based Performance Measurement as a Guide for Care Implementation

Process-based performance measurement has reflected care workers' behaviour into the measurement. In Japan, there are three types of providers' quality information available in the market, as shown in Table 4-7 in Chapter 4, and all of them evaluate how care is implemented, not how 'successful' the care is. For example, instead of asking how much the collaboration among health, medical, and welfare services has achieved, the performance indicators enquire whether or not the provider has a database of provided services (see page 70). In addition, as shown in Table 5-2 in Chapter 5, the indicators describe the details of the care process – choice of utensils, arrangement of meals, and atmosphere of dining - instead of the outcome – as the achievement of meal provision. These detailed process measurements serve as a guide for care implementation.

Modification of Public Administration Theory: Promoting the Interaction between Governments and Providers

As mentioned in Chapter 7, process-based performance measurement requires a close interaction between governments and providers in order to reflect users' needs in care workers' behaviour to measure. While the existing public administration theory does not possess that function due to its 'outsourcer-outsourcee' relationship, the modified theory systematically includes the interaction. This section investigates how the Japanese market applies the modification into the system, with a comparison to the United States

market with the existing theory.

The Japanese long-term care market implements the theoretical modification by giving care workers career path opportunities to be involved in the process of policy making/implementation. Table 8-6 indicates care workers' career advantages compared with the United States. In Japan, the work experiences of care workers serve as a gateway to higher positions of care eligibility judgement, care planning, performance indicator setting, and the implementation of measurement, whereas no such system exists in the United States. The followings are the details of the Japanese case.

Table 8-6. Summary of Care Workers' Career Path Advantages to Policy-making Positions

Setting and Implementation of Performance Measurement		**Japan**	**United States**
Judging the Users' Eligibility Grade	Care worker's involvement/precedence	✓	*(no eligibility grades exist)*
	Remarks	Certified Care worker is to be a member of the care level assessment committee	*(no eligibility grades exist)*
Making Care Plan	Care worker's involvement/precedence	✓	-
	Remarks	Care plan is made by Certified Care Manager whose eligibility requires 5 years' work experiences as a certified care worker.	Certified nurse, Medical doctor
Setting Performance Indicators (i.e., Japan: Third-Party Evaluation, US: Minimum Data Set)	Care worker's involvement/precedence	✓	-
	Remarks	Government's Performance Indicator Setting Committee[17] that includes several activists with care worker experience as well as representatives of care providers.	MDS committee of IOM
Implementing the Performance Measurement	Care worker's involvement/precedence	✓	-
	Remarks	Certified evaluator (those who have experience as care workers are eligible to skip some part of the training)	Usually licensed healthcare professionals (e.g., certified nurse), employed by the nursing home (CMS, 2010).

[17] *Kaigo saabisu no shitu no hyouka ni kansuru chosa kenkyuu iinnkai*

Judging the Users' Eligibility Grade

In Japan, a prefectural Care Level Assessment Committee (CLAC), which includes care workers as members, assesses the users' eligibility grades. The CLAC membership must include specialists in the field of healthcare, medicine, and welfare (Article 14-15, LTCI Act; Article 9, LTCI Government Order). Municipalities assign them (2-year terms) based on advice from local professional associations such as medical associations. In most cases, a medical doctor[18] represents the field of medicine; a public health nurse represents the field of healthcare; and a certified care worker (or certified care manager) represents the field of welfare. Each assessment requires a computer-based eligibility test and further assessment from 5 randomly chosen CLAC members with at least one from each field. Table 8-7 indicates the job title of CLAC members in Kakogawa city, Hyogo, a typical mid-sized city in Japan. The total number of CLAC members varies by the size of the municipality: a bigger number for a more populated municipality and vice versa.

In the United States, on the other hand, there is no system of eligibility grade, though the assessment of MDS may be very close to it. However, certified nurses, working as providers, not care workers (CMS) predominantly assess the MDS.

Table 8-7. Job titles of CLAC members: the example of Kakogawa city

Municipality (population)	Medicine	Healthcare	Welfare	Total member
Kakogawa city (about 268,830)	Medical Doctor: 24 Dentist: 2 Pharmacist: 2	Nurse: 13 Occupational Therapist: 1 Physical Therapist: 1 Dental Hygienist: 1	Certified Care Worker: 6 Certified Social Worker: 2 Mental Health Welfare Professional: 1 Social Welfare Officer: 1	58

Note: All job titles require official certificate. Nurse indicates both Certified Nurse and Assistant Nurse.
Source: Hakit 21 (2010)

[18] Medical doctor also serves as the chair of assessment in most cases.

Making Care Plan

Only a Certified Care Manager can suggest a care plan for each user. Although care workers cannot directly carry out the process of making a care plan, the working experience of care workers is, nevertheless, advantageous to becoming a Certified Care Manager (Figure 8-7). To take the national exam of Certified Care Manager, the applicants are required to have working experiences with care related licenses. Together with other care related professionals, such as medical doctors and nurses, care workers (i.e., Certified Care Worker and Trained Home-Helper) are entitled to take the national exam with 5 years working experience at the positions.

There is no such system in the United States. As the outcome-based performance measurement aims at improving users' conditional (i.e., physical and mental) status, care plans are usually suggested by medical professionals.

The modified public administration theory in Japan, therefore, systematically takes the voices of the care workers into the care plan. Those who make care plans for users inevitably have care worker experience; new officers keep coming up from the 'front-line' with current experiences and understandings of the changing long-term care market. This allows the care plan to reflect updated care needs.

Figure 8-7. How to become a Certified Care Manager

Eligibility

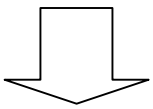
a) 5 years working experience in one of the following national-licensed care-related fields:
1) Medical Doctor, 2) Dentist, 3) Pharmacist, 4) Public health nurse,
5) Accouter, 6) Nurse, 7) Assistant nurse, 8) Physical therapist,
9) Occupational therapist, 10) Social welfare counselor,
11) **Certified Care Worker**, 12) Orthoptist, 13) Prosthetist,
14) Dental hygienist, 15) Speech therapist, 16) Japanese traditional massager,
17) Acupuncture/Moxacautery master (*hari kyu shi*),
18) Judo-Orthopedics master

b) 5 years working experience as a consultant at a designated care-related facility (e.g., handicapped care and long-term care).

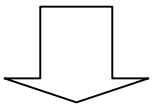
c) 5 years working experience as one of the following licensed care-related workers.
1) Certified case worker (*shakaifukushi shuji*)
2) **Trained home helper** (2nd grade)

d) 10 years working experience as a non-licensed care assistant in a related position at a designated care facility

National Exam (140,277 applications; 23.6% pass rate, 2009)



Official Training by prefecture
(Usually 5-day lecture, 1-month Intern, and 2-day seminars)



Certified Care Manager

Note: Official Training by prefecture indicated in the figure is the case of Tokyo metropolitan. The content of the official training may be slightly varied by prefecture.
Source: Tokyo Metropolitan Foundation for Social Welfare and Public Health (www.fukushizaidan.jp)

Setting Performance Indicators

While medical professionals at the Institute of Medicine (IOM) create the MDS in the United States, Japanese third-party evaluation is developed by front-line care workers. Table 8-8 indicates the job titles of the Japanese performance indicator-setting committee at the Ministry of Health, Labour and Welfare, Government of Japan. The committees includes 11 job titles from long-term care providers and their professional organizations, out of 17, – or 7 members from long-term care providers and their professional organizations out of a total of 13 members. Moreover, 45 providers and Certified Evaluators contribute to the model survey of the performance indicators. It is natural that the third-party evaluation in Japan reflects the voice of the front-line care workers.

Table 8-8. Job Titles of Performance Indicator-Setting Committee

Committee Member

Summary
6 from professional organizations
5 from long-term care providers
2 from research institutes
1 from medical provider (hospital)
1 from local government
2 from public utility organizations
Total: 17 (13 members)
*doubling positions included

-Vice president of Public utility organization, Japan Group Home for the elderly with dementia association (*kouekishadan houjin nihon ninchishou group home kyoukai*), President of a Health Service Facility for the elderly
- Chief courier of All Japan Group Home network
- Member of Public utility organization for dementia elderly and family at Chiba prefecture
- Administrator of Group Home for the elderly with dementia
- Executive director of Public utility organization, Japan Group Home for the elderly with dementia association (*kouekishadan houjin nihon ninchishou group home kyoukai*), President of Special Nursing Homes for the elderly.
- President of Hospital
- Courier of All Japan Group Home network, President of Nagano prefecture's Group Home Association
- Member of Public utility organization for dementia elderly and family at Chiba prefecture
- Chief researcher of Dementia Care Information Network
- Member of Welfare research institute
- Chief of Social Welfare Department, Fukuoka prefecture
- President of Health Service Facilities for the elderly
- President of Okayama prefecture's day service association, President of All Japan Group Home network, Okayama prefecture

Note: underline indicates the committee chair.

Model survey participant

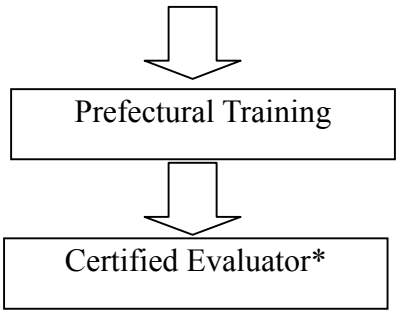
45 Community-based service providers (36 Group Home providers, 9 Community-based One-stop Home- Care Service for Small Group of Users providers)
14 members of performance measurement committee

Note: nderlined president of hospital is the chair of the committee.
Source: MHLW (2006c)

In Japan, Certified Evaluators conduct third-party quality evaluation, many of whom have experience as street-level bureaucrats. As Figure 8-8 shows, care worker's experience is one step to becoming a Certified Evaluator. Since the third-party evaluation has a strong focus on care workers' behaviour, it is reasonable for local governments to provide care workers with ways to become Certified Evaluators. As a result, the implementation of performance measurement reflects the care workers' views.

Figure 8-8. How to be an Evaluator

Application eligibility
- 1 year working experience as Certified Care Manager
-
- 3 years care-related working experience in the field of Medicine, Healthcare, and Welfare (or equivalent, e.g. trainer /lecturer experiences in a related field).
- Not to belong/relate to any long-term care provider



*The certificate is valid for 5 years. After the term, evaluators need to participate in the prefectural training to renew the certificate.

Source: MHLW (2008a)

The Positive Effect of Process-based Performance Measurement with Modified Public Administration Theory

Having many policy makers who have experiences as care workers, the governments can reflect detailed care needs in long-term care policy. Table 8-9 shows all services within the Japanese LTCI scheme. A wide range of programs is available, from rehabilitation to dementia care, from day care to night care, from care prevention to sanatorium-type medical care and even house reform for elderly people living at home as a choice.

Table 8-9. Choice of Care Services (detailed)

At-home care	Institutional care
Home-visit services - Home-help service - Home-visit nursing - Home-visit bathing service - Home-visit rehabilitation - Management & guidance for in-home care **Commuting services** - Day care service - Day rehabilitation service **Short-stay services** - Short-stay for the elderly requiring care - Short-stay for the elderly requiring medical care - Residential care facility for the elderly requiring care - Rental service for welfare equipments - Sales of designated welfare equipments **Community-based services** - Community-based one-stop home care service for small group of users - Night care service **Others** - House reform	**Community-based services** - Group Home for the elderly with dementia Support to Prevent the Need for Care Community-based Services - Community-based one-stop home care service for small group of users - Day care service for the elderly with dementia Community-based Prevention Programs - Projects to prevent the need for care - Comprehensive support projects - General counselling support projects - Right-advocacy projects - Comprehensive and continuous care management support projects - Care management projects to prevent the need for care - Optional projects **Facility Services** - Health Services Facilities for the elderly - Special Nursing Homes for the elderly - Sanatorium-type Medical Care Facilities

Source: MLHW (2008a)

Combining the diverse services, users can receive comprehensive long-term care. Figure 8-9 shows a sample service combination, in a case in which the user decides to stay home and not live with facility services (i.e., nursing homes). A local government[19] suggested the example. The users expect to receive such services[20] with 90 percent of the fees covered by the universal insurance[21].The users can choose multiple home-visit services, including (medical) nursing care, rehabilitation, home care (ADL support), and counselling. They can also use commuting services such as day service (or day care) to socialize with other elderly people and not just to receive comprehensive ADL support or rehabilitation. If the users become bedridden, they can expect to receive visiting services 3-4 times a day, plus night service as necessary. Needless to say, the users can expect to receive even more comprehensive, long-term care when they choose to stay at facility services, because care workers do not need to commute for care giving, as in at-home care. Such comprehensiveness of long-term care services is a clear indicator of how the care workers' voice (i.e. uses' needs) reflects in the policies of Japan's system, applying the process-based performance measurement with modified public administration theory.

[19] The source is the handbook in Niigata city, a local city in the northwest of Japan.
[20] This may not be the case if in a remote area.
[21] The users pay from only AUD 62 (support 1) to AUD 447 (care 5) per month at most, depending on the grade.

Figure 8-9. A Standard Weekly At-home Care Plan (Support 1- Care 5)

Support 1

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
AM	Day Service Or Day Care			Home help			
PM							
In case the care recipients choose only a short stay, the service is available up to 8 days per month.							

Support 2

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
AM	Home help	Day Service Or Day Care			Day Service Or Day Care		
PM				Home help			
In case the care recipients choose only a short stay, the service is available up to 14 days per month.							

Care 1

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
AM	Home help	Day Service Or Day Care	Home help	Visiting Nurse	Day Service Or Day Care	Home help	
PM							
In case the care recipients choose only a short stay, the service is available up to 21 days per month.							

Care 2

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
AM	Day Service Or Day Care	Home help	Day Service Or Day Care	Visiting Nurse	Day Service Or Day Care	Home help	
PM				Home help			
Assisted device (renting): Wheel chair In case the care recipients choose only a short stay, the service is available up to 23 days per month.							

Care 3

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
AM	Day Service Or Day Care	Home help	Day Service Or Day Care	Visiting Nurse	Day Service Or Day Care	Home help	
PM	Home help	Home help	Home help	Home help	Home help	Home help	Home help
Assisted device (renting): Wheel chair, special bed, and mattress In case the care recipients choose only a short stay, the service is available up to 29 days per month.							

Care 4

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
AM	Home help	Home help Visiting Nurse	Home help	Home help Visiting Nurse	Day Service Or Day Care	Home help	Home help
PM	Home help	Home help	Home help	Home help	Home help	Home help	Home help
Assisted device (renting): Wheel chair, special bed, mattress, and air pad In case the care recipients choose only a short stay, the service is available up to 31 days per month.							

Care 5

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
AM	Home help Visiting Nurse	Home help Home help	Home help Home help Visiting Rehabi-litation	Home help Home help	Home help Visiting Nurse	Home help Home help	Home help Home help
PM	Home help Home help	Home help	Home help	Home help	Home help Home help	Home help	Home help
Assisted device (renting): Wheel chair, special bed, mattress, and air pad In case the care recipients choose only a short stay, the service is available up to 35 days per month.							

Source: Niigata city (2008)

The Virtuous Circle of the Process-based Performance Measurement Model

The positive effect of process-based measurement with modified public administration theory is not just the excellent response to care needs, but also the sustainability of such response conditions. Table 8-10 and 8-11 indicate the outcome of the top three concerns in nursing home care and at-home care policies, from a survey of twelve selected OECD nations' public officers. Among the concerns, the recruiting of skilled care workers is the most common issue. A common challenge in long-term care provision, then, is to recruit and train capable and skilful care workers. The career path to be a policy maker, offered by process-based measurement with modified theory, keeps attracting such workers in Japan.

Table 8-10. Policy Concerns about the Quality of Nursing Home Care

Group of issues mentioned	Countries
Recruiting and retaining an adequately educated and skilled workforce; improved qualification of staff	**Twelve countries that replied to this question**
Implementation or further development of a quality assessment and monitoring system	Austria, Korea, United States
Co-ordination of care service	Canada, Hungary, Germany
Building quality and amenity	Hungary, Japan
Other supply constraints: downward pressure on fees/inadequate fees paid to providers; lack of enough time for staff	New Zealand, United Kingdom, Korea (shortage of government subsidies)
Access to broader range of services, more differentiation	Norway, Austria (number of short-stay units)
Other mentioning of "top concerns" (country specific)	Use of physical restraints (Japan); Number of liability claims; lack of liability insurance for long-term care (United States)

Note: Data are based on replies from national administrators to the following question: "What are the top three concerns in your country in terms of quality of institutional care?"
Source: OECD (2005: p. 69)

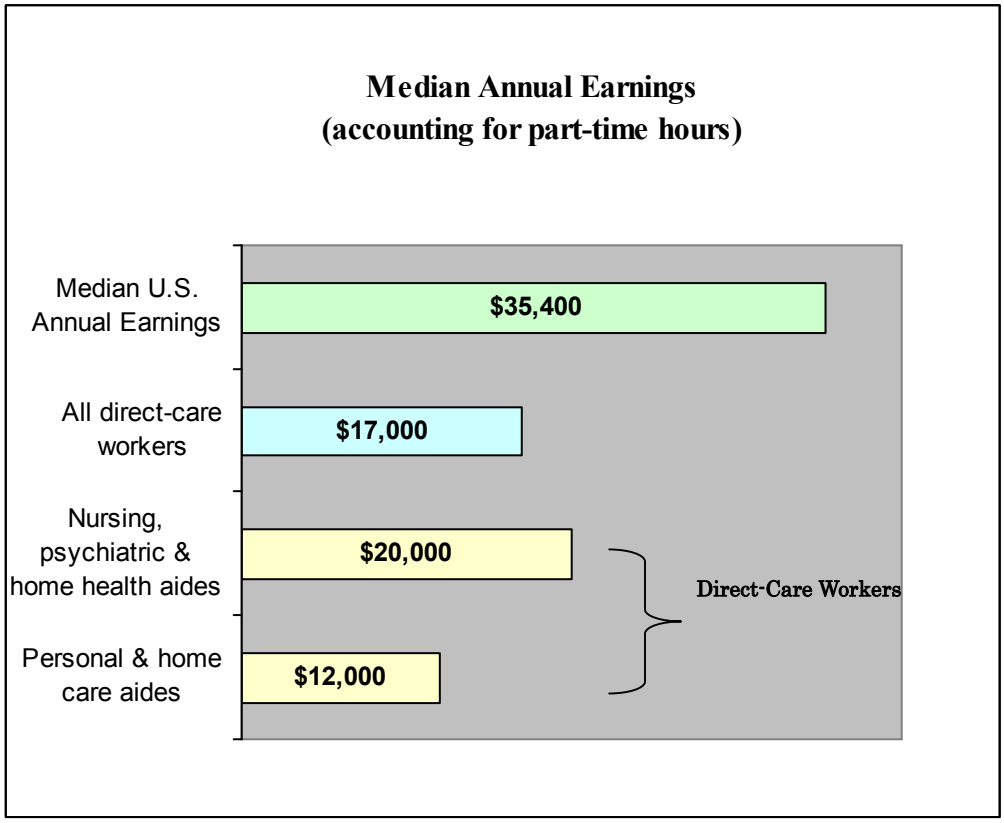
Table 8-11. Policy concerns about the quality of at-home services

Group of issues mentioned	Countries
Recruiting and retaining an adequately educated and skilled workforce; improved qualification of staff	**Majority of countries that replied to this question**
Improvement of skills of care managers	Canada, Japan
Implementation or further development of a quality assessment and monitoring system; improved standards framework	Australia, Austria, Korea
Co-ordination of care services; continuum of care	Australia, New Zealand
Lack of information about services	Japan, UK
Prevention of inappropriate residential care admission	Australia
Supply constraints; limited financing	Korea, US
Broader range of services; too little differentiation	Canada, Norway, UK
Adequate care supply for dementia cases	Germany, Japan

Note: Data are based on replies from national administrations to the following question: "What are the top three concerns in your country in terms of quality of home care?"
Source: OECD (2005: p. 70)

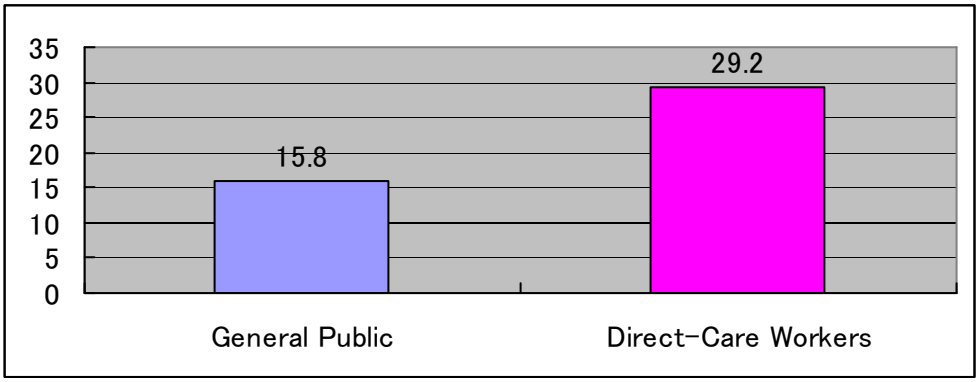
Care workers tend to be considered as low-paid, simple labourers with very few career prospects in most countries, despite their increasing importance and responsibility in society In the United States, for example, the Direct-Care Workers (i.e., care workers in the United States) earn near-poverty wages. As Figure 8-10 shows, the wage of direct-care workers is below that of other simple labourers. More than 41 percent of Direct-Care Workers' households rely on some kind of public benefit, such as food stamps (PHI, 2009). The ratio of care workers who do not have health coverage is nearly double other occupations (Figure 8-11). Ironically, those who provide care have much less access to health care than others. As it is considered a simple labour, there is no systematic career advantage. Nonetheless, the demand for advanced care skills has been increasing as care needs become more diverse (e.g., dementia care).

Figure 8-10. Direct-Care Workers' Low Wages



Source: Paraprofessional Healthcare Institute (2010)

Figure 8-11. Direct-Care Workers Lacking Health Coverage (%)



Source: Paraprofessional Healthcare Institute (2008)

The treatment of care workers in Japan also has much room to improve. According to a survey of the Japanese Association of Certified Care Workers (2005), 47.8 percent of certified care workers claim their low wages as occupational dissatisfaction (multiple answers). As a result, the turnover rate of

care workers is higher than that of all other industries: the turnover rate of care workers is 20.2 percent, whereas the combined average of all other industries is 17.4 percent (MHLW, 2005).

However, the performance measurement with modified theory in Japan helps to solve this problem, with the care workers' career path advantages toward being policy makers. Although it may begin with simple labours, the career, in Japan, connects to higher positions with higher wages. This certainly attracts a capable workforce.

Moreover, a progressive system applies to the Japanese care worker's wage. First, the governments guide the wages of care workers. The system takes working experiences and acquired skills into account. The guidance is very detailed and complicated. However, as a result, Table 8-12 shows that the progressivity of the salary reflects the actual work conditions. Second, the wage sharply increases as the care workers acquire a higher level of license. If, for example, a Certified Care Worker, among the lowest levels of certified care positions, acquires a Certified Care Manager's license, the salary increases sharply. Although, according to the survey of MHLW, 47.8 percent of certified care workers claim their low wages as occupational dissatisfaction (multiple answers), the ratio drops down to 36.6 percent when it comes to that of certified care managers.

The care workers' job market in Japan attracts a capable labour force as a direct result of process-based measurement with modified theory. Certainly, the low wage remains as a concern of care workers. However, the attractive career paths available, leading to policymaking positions, and the progressive salary system reasonably benefits existing care workers and attracts new workers, interested in health care related careers.

Table 8-12. Actual condition survey of certified care worker's salary (yearly) in Japan

column: education; row: experience	Compulsory education only	High-school graduate	2 years junior college graduate	University graduate	Total
Less than 1 year	N.D.	N.D.	N.D.	¥3,498,120 (AUD 43,727)	3,498,120 (AUD 43,727)
1 years	N.D.	N.D.	N.D.	¥3,445,886 (AUD 43,074)	3,445,886 (AUD 43,074)
2-3 years	N.D.	N.D.	N.D.	¥3,422,434 (AUD 42,780)	3,422,434 (AUD 42,780)
3-4 years	N.D.	¥3,524,360 (AUD 44,055)	¥3,598,701 (AUD 44,984)	¥3,759,356 (AUD 46,992)	3,719,525 (AUD 46,494)
5-6 years	N.D.	N.D.	¥3,867,120 (AUD 48,339)	¥3,985,331 (AUD 49,817)	3,979,421 (AUD 49,743)
7-9 years	N.D.	¥3,927,800 (AUD 49,098)	¥3,871,712 (AUD 48,396)	¥4,352,265 (AUD 54,403)	4,175,495 (AUD 52,194)
10-14 years	N.D.	¥4,086,404 (AUD 51,080)	¥5,040,950 (AUD 63,012)	¥5,097,907 (AUD 63,724)	4,869,521 (AUD 60,869)
15-19 years	N.D.	¥4,249,240 (AUD 53,116)	¥5,217,939 (AUD 65,224)	¥6,341,404 (AUD 79,268)	6,217,255 (AUD 77,716)
20-24 years	N.D.	¥5,633,941 (AUD 70.424)	¥6,034,183 (ADU 75,427)	¥6,917,815 (AUD 86,473)	6,656,289 (AUD 83,204)
25-29 years-	N.D.	¥5,307,040 (AUD 66,338)	¥6,982,284 (ADU 87,279)	¥7,237,960 (AUD 90,475)	6,906,164 (AUD 86,327)
30-34 years	¥5,220,120 (AUD 65,252)	¥5,753,727 (AUD 71,922)	¥7,364,764 (AUD 92,060)	¥7,591,954 (AUD 94,899)	7,177,755 (AUD 89,722)
35 years or above	N.D.	¥7,463,673 (AUD 93,296)	¥8,051,006 (AUD 100,638)	¥7,529,076 (AUD 94,113)	7,643,208 (AUD 95,540)
Total	¥5,220,120 (AUD 65,252)	¥4,904,065 (AUD 61,301)	¥5,455,358 (AUD 68,192)	¥5,579,403 (AUD 69,743)	5,490,568 (AUD 68,632)

Note: the salary is after tax. Due to the universal care and pension system in Japan, Health insurance and Pension are separately paid by the employer. N.D. indicates non-data.
Source: Survey by the Japanese Association of Certified Care Workers (2005) with 3,549 answers out of 12,000 questionnaire (by mail) distributions at February, 2005.

Summary

Analysing two empirical cases, this chapter proved that the long-term care market responds better to the users' needs when governments implement the process-based performance measurement model. Investigating the case of Japan, the research showed that process-based performance measurement reflects the users' needs (i.e. garnered from care workers' behaviour toward and understanding of the high needs of users). In addition, the modified theory supports the governments' acquisition of citizen's demands via their direct inclusion of and interactions with care workers.

The case of the United States endorsed the weakness of outcome-based performance measurement. Cutting off the ambiguity of the policy goals, outcome-based performance measurement failed to reflect the users' needs. The existing public administration theory did not closely connect the governments and providers (i.e., care workers) and, as a result, the gap between users' expectations and provided service expands and ends up with users' dissatisfactions.

The next chapter investigates another aspect of process-based performance measurement: care worker training.

Chapter 9: Another Aspect of Process-based Performance Measurement: Care Workers' Training

As the previous chapter investigates the behaviour of care workers, this chapter examines another aspect of process-based performance measurement: care workers' training. There are two purposes. The first is to investigate what kind of training is needed for care workers to ensure an appropriate implementation of care service and pick up users' needs.. The second is to examine whether or not such care workers' training can be sustainable in the context that the numbers of care workers has been increasing..

Overview of Care Workers' Training

Many nations have already realized that the improvement of care workers' skills and qualifications is significant to ensuring quality of care. As mentioned earlier in Table 8-10 and 8-11 (Chapter 8), public officials commonly raise insufficient training for care workers as a policy concern.

In reality, care workers' training has been seriously overlooked in most countries. In fact, only the United States and Japan have nationally imposed a minimum training requirement for care workers. All other countries have yet to define fully who care workers are because care institutions in these countries

can hire anyone to provide long-term care[22].

In the United States[23] and Japan, on the other hand, training is required to be a care worker. Compare the situation to driving a car. That is, one does not need a driver's license to drive a car on private property, but a license is required to drive on public roads and it is illegal otherwise. Likewise, everyone in the United States and Japan can provide long-term care to family members, friends, and others casually. Without required training, however, one cannot provide long-term care through 'public channels', which is Medicaid long-term care facilities in the United States[24] and the universal long-term care insurance scheme in Japan. It is illegal otherwise.

Yet, the United States and Japan have very different approaches toward care workers' training. The training in the United States is concise and focuses on exercising proper care and protecting care workers from their potential job risks, including injury. In Japan, on the other hand, the training is comprehensive and focuses on understanding care recipients in order to pick up their detailed care needs. In order to investigate the effectiveness of care workers' training, therefore, this chapter continues to compare the cases of the United States and Japan.

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[22] "Care worker" mentioned here does not include medical staff such as medical doctors and nurses.

[23] Some states do not require any training for the category of Personal and Home Care Aides.

[24] In the United States, all long-term care facilities, including for-profit and non-profit ownership, are required to register with the local governments (state governments in most cases). Therefore, "public channels" here does not mean public institutions only.

Definition of Care Worker

Table 9-1 reviews the definition of care workers in the United States and Japan. Although they have different names, their tasks are similar. They mainly give ADL supports to care recipients at care facilities (i.e., nursing homes) and in recipients' homes.

The roles of Nursing Aides and Assistant Nurses are, however, slightly different due to the difference of long-term care systems in the two nations. In the United States, Nursing Aides, Home Health Aides, and Personal Home Care Aides are called Direct-Care Workers. They all work mainly in long-term care industries. In Japan, on the other hand, Nursing Assistants mainly work at hospitals, not in long-term care industries, though Certified Care Workers and Trained Home-Helpers mainly work at long-term care industries[25].

The difference is rooted in the definition of 'long-term care' in these countries. As Figure 9-1 shows, the means-tested long-term care scheme is uniquely in charge of long-term care in the United States. In Japan, on the other hand, long-term care exists across three different schemes. Whereas the universal long-term care insurance scheme covers elderly-related conditions only, medical-related long-term care and disabled-related long-term care are covered,

[25] Certified Care Workers and Trained Home-Helpers also work at later-mentioned disabled care facilities.

respectively, by the universal healthcare scheme (i.e., hospitals) and the universal disabled care scheme (i.e., disabled care facilities).

Table 9-1. Definition of Care Workers in the United States and Japan

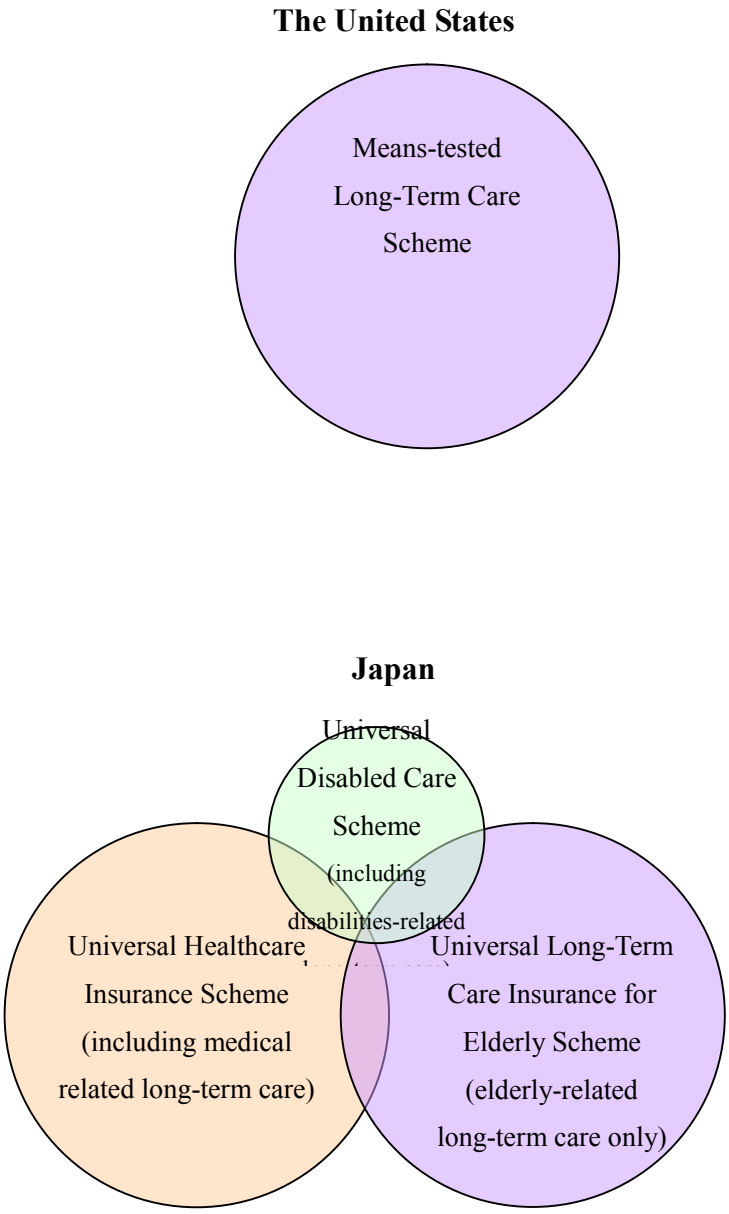
The United States (Direct-Care Workers)	Japan (care workers)
Nursing Aides generally work in nursing homes, although some work in assisted living facilities, other community-based setting, or hospitals. They support residents' ADL, such as eating, dressing, bathing, and toileting. They also perform clinical tasks such as range-of-motion exercises and blood pressure readings.	**Assistant Nurses** generally work in hospitals, although some work in institutional care (i.e., nursing homes). They support patients' (residents') ADL, such as eating, dressing, bathing, and toileting. They also perform clinical tasks such as range-of motion exercises and blood pressure readings.
Home Health Aides provide essentially the same care and service as nursing assistants, but they assist people in their homes or in community settings under the supervision of a nurse or therapist. They may also perform light housekeeping tasks such as preparing food or changing linens.	**Certified Care Workers** "provide appropriate advice and coordination as well as personal care to cope with physical and/or mental situations of those who need help in daily life, based on professional knowledge and skills". (Certified Social Workers and Certified Care Workers Law of 1987)
Personal and Home Care Aides[26] may work in either private or group homes. In addition to providing assistance with ADL, these aides often help with housekeeping chores, meal preparation, and medication management. They also help individuals go to work and remain engaged in their communities. Consumers directly employ and supervise a growing number of these workers.	**Trained Home-Helpers** "are registered under the exclusive qualification name of THH [27] " (Enforcement Order Article 3-1(2), Long-Term Care Insurance Law). The tasks include a) "care services" such as the assist of eating, bathing, clothing, and moving; b) assisted housekeeping such as cooking, laundry, cleaning, and shopping; c) mental care for care recipients and their family; and d) care advice for care recipients' family members (National Trained Home-Helper Council, 2010).

Note: ADL indicates Activities of Daily Living.
Source: Bureau of Labour Statistics (2010)

[26] They have many titles, including personal care attendant, home care worker, personal assistant, and direct support professional (the latter work with people with intellectual and development disabilities).

[27] Although THH is a prefectural license, the required qualifications (training) are designated by the Ministry of Health, Labour, and Welfare.

Figure 9-1. Differences in Long-Term Care Schemes in the United States and Japan



Training Hours: Much Longer in Japan

The minimum training hours required to be a care worker is very different in Japan and the United States: the required number of hours in Japan is much higher than that of the United States. Table 9-2 summarises the required training hours in the two nations. The required training hours for a Certified Assistant Nurse and Certified Care Worker in Japan are, respectively, 1,890 and 1,800[28] hours, whereas that of the counterparts in the United States is only 75. The difference is indeed about 24 times. The training of a Trained Home Helper in Japan involves 500 hours (150 for level 2 qualifications), whereas the training hours of the US counterpart is 75. This time, the difference is not as significant, but Japanese training hours are still nearly six times (or twice in the case of level 2) greater than are those in the United States.

Certainly, in the United States, many state governments add extra hours of training to the federal minimum requirement. In fact, 27 states and Washington D.C. require extra hours training. Among them, in 12 states and Washington D.C. the training hours go up to 120 hours in total. In Japan, on the other hand, the training hours usually do not differ by prefectures, though Assistant Nurse and Trained Home-Helper are prefectural licenses (Certified Care Worker is a national license).

[28] In regard Certified-Care Worker, the required training can be replaced by 3 years of on-the-job training at certified care facilities. In that case, however, candidates have to pass the national examination in order to clarify that the candidate has completed the equivalent of the required training.

Nonetheless, there is an enormous difference in the number of required training hours between the United States and Japan. Moreover, the minimum requirement in Japan is under consideration to expand in order to respond to diversifying care needs, including dementia care. In fact, the training hours of Certified Care Workers have increased recently from 1,500 to 1,800 in 2009. In addition, the training hours of Trained Home Helpers have increased from 250 to 500 and qualifications for level three Trained Home-Helpers, requiring 50 hours training, were abolished in 2009[29]. Level 2 Trained Home Helpers are now encouraged to complete a total of 500 hours of training. Furthermore, the licenses of Trained Home-Helpers, together with Certified Assistant Nurses, fall under criticism that the training hours are too short. According to the minutes of the Ministry of Health, Labour, and Welfare (1996; 2008: p.9), many policy makers propose to abolish both licenses, in which case current license holders would be required to upgrade to Certified Nurse[30] and Certified Care Worker, respectively. In the United States, on the other hand, the minimum requirements have not changed for a while, though some researchers propose to increase the training hours (e.g., Li and Ziemba, 2009).

[29] The license expired in April 2009.

[30] Certified Nurse requires 3,000 hours training and national exam.

Table 9-2. Required Training Hours in Japan and the United States

	Japan	**The United States**
Position	Certified Assistant Nurses (CAN) Certified Care Workers (CCW), Trained Home Helpers (THH)	Direct Care Workers (DCW)
Required hours of training	CAN: 1,890 hours CCW: 1,800 hours TTH: 500 hours (Level 2: 130 hours)*	75 hours (including 16 hours clinical training)

Source: Welfare and Medical Service Agency (2010b) and Bureau of Labour Statistics (2010).

Two Phases of Training Content

As care worker training is a part of the process-based performance measurement, the purpose of the training is to acquire the necessary skills and attitudes toward care recipients to provide good quality of care. There are, overall, two phases to achieve success. The first phase focuses on conducting requested physical supports safely. This is the focus of the training in the United States. The second phase focuses on picking up potential care needs and responding to them. This is necessary, especially when providing care for the elderly with dementia. The Japanese training is at this stage.

Phase 1: Case of the United States

To be able to respond to visible care needs, the first phase of training focuses on basic attitudes and physical skills. The attitudes trained here involve basic legal/ethics matters, human rights, and communication. They are somewhat considered as common sense in the profession. However, the skills trained in

Phase 1 are rather specific. They include basic medical-related skills and transfer techniques. Since care recipients tend to be frail, the basic medical-related skills are always necessary in case of emergency, though care workers are responsible only for first aid and not for medical treatment. As for transfer techniques, the training in Phase 1 includes not only giving a smooth support, but also protecting care workers' health. Throughout the ADL supports, care workers often need to lift care recipients. Although the weight of care recipients is widely varied, care recipients are much more delicate and often heavier than, say, the materials at a construction site. In fact, Direct-Care Workers have the highest injury rate among occupations in the United States (Zontek, Isernhagen, and Ogle, 2009). Back injuries, especially, are very common[31]. The training in Phase 1, therefore, covers basic attitudes and skills for visible care.

Most contents of the training in the United States can be classified into the basic attitudes and skills. Table 9-3 indicates the content of the training in the United States. Concerning Nursing Aides, resident rights belongs to the attitudes, whereas clinical training, basic nursing, personal care, and basic restorative are about skills. Certainly, mental health, social service, and care of the cognitively impaired may be exceptions, but overall the content belongs to the Phase 1. As for the case of Home Health Aides/Personal and Home Care Aides, information regarding personal hygiene is about attitude. Safe transfer techniques, reading, and recording vital signs, infection control, and basic

[31] In Japan, about 70% of care workers suffer from back pain (MHLW, 2008b).

nutrition indicate the skills.

Table 9-3. Training Content in the United States

Title	**Content**	**Hours**
Nursing Aides	Clinical training	16
	Other skills - basic nursing - personal care - mental health and social service - care of cognitively impaired - basic restorative - resident right	59
	Total	**75**
Home Health Aides/ Personal and Home Care Aides	Covered area: - Information regarding personal hygiene - Safe transfer techniques - Reading and recording vital signs - Infection control - Basic nutrition (+ 16 hours Practical training*)	75
	Total	**75**

Note: * is required in many states.
Source: Bureau of Labour Statistics (2010)

Phase 2: Case of Japan

Aiming at picking up potential care needs, Phase 2 emphasises mental and communication aspects in the training. As a significant number of care recipients suffer from dementia and other cognitive impairments, many care needs are invisible. Elderly people may require help to go to the bathroom, an assist to change their position in bed, or support to change their clothes. If they cannot properly deliver their will, due to their cognitive conditions, however, such needs are easily overlooked. In order for care workers to pick up these potential needs, they must understand elderly peoples' mentality and communicate effectively with them.

This does not just help care recipients, but also protects care workers' health. Care work is, indeed, a very mentally draining task, because care recipients' mental statuses tend to be unstable. As most care recipients are living the last stage of their lives, they inevitably face a fear of death while in care. According to Kübler-Ross (1969), there are usually Five Stages of Grief as a pattern of adjustment to human death. These are denial, anger, bargaining, depression, and acceptance. This means, at each stage, care recipients can be very emotional and care workers must face and deal with these dramatic reactions while giving care. The survey of Kawamura (2008) reports[32] that about 28 percent of care workers receive "physical and verbal abuse from care recipients"; this is a significant work concern. In such an environment, it is very important for both care recipients and care workers that care workers are capable of dealing with such emotions by communicating with care recipients effectively.

The focus of the Japanese training has shifted to this Phase 2. Table 9-4 shows the required training content for Assistant Nurses, Certified Care Workers, and Trained Home-Helpers. As in the training of Assistant Nurses, the mental aspect of care recipients is covered by several subjects such as Psychology of the patient, Psychiatric nursing, and Psychiatric nursing (practice) and a total of 175 hours are spent on those issues. Moreover, in order to understand care recipients further, the practical subjects have special focuses on recipients'

[32] The survey was conducted in Japan, but it is thought that the concern was shared in the United States and other countries because the core workers' tasks are quite similar.

groups such as adult/elderly and mother and child. A total of 595 hours of training are spent specifically on adult and elderly care in order to understand their particular needs and issues. In the training of Certified Care Workers, these aspects are more clearly emphasised (Table 9-5). Besides practical training, many subjects deal with understanding human mentality. Topics include human dignity and independence, human relationships and communication, understanding society, leadership and human relations, social studies, communication skills, understanding dementia, understanding disabilities, and mental and physical structures. Indeed, 460 hours, about 26% of the total training, are spent on such matters[33]. Comparing this to the previous version of training content, the difference is clear.

Table 9-6 indicates the required Certified Care Workers' training, in effect prior to 2009. The focus of the training was "practical skills" rather than dealing with mental aspects of care. There were only three mental-related subjects: social welfare of the physically and/or mentally disabled, psychology of the elderly and disabled, and mental health. The training duration was only 120 hours, about 8% of the current total requirement. As for the training of Trained Home-Helpers, the focus on Phase 2 is also clear (Table 9-7). Most subjects, besides the practical part of the training, deal with understanding care recipients and their mentalities. Understanding the mission of life support and dignity of care recipients, understanding dementia, communication, and skills on care provision are typical examples of such subjects. In sum, the

[33] As for the selective subjects, each training hour is calculated by the total hours divided by the number of subjects (i.e., x=120/6).

focus of the Japanese training is on understanding and communicating with care recipients. This is how care workers in Japan are trained to identify potential care needs.

Table 9-4. Required training of Assistant Nurses in Japan

Subject			**Type**	**Hour**
Basic	Language arts		Lecture	35
	Foreign language		Lecture	35
	Other general education		Lecture	35
Basic special	Human body function and structure		Lecture	105
	Diet and nutrition		Lecture	35
	Medicine and nursing		Lecture	35
	Illness		Lecture	70
	Infection and prevention		Lecture	35
	Care and ethics		Lecture	35
	Psychology of patient		Lecture	35
	Structure of healthcare and social welfare/ Nursing and law		Lecture	35
Special	Basic nursing			
		General consideration of nursing	Lecture	35
		Basic nursing skills	Lecture	210
		General consideration of nurse practice	Lecture	70
	Nursing for adult/ Nursing for elderly		Lecture	210
	Nursing for mother and child		Lecture	70
	Psychiatric nursing		Lecture	70
	Nursing practice			
		Basic nursing	Practice	210
		Nursing for adult/ Nursing for elderly	Practice	385
		Nursing for mother and child	Practice	70
		Psychiatric nursing	Practice	70
Total				1890

Source: Welfare and Medical Service Agency (2010b)

Table 9-5. Required Training of Certified Care Workers (from 2009)

Subject			**Hour**
Human and Society	Understanding humans	Human dignity and independence	30
		Human relationship and communication	30
	Understanding society	Understanding society	60
	Selective subjects	1. Life science studies 2. Mathematics and logical thinking on human relation and social life 3. Basic life skills (e.g., life culture, and living skills) 4. Leadership and human relations 5. Social studies (sociology, political science and economics) 6. Various social welfare scheme	120
Care	Basic care		180
	Communication skills		60
	Life support skills		300
	Care process		150
	Comprehensive care workshop		120
	Care practice		450
Mental & Physical	Understanding dementia		60
	Understanding disabilities		60
	Mental and physical structure		120

Source: Welfare and Medical Service Agency (2010b)

Table 9-6. Required Training of Certified Care Workers (prior to 2009)

Subject	Type	Hours
Introduction to social welfare	Lecture	60
Social welfare of the elderly	Lecture	30
Social welfare of the physically and/or mentally disabled	Lecture	30
Rehabilitation	Lecture	30
Practical skill of social work	Lecture	30
	Seminar	30
Practical skill of recreation instruction	Seminar	60
Psychology of the elderly and disabled	Lecture	60
Introduction to domestic science	Lecture	60
Nutrition and cooking	Lecture	30
Practical training of domestic science	Practice	30
Introduction to medicine	Lecture	60
Mental health	Lecture	30
Introduction to care work	Seminar	60
Practical skill of care work in general	Seminar	120
Practical skill of care work (according to each disability type)	Seminar	120
Practical training of care work	Practice	450
Supervision of practical training of care work	Seminar	60
General education	Lecture	120

Source: Welfare and Medical Service Agency (2010b)

Table 9-7. Required Training of Trained Home-Helpers

Subject	Type	Hours
Understanding the mission of life, support and dignity of care recipients	Lecture/ Seminar	30
Understanding the system and services available for frail elderly and disabled people	Lecture/ Seminar	30
Understanding the disease and disability of frail elderly and disabled people	Lecture/ Seminar	30
Understanding dementia	Lecture/ Seminar	30
Communication and skills on care provision	Lecture/ Seminar	90
Skills on life supports and housekeeping	Lecture/ Seminar	30
Collaboration with medical and nursing staff	Lecture/ Seminar	30
Social welfare skills on care	Lecture/ Seminar	30
Planning and assessment for life support	Lecture/ Seminar	30
Ethics and tasks as care worker	Lecture/ Seminar	30
Practical training of care work	Practice	140

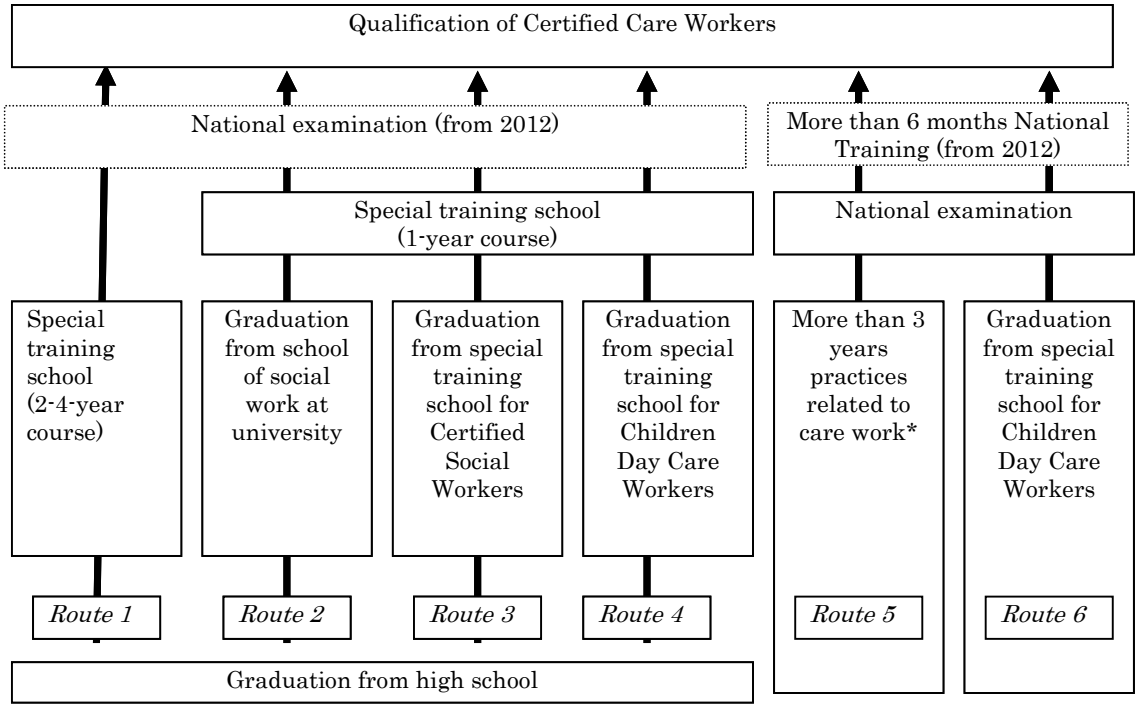
Source: Welfare and Medical Service Agency (2010b)

License Examination

Whereas the completion of the training usually means the qualification for the license in the United States, the training completion in Japan may only indicate the qualification for a license exam. First, the Japanese Assistant Nurse candidates (i.e., those who complete the required training at designated institutions) need to pass the prefectural exam to get the license. The examination for Trained Home-Helpers is to be abolished, but the level 2 exam, which allows the successful candidate to skip a part of the required 500 hours of

training, will remain. As for the Certified Care Workers, however, the exam is implemented universally[34]. As seen in Figure 9-2, there are now six routes to be a Certified Care Worker and the exam will soon be implemented in all routes. In addition, the exam is not just a formality process. The subjects range widely (Table 9-8) and only half of the candidates pass the exam every year, as shown in Table 9-9[35].

Figure 9-2. Six Routes to be Qualified as a Certified Care Worker



Note: The step in the dotted boxes is to be implemented in April 2012.
* "Practices related to care work" here means on-the-job training through the non-licensed part of nursing home tasks, such as cleaning rooms and cooking meals for care recipients.
Source: MHLW (2010a)

[34] Until 2012, the exam will have been only for the candidates in route 5 and 6.
[35] The exam is an absolute evaluation, not a comparative assessment.

Table 9-8. Subjects of Certified Care Worker Exam

Paper Exam
- Compendium of Social Welfare - Elderly Care - Disabled Care - Rehabilitation - Social Welfare and Care Support Skills - Organising Recreation Activities - Psychology of Elderly and Disabled people - Domestic Science - Medicine - Mental Health - Compendium of Care Work - Care Skills - Care Skills on Various Occasion
Practical Exam (corresponds to the paper exam, especially the subject of "Social Welfare and Care Support Skills")

Source: MHLW (2010a)

Table 9-9. Exam Pass Rate of Certified Care Workers (2006-2010)

Year	**Examinee**	**Successful Examinee**	**Successful Ratio**
2010	153,811	77,251	**50.2%**
2009	130,830	67,993	**52.0%**
2008	142,765	73,302	**51.3%**
2007	145,946	73,606	**50.4%**
2006	130,034	60,910	**46.8%**

Source: MHLW (2010b)

Theoretical Conclusion and Empirical Concern regarding Care Workers' Training as a Process-based Performance Measurement

The purpose of this chapter was to investigate care workers' training as a part of the process-based performance measurement that ensures quality of care. Analysing the cases of the United States and Japan has provided theoretical evidence that the care workers' training has two phases and that both are

respectively useful to ensure the quality of care. That is, whereas Phase 1 standardises the care quality of overt needs by ensuring proper care attitudes and physical skills (e.g., transfer techniques), Phase 2 enables care workers to respond to potential care needs by teaching care recipients' mentality and training communication skills to pick up potential care recipients' needs.

Nonetheless, an empirical concern is that the care workers' training may not be sustainable. As seen in the case of Japan, while the population of care recipients is expected to increase, the content of training has become more comprehensive. Can Japan keep this pace for the next decade of an aging society?

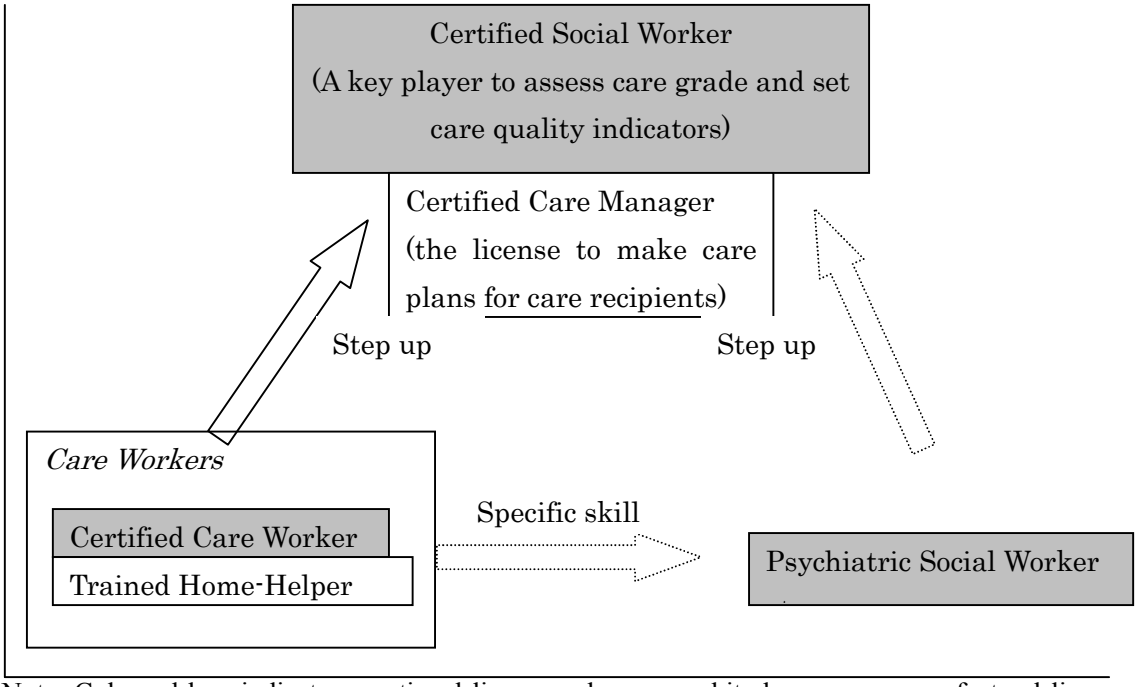
Certainly, a part of the question was already answered in the previous chapter. The care workers are highly motivated. In Japan, the experience as care worker is a necessary step to be a policy maker in the field of care. Starting as a care worker, there are certain career steps necessary to be involved in policymaking (Figure 9-3). In addition, compared to other countries, the salary of care workers is good and expected to increase progressively. In Japan, as a result, despite the demanding training requirements, the care workers' labour shortage issue is not as serious as that in the United States. In fact, whereas the United States relies on immigrants for 23% of care workers[36] (PHI, 2010), the immigrant-dependent ratio in Japan is nearly zero[37]. This might certainly be

[36] PHI defines immigrants as those who are born outside the United States.

[37] Certainly, the Government of Japan gave 3-4-year training scholarships to 208 Indonesian candidates for the Assistant Nurse/Certified Care Workers program in 2008 as "the first trial" to accept foreign labour in the field. In the following year, 2009, the government also gave similar scholarships to 280 Filipino candidates for the Assistant

because of the language barrier of Japanese but, as seen in Table 9-9, the number of the license applications (i.e., examinees) has increased.

Figure 9-3. Career Steps of Care Workers in Japan



Note: Coloured box indicates a national license, whereas a white box means a prefectural license. Both licenses are, however, interchangeable with meeting the requirements. For example, Trained Home-Helpers are eligible to apply for Certified Social Worker qualification; Certified Care Workers can apply for Certified Care Manager qualification.

Nonetheless, one must consider the government's motivation to train care workers. Even if care workers are motivated in Japan, it is costly for the government to train the candidates for care workers and to maintain the long-term care system. Certainly, to ensure quality of care is an important task of governments, along with the mission of human service. Particularly,

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Nurse/Certified Care Worker program. However, as of November 2010, none of them has yet received these licenses. In Japan, there are about 382,000 Assistant Nurses (MHLW, 2006), 81,000 Certified Care Workers, and 31,000 Trained Home Helpers (MHLW, 2009). Estimates suggest that almost all of them are Japanese natives.

however, it may be that Phase 2 training, shown in the case of Japan, is too much of a burden on governments.

Government Motivation to Train Care Workers

Phase 2 of care workers' training can be sustainable. Indeed, the training has had great spill over effects on care-related industries in Japan. This section analyses the mechanism, investigating the case of Japan.

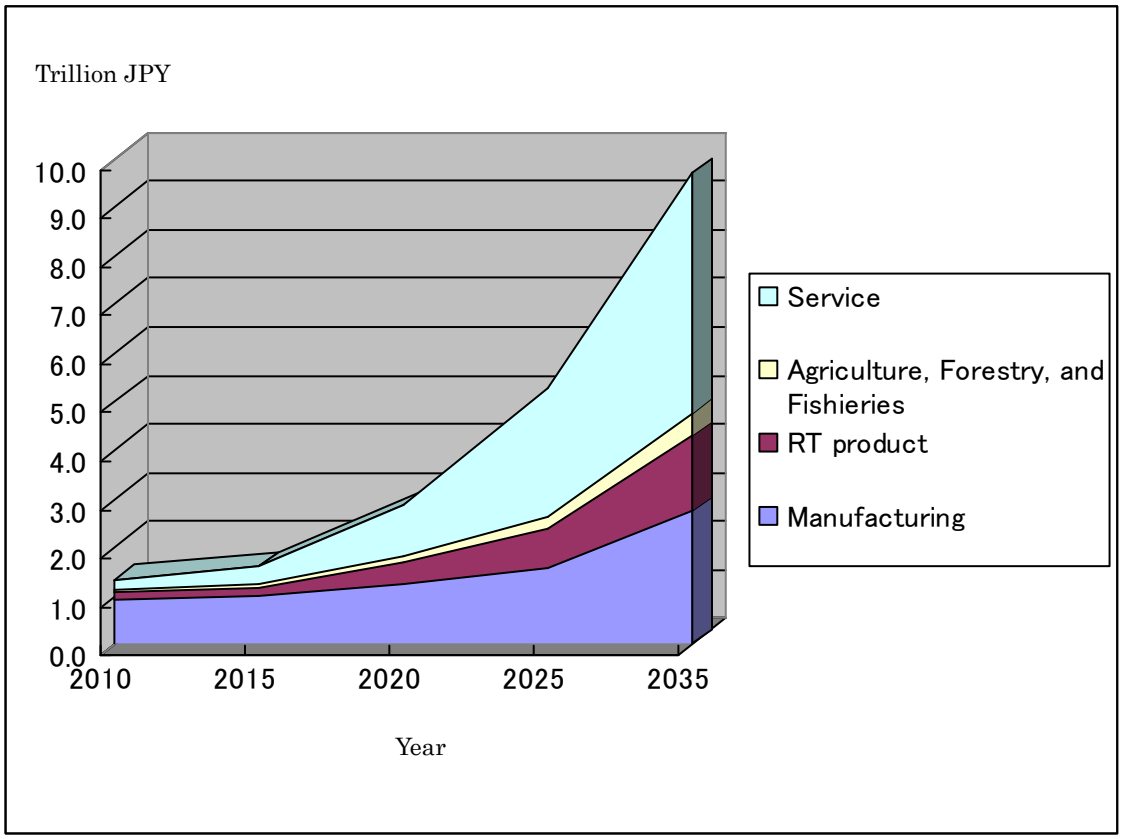
Long-Term Care in Economic Growth Strategy

As explained earlier, the purpose of Phase 2 training is to pick up potential care needs. In economics or/and business terms, this can be rephrased as 'market research.' The government of Japan, particularly the Ministry of Economy, Trade, and Industry (hereinafter, METI), draws growth strategy utilising the care workers' skills of picking up potential care needs.

With this strategy, the livelihood support robot used in the long-term care industry has great potential. The livelihood support robot means the robot that helps humans in long-term care, housekeeping, and in the safety and comfort of daily living (AIST, 2007). According to Japan Society for the Promotion of Machine Industry (2008), the market for the livelihood support robot can be expanded to 1,453.4 billion yen (institutional use: 901.2 billion yen [11.2 billion AUD]; home use: 552.2 billion yen [6.9 billion AUD]) by 2030.

The government of Japan recognises this potential. In 2010, the research of the Ministry of Economy, Trade, and Industry, Japan (METI) reveals that the future growth of the Japanese robot industry is expected to rely heavily on service uses (Figure 9-4). The livelihood support robot will be a core division of service use in the near future. In fact, the market for the livelihood support robot is to occupy about 20 percent of the 9.7 trillion yen (121 billion AUD) Japanese robot industry by 2035 (Table 9-10).

Figure 9-4. Overall Japanese Robot Industry Market Prediction (2015-2035)



Note: RT indicates Robot Technology

Source: METI (2010)

Table 9-10. Japanese Robot Industry Market Predictions (2015-2035) (Detailed)

Division			Predicted Market Scale (Billion yen)				Calculation
Major Division	Middle Division	Small Division	2015	2020	2025	2035	
Manufacturing	Conventional industrial robot	-	936.5	1,052.4	1,092.6	1,102.7	Pattern 2
	Next-generation industrial robot	Assembly robot (Automobile)	32.4	99.2	239.3	798.8	Pattern 4
		Robot cell (Electric machine)	32.9	104.8	248.8	827.9	Pattern 4
Robot Technology (RT) product	RT electric appliance/ home equipment	-	92.8	285.9	488.0	557.9	Pattern 5
	RT automobile	-	50.9	103.3	208.3	737.0	Pattern 5
	RT ship	-	15.9	28.1	44.4	72.9	Pattern 5
	RT railway	-	2.5	4.6	7.4	12.8	Pattern 5
	RT construction machine	-	14.9	29.8	57.6	175.0	Pattern 5
Agriculture, Forestry, and Fisheries	Agriculture	Land-use agriculture	1.1	2.3	7.3	27.6	Pattern 5
		Garden firming/ facility firming	0.9	3.9	15.0	92.7	Pattern 4
		Daily firming/ animal firming	10.2	29.4	49.8	58.8	Pattern 3
		Agriculture logistics	27.3	60.3	81.2	85.8	Pattern 3
	Forestry	-	1.7	8.4	30.4	87.2	Pattern 4
	Fisheries/ aquaculture	-	5.4	16.8	41.7	114.2	Pattern 4
Service	Medical care	Operation support	4.3	13.6	31.7	53.4	Pattern 3
		Pharmaceutics support	6.5	21.0	38.3	41.4	Pattern 3
	Long-Term Care	**Self-support**	**13.4**	**39.7**	**82.5**	**220.6**	Pattern 4
		Care support	**3.3**	**14.6**	**41.4**	**183.7**	Pattern 4
	Healthcare	Fitness	137.6	146.1	157.6	181.7	Pattern 3
		Health monitoring	**5.4**	**16.1**	**44.0**	**148.0**	Pattern 3
	Room cleaning	**-**	**2.2**	**12.7**	**54.1**	**428.7**	Pattern 3
	Security	Machine security	21.0	61.0	124.9	268.9	Pattern 5
		Institutional security	1.7	21.0	70.3	163.2	Pattern 4
	Receptionist	-	0.2	0.9	3.9	46.5	Pattern 3
	Delivery	-	0.7	3.0	13.2	81.1	Pattern 3
	Transportation (business use)	**-**	**5**	**116.2**	**619.0**	**675.9**	Pattern 3
	Heavy-duty support	-	1.5	4.3	12.0	229.9	Pattern 3
	Food industry	Food handling	17.9	67.5	143.2	164.0	Pattern 3
		Food processing	8.1	30.5	79.3	174.3	Pattern 3
	Logistic	Palletizer/ depalletizer	21.2	41.0	86.5	152.3	Pattern 2
	Examination/ maintenance	House	4.6	9.8	15.7	21.3	Pattern 1
		Social infrastructure	21.6	103.8	218.8	180.5	Pattern 4

Division			Predicted Market Scale (Billion yen)				Calculation
Major Division	Middle Division	Small Division	2015	2020	2025	2035	
	Education	-	11.9	24.3	36.1	45.0	Pattern 1
	Amusement	-	21.1	35.7	57.6	122.2	Pattern 1
	Rescue	-	0.8	6.0	29.1	67.0	Pattern 1
	Prospecting	-	1.7	7.3	25.7	81.1	Pattern 3
	Transportation (home use)	**-**	**2.1**	**49.8**	**265.3**	**289.7**	Pattern 3
	Hobby	-	22.3	71.6	1498.5	215.7	Pattern 1
	House-keeping support	**-**	**-**	**-**	**15.7**	**85.8**	Pattern 3
	***MIMAMORI*/. communication**	**-**	**0.3**	**1.1**	**3.6**	**34.1**	Pattern 3
Robot Total			1,599.0	2,853.3	5,258.0	9,708.0	
Livelihood Support Robot (occupancy rate in the total)			**31.7 (2%)**	**250.2 (8.8%)**	**1,109.9 (21%)**	**1,980.7 (20%)**	

Note: The bold text indicates the livelihood support robot. The original source describes the number in increments of 100 million, but this table shows the number in increments of 1 billion. The term *MIMAMORI* is hard to translate, but roughly, it means "to stand watch over frail elderly and/or small children and to offer help when necessary" in English.

Methodology: The prediction is calculated by the logistic curve model formed by the adoption number, household adoption rate, replacement cycle, and price transition of the anagogic (in terms of price and utilisation) product in the past market of each division.

- Pattern 1: stochastics of the existing stochastics data
- Pattern 2: stochastics based on the existing market performance
- Pattern 3: stochastics based on the model curve of the anagogic robot
- Pattern 4: stochastics based on the market needs
- Pattern 5: stochastics based on the model curve of the anagogic RT product

Source: METI (2010)

The government indeed has heavily committed to the promotion of the livelihood robot that collaborates with care workers. The commitment originally began with the METI's policy of the "21st Century Robot Challenge Program" in 2001, a year after universal long-term care insurance was implemented. Since then, the focus on the livelihood support robot has grown stronger. In 2009, the government set up the action plan to back up their activities (Table 9-11).

Table 9-11. Action Plan to Promote Livelihood Support Robot by Government of Japan

2009-	The livelihood support robot project by METI (1.6 billion yen)
2010-2011	Introductory Period - Safety check (METI) - Risk assessment (METI) - Test at care facilities (METI, MHLW) - LTCI system maintenance for robot introduction (MHLW) - Test at special ward (e.g., Tsukuba-city)
2012-2013	Primary introduction - Test of care worker robot (e.g., power suite) (METI, MHLW) - Power suite test with normal healthy subjects (METI) - Planning of mobility-robots (related Ministries)
2014-	Major introduction through B2B (Business to Business) market - Implementation of robot-use promotion policy (MHLW) - Setting up robot assessment agency (METI) - Implementation of the telecommunication system for robot use (MPMHAPT)

Note: MPMHAPT means Ministry of Public Management, Home Affairs, Posts, and Telecommunications.
Source: METI (2010)

Research and Development

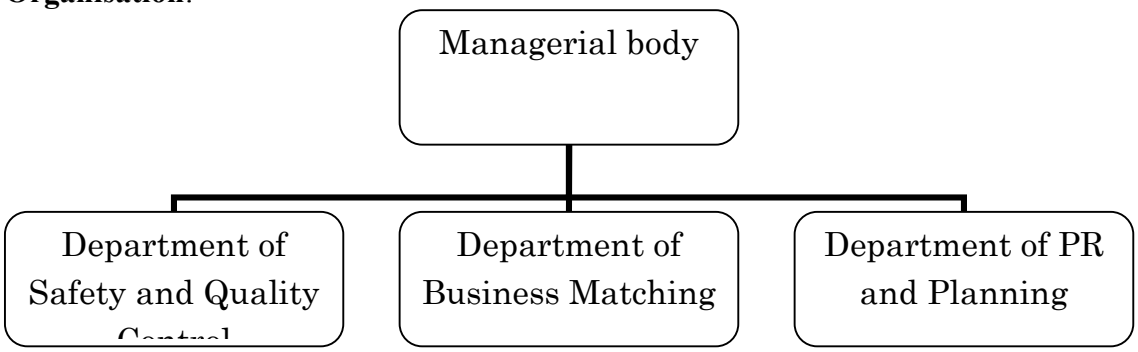
The experiences of well-trained care workers in Japan are greatly utilised in the research and development of the livelihood supports robot. First, robot makers, robot users (i.e., care workers and care recipients), universities, local governments, think tanks, insurance companies, venture capitals, and leasing companies have formed a collaborative body named the Association of Robot Business Promotion. The association offers the members various collaborative opportunities such as business matching (Figure 9-5). Furthermore, the New Energy and Industrial Technology Development Organization (NEDO), a government agency, supports the establishment of ethical and safety guidelines (NEDO, 2008). Collaborating with robot makers and universities, the National Institute of Advanced Industrial Science and Technology (AIST) conducts research in Tsukuba city, a special word of long-term care. Many, universities,

especially, take advantage of their care worker training functions on their campuses. As mentioned in Route 2 in Figure 9-2, some universities hold care workers' training schools, called Care Worker/Social Worker School. Since the needs of long-term care have been increasing, today 179 universities have such schools within their campuses (Table 9-12). As many of the teaching staff at the schools have care worker experiences[38], it is very convenient for the researchers in these universities to utilise the detailed needs of long-term care in their research.

Figure 9-5. The Association of Robot Business Promotion

228 members (as of April, 2010): robot makers, robot users (i.e., care workers and care recipients), universities, local governments, think-tanks, insurance companies, venture capitals, and leasing companies
President: Takeshi Uchiyamada (Vice President of Toyota Motor)

Organisation:



Observers: METI, CAO, MPMHAPT, MHLW, and MLIT

Note: METI: Ministry of Economy, Trade, and Industry
CAO: Cabinet Office
MPMHAPT: Ministry of Public Management, Home Affairs, Post, and Telecommunications
MHLW: Ministry of Health, Labour, and Welfare
MLIT: Ministry of Land, Infrastructure, and Transport
Source: METI (2010)

[38]and/or they have a very close relationship with care workers.

Table 9-12. University with Care/Social Work School in Japan

Area	Number of Universities with Care/Social Work Schools
Hokkaido	8
Tohoku	13
Kanto	55
Koshinetsu	6
Hokuriku	2
Tokai	21
Kinki	34
Chugoku	16
Shikoku	6
Kyushu	16
Okinawa	2
Total	**179**

Source: Welfare and Medical Service Agency (2010a)

Robot Utilisation Cases

Because of robot business promotion, many livelihood support robots have come into service. After many years of research and development, some have begun to grow in popularity and others are starting to be involved in overseas export. With these successes, many companies have accelerated their investment in the development of the livelihood support robot.

Case 1: Robot Suit HAL (Hybrid Assistive Limb)

Robot suite HAL, developed by Yoshiyuki Sankai at Tsukuba University, can assist the wearer's movement. Bioelectric sensors attached to the skin, which monitor signals transmitted from the brain, control the robot suit (Sankai, 2006). With this suit, care workers can easily lift care recipients because care recipients enhance their physical capabilities.

Collaborating with Tsukuba University and NEDO, Cyberdyne Inc[39] released the robot suit in the market in 2010. According to Yomiuri Online[40], as of the 20th of August 2010, HAL has already been introduced by 37 hospitals and nursing homes in Japan. The article also refers to the half-paralysed elderly who can ascend stairs, wearing HAL.

Image. Robot Suit HAL

Photos up: HAL for the use of disabled
Photo down left: Walking with HAL
Photo down right: Care giving with HAL
Source: NEDO (2010)

Case 2: Therapeutic Robot PARO

The therapeutic robot, PARO, developed by AIST, is designed to have positive psychological effects on the people attracted to it because it reacts to the people

[39] A venture company founded by Yoshiyuki Sankai, who developed the robot suit.
[40] Online version of Yomiuri newspaper.

and/or develops its character as the people take care of it. According to AIST (2006) and Wada *et al* (2008), interacting with PARO improves brain function, as measured and analysed in the brain waves of elderly patients with cognitive disorders. Robot therapy, with PARO, therefore, may prevent cognition disorders.

The use of PARO may also enhance quality of care. That is, the use of PARO makes it possible to implement a humanistic method of care giving. Takanori Shibata, Senior Research Scientist at AIST says, "Elderly people with dementia, especially if their condition is severe, may get agitated and violent, and be unable to settle down. Previously, such patients were sedated, and even now, that is sometimes the case in Europe and America. In Japan, such patients are sometimes physically restrained. If such patients have contact with PARO, however, they often settle down almost immediately, smile, and feel good. Although the use of PARO may not be 100% effective, it has no particular side effects" (Diginfonews, 2010a).

In Japan, as of 2010, 1,300 PARO robots have already been released, and the sales have been extended to overseas. Care facilities in Denmark and other European countries have started to introduce PARO. PARO is expected to be sold in the United States in 2010, as PARO was certified as a medical product by the Food and Drug Administration (FDA) (Diginfonews, 2010a).

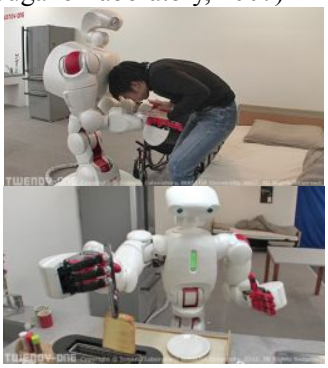
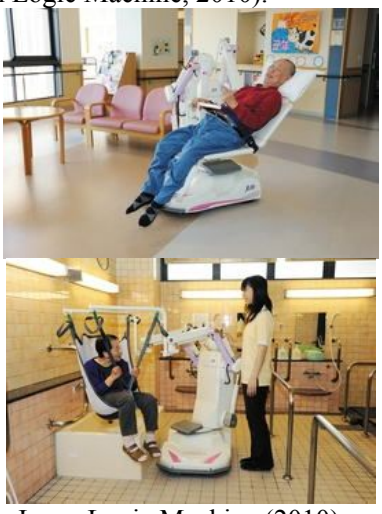
Image. Therapeutic Robot PARO

Source: Wada *et al* (2008)

Table 9-13. Other Notable Robots

Division	Developer	Name	Remarks	Release
Transportation	Human-Robot Interaction Centre, Saitama University	Robot Wheelchair	The wheelchair automatically tracks the care worker next to it. Recognising the position of the care worker's shoulder, the chair always runs along the left to the care worker, so that the care worker and care recipient can easily communicate face to face while moving. In case the corridor/street is crowded, however, the chair automatically recognises the traffic and then comes behind the care worker to avoid possible congestion (Kuno Laboratory, 2010).  Image: Diginfonews (2010b)	Not yet
MIMAMORI/ Communication	Information and Robot Technology Research Initiative (IRT) [41], University of Tokyo	Mamoru	Mamoru, one of a series of reminder robots developed by the University of Tokyo, is designed to help elderly people with dementia by reminding them of where they have put items or what they have done already. For example, Mamoru watches every move the owner makes and gives verbal warnings if necessary. When the owner brings a box of medicine to the table and takes a medicine, Mamoru immediately recognises these actions. Then, if the owner attempts to take the same medicine twice, Mamoru says something like "You took the medicine already. That was 10 minutes ago." (University of Tokyo, 2010).   Images: University of Tokyo (2008)	Not yet

[41] IRT has Toyota Motor Corporation, Fujitsu Laboratories, and Olympus as industrial partners.

Division	Developer	Name	Remarks	Release
Self support	Sugano Laboratory, Waseda University[42]	Twenty-One	Twenty-One, a human-symbiotic robot, is capable of assisting people's daily activities. Communicating with the owner, for example, Twenty-One can help the owner to move from bed to wheelchair. In addition, it can bring the owner a tomato source from the refrigerator, as ordered. The 'bio-mechanism design' also makes it possible for the robot to conduct sensitive tasks such as picking up a slice of bread from a toaster and serving it to the owner (Sugano Laboratory, 2007)  Image: Sugano Laboratory (2007)	Not yet
Care support and Transportation	Japan Logic Machine, Inc.	Yurina	Yurina, a home care robot, is designed to transfer care recipients from bed to bathroom, toilet, and other rooms. With its touch screen, Yurina can be controlled by care workers, but it can also be operated by care recipients with voice recognition. While transferring, Yurina can even make conversation with care recipients. (Japan Logic Machine, 2010).  Image: Japan Logic Machine (2010)	Already introduced in hospitals and care facilities.

[42] Waseda University also runs a Care Worker/Social Workers' School.

Division	Developer	Name	Remarks	Release
Care support	Unicharm Humancare Corporation[43]	Humany	Humany is a urine aspiration robot, designed to ease the caregiver's burden by reducing the number of diaper replacements. Connecting through a tube to a diaper, Humany sucks in urine immediately after the urine censer detects it. Humany thus always keeps the diaper dry (below 0.5cc wet). As a result, the number of diaper replacements can be minimised from 5-7 times to 1 time a day. (Unicharm Humancare, 2010). 	Released May 2009. As Humany is certified as a designated care product by the government, 90% of the price is covered by LTCI, so Yurina can be purchased at only 10,000 yen (about 80AUD).

Note: LTCI means Japanese universal Long-Term Care Insurance.

Not just research institutes or venture companies research the livelihood support robot. Major Japanese companies such as Toyota Motor, Honda Motor, Fuji Heavy Industries, Panasonic, Mitsubishi Heavy Industries, Toshiba, Fujitsu, NEC, Yasukawa Electric, and Hitachi have also developed livelihood support robots. Among them, Katsuaki Watanabe, President of Toyota Motor, has declared that robots will soon be Toyota's core business and has decided to hire 200 robot researchers/developers by 2010 (Diamond, 2008). Panasonic aims at 100 billion yen (about 1.25 billion AUD) service robot sales in 2015 (Impress Watch, 2009). In addition, in 2010, another major technological company, Canon, announced its entry into the service robot business (Yomiuri News Paper, 2010).

[43] Unicharm Humancare Corporation is a joint venture between Unicharm, Japan's leading diaper maker and Hitachi, Japan's leading electric product marker.

Generalisation

The motivation of the Japanese government cannot directly apply to that of other governments. Japan produces about 70% of the world's industrial robots (METI, 2009: p.174). It may be unique for Japan to have robots as its basic industry.

However, the idea of synergizing care workers' training to ensure quality of care and market research for future industries is applicable to other markets. As in the field of long-term care, all OECD member nations are facing rapidly increasing aging populations. All markets related to the elderly, not just the robot one, are very promising and it is worth conducting 'market research' on providing the best possible long-term care through care workers' training. Although the impact may not be as significant as that in long-term care, the principle is also applicable to the fields of childcare and disabled care. Most physical care support innovations of long-term care can directly apply to disabled care. The care systems such as *Mimamori* may also be arranged for childcare - in order for carers to keep eyes on frail children- through well-trained care workers.

Chapter 10.

Conclusion: Managing the Human Service Market

This thesis responded to two unique features of human service: ambiguous policy goals and a considerable amount of front-line workers' discretion. The research analysed how governments can address these two unique features to ensure the best quality of human service for their citizens, in a world where increasing need and financial constraints place the provision of care in the hands of a competitive market.

Chapter 2 explained that one stream of researchers present evidence that market utilisation in the provision of human service is a necessary trend because governments today do not have the technical or financial capacity to provide human service directly. Yet another research stream argues that market utilisation causes long-standing service quality issues because market competition means that some providers will sacrifice quality for profit maximisation.

By undertaking a survey of the history and the theoretical research into human service provision through a competitive market, Chapter 2 defined two research questions to guide the remaining sections of the thesis. The chapter first outlined the reasons that governments need to be responsible for human service

provisions. Tracking back to the origin of human services, the research showed transitions in government commitments to human service provision. The analysis then concluded that today's democratic systems urge governments to ensure a certain standard of living for their people by being responsible for human service provisions. Furthermore, the chapter investigated how human service is provided through a competitive market and how governments have tried to ensure care quality under competitive market conditions; the vehicle of analysis was the expanding and demanding example of long-term care.

To date, the literature primarily consists of two major points: 1) care quality models to direct the market competition to enhance the quality of care and 2) performance measurement to evaluate and regulate the providers' quality of care.

From that beginning, the present research argued the first point in Part I and the second point in Part II.

1. How should governments design the human service market in order to keep the capacity to ensure quality of service?
2. How should governments set the performance measurement?

Part I. Designing the Human Service Market to Ensure the Quality of Care Service

Part I of this thesis presented and then tested an alternative care (i.e., service) quality model, which is called Ideal CQM (see page 57). Ideal CQM seeks to overcome deficiencies in the existing care quality model (i.e., Existing CQM), which allow the market to accommodate poor quality care. To this end, Ideal CQM presents a theoretical market design in which quality of care is the sole basis for market competition. Therefore, by implementing Ideal CQM, governments can direct the market competition to enhance the quality of care and poor quality service is automatically eliminated from the market.

Ideal CQM requires four preconditions (Table 10-1): a) a universal long-term care system; b) standardized content of care according to care recipients' conditions; c) no price competition; and d) publicized care quality information.

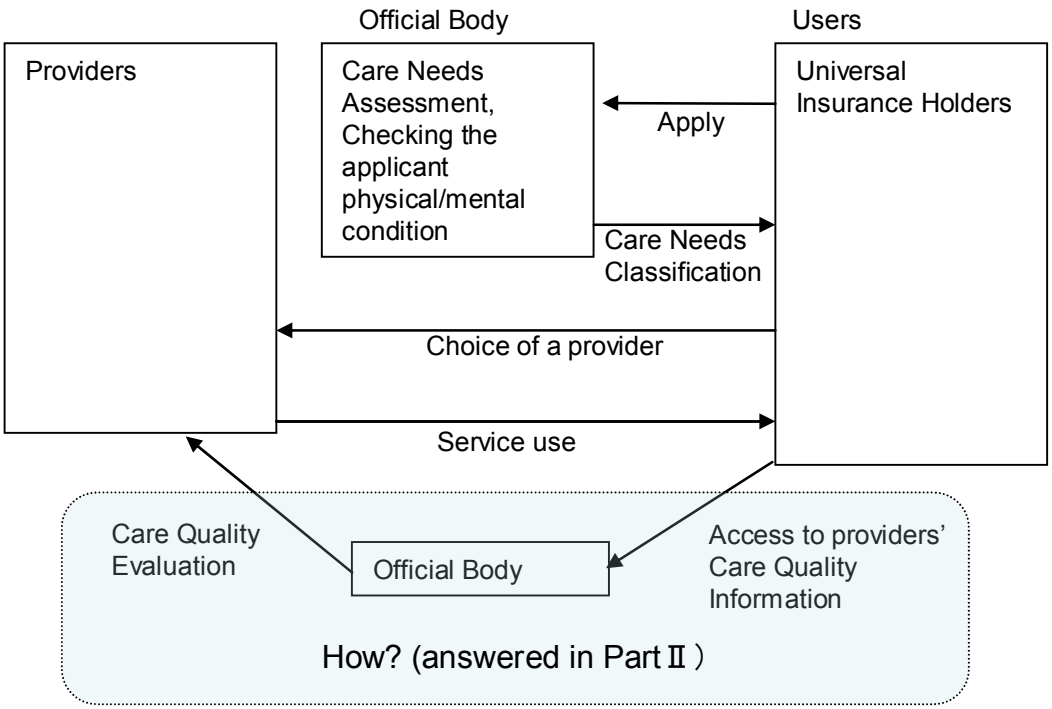
Table 10-1. Four Conditions to Implement the Ideal CQM

a) a universal long-term care system
b) standardized content of care according to care recipients' conditions
c) no price competition
d) publicized care quality information

The introduction of Ideal CQM would create a process scenario. The image would look like this: First, as the service provision is universal, all users are

eligible to receive the service by applying for a care needs evaluation. Second, since care content is standardised according to care recipients' conditions, users' care needs are assessed by governments (or official bodies) and decisions regarding eligibility and levels of service are made based on individual conditions and care needs. Third, with the classification of care needs complete, users choose a provider. Since there is no price competition in the market, users choose a provider solely based on the service quality. However, due to the information asymmetry between users and providers in the human service market, governments (or official bodies) must publish the providers' care quality information.

Figure 10-1. Image of Ideal CQM



Finding 1: Ideal CQM is Applicable

Findings

This thesis proved that Ideal CQM is applicable. Surveying the long-term care markets in OECD nations, the research found that the Japanese Long-term Care Insurance market meets all four preconditions. Together with Japan, Austria, Germany, Luxemburg, Netherlands, Norway, Sweden, and S. Korea meet the condition of universal care. Furthermore, Germany, Luxemburg, and S. Korea also clear the standardized content of care according to care recipients' conditions. However, Japan is the only country that meets the third condition: no price competition.

Implication

The confirmation of Ideal CQM's applicability may make a positive impact on the care quality model research in the field of health economics. For a long time, human service's care quality models in the field have been predominantly developed by experiences and research in the United States. Almost all researched care quality models are based on the market structure (i.e., means-tested system and Medicaid public program). Ideal CQM is the first attempt at building a care quality model based on the universal system and the experiences of Japan, the nation with the highest long-term care demands.

For Further Research

The current research identified two future research questions concerning this

model. The first is about its applicability to other countries. As mentioned, some countries miss only two preconditions of Ideal CQM (i.e., no price competition and publicized providers' care quality information). Beside the publication of care quality information, for example, Germany missed the condition of no price competition, only because the care recipients can choose to receive cash-benefits, not in-kind care service (Naegele, 2009). That is, in the German long-term care market, the care recipients can even compare the care providers as consumer items. In this environment, certainly Ideal CQM does not properly direct the market competition to enhance the quality of care. However, how such a deficit in the preconditions influences the workability of the model and how Ideal CQM can be modified to overcome environments with deficits in only some conditions of the model are topics worthy of investigation. The second future question is about the applicability to other fields of human service. Since Ideal CQM is designed to accommodate the ample discretion of human service providers, the model theoretically fits all areas of human service. Nonetheless, each human service is empirically different. Analysing other areas, such as childcare and homeless people's care, research can further develop the applicability of Ideal CQM.

Finding 2: Ideal CQM is Workable

Finding

The research endorsed that Ideal CQM is workable. An Ideal CQM's

assumption that users choose a provider based on care quality, conflicts with information asymmetry models in the care market. However, the research proved that none of these conflicted models are fully supported, analysing the case of Group Home providers in the Japanese long-term care insurance market. Moreover, the research found that the more competitive the market becomes, the better the quality of service that is provided, when governments (or other public bodies) publicize the providers' care quality information.

Implication

The findings added empirical implications to the literature of care-related market's information asymmetry models: a) Contract Failure model, b) Medical Arms Race (MAR) model, and c) Suzuki and Satake's (2001) model. First, although the Contract Failure model claimed that users perceive non-profit providers as a sign of good service quality, this thesis proved that there is no significant difference between non-profits and for-profits in overall service quality when users have access to providers' care quality information. In addition, the research further explained that the care service of non-profits tends to be better in care implementation, whereas for-profits tend to be better at interacting with care recipients' families. However, overall service quality has no significant differences. This suggests that the service quality of non-profits and for-profits may look different, depending on a person's point of view. Second, despite the concern of the MAR model, this thesis found that Ideal CQM could direct the market competition to enhance the providers' service quality. In fact, the service quality of the providers in competitive

areas[44] was significantly better than that of the providers in non-competitive (usually rural) areas, though the service quality of both areas' providers improves year by year. Third, Suzuki and Satake's (2001) argued that providers newly entering the market lower the market's service quality, but this research found that the effect of Suzuki and Satake's (2001) model is very limited. Certainly, this research partly endorsed the model in that the service quality of new entries is significantly worse than that of old entries in the initial entry year. However, the research also found that the improvement of the new entries' service quality was much greater than that of old entries' service quality in the following year. This finding, then, suggests that the bad performance of the new entries in the initial year is not necessarily because of the market's information asymmetry between users and providers, but because of the lack of care providing experience. As the new entries in the initial year are inferior to the old entries especially on managerial indicators (see page 104 for details), the research suggests that providers' management rather than care implementation requires experience.

For Further Research

Further studies of the findings should include application of the model to other human service markets. The current findings were based on the analysis of the Japanese Group Home market, where the providers' care quality is the most comprehensively evaluated and published among the Japanese long-term care markets, due to the high ratio of care recipients with dementia in the market.

[44] See Chapter 5 for detailed definition.

The next step is, therefore, to investigate how the other markets, with a less strict evaluation, fulfil the information gap between users and providers in terms of providers' care quality.

Finding 3: Ideal CQM is Financially Sustainable

Finding

The research suggested that Ideal CQM is financially sustainable. Analysing the long-term care expenses of OECD nations, the research discovered that universal systems are not necessarily more costly than means-tested systems. Investigating merit good theory and scale of economics, the research uncovered that the cost efficiency of universal systems was rooted in the small income gap of the markets. This indicates that a small income gap is a precondition to the introduction of a universal system.

Implication

This finding serves as a basis for discussing whether governments should provide human service to all or to the economically vulnerable only. Since Esping-Andersen (1980) categorized nations according to the degree of human service (and social welfare) coverage (see page 24 for the details), researchers have tended to seek the differences in terms of the nations' philosophy or politics. For example, Scandinavian nations are "Social Democratic", because the people generally trust their governments, whereas the welfare policy of the

United States is "Liberal", because of the strong individualism aspect of the United States culture[45]. Although one may not disagree with these arguments, the findings of this thesis presented evidence of another cause for the different degrees of human service coverage: governments choose the degree of coverage based on the provision's efficiency in a market with a small income gap, the service can easily be made uniform and mass-produced (i.e., scale of economics), whereas in a market with a large income gap, it is difficult to make the service uniform, and thus, the government must focus more on a target group (i.e., means-tested system is more suitable[46]).

For Further Research

A limitation of the finding is its assumption that the service is socially demanded. As illustrated in Chapter 2, long-term care in OECD nations is highly demanded and the trend is expected to continue for the next decades. Therefore, the finding of the correlation between the income gap and the degree of human service coverage (means-tested or universal) is valid in this field of human service. However, the finding may not be applicable to some other fields of human service. For example, homeless support in OECD nations is far less in demand than long-term care. Regardless of the income gap, the governments are unlikely to apply universal systems for the provision of homeless support. In order to expand the generalisability of the finding, therefore, future research

[45] In fact, Esping-Andersen (1980) himself analyses the differences in terms of history and/or political attitude.

[46] As an aside, this may even be extended to explain the healthcare issue: why the United States government has been struggling to introduce a universal healthcare system.

needs to investigate further at what levels of demand governments are required to decide between universal or means-tested systems for service provision.

Supplemental Argument to Ideal CQM

Finding 4: the Use of Leverage Model

Finding

As Ideal CQM is not applicable to a means-tested market, the research presented a quality improvement tool, which is applicable to that type of market. The tool, named 'Leverage Model,' finds the care quality indicator that has the most positive influence on other indicators. Initiating providers to focus their resources on improving that indicator, governments can efficiently enhance the quality of service, even in means-tested systems.

Implication

This model not only helps means-tested markets to enhance the service quality, but also contributes to revealing the mechanism of care quality improvement. Demonstrating this model using the service quality data of Group Home providers in Japan, the model finds how indicators of care workers' behaviour correlate with each other. That is, the investigation allows the examination of 'best practices' to improve the service quality.

For Further Research

Leverage Model needs to improve the precision of the best practices. Although the model has not yet been investigated in many markets due to the availability of care quality information, there are many ways to develop its accuracy. For example, the best practice for non-profit providers might be slightly different from those of for-profit providers. Therefore, this model may improve the accuracy of best practices, including providers' attributes such as ownership, location, and care recipients' capabilities.

Summary of Part I

This thesis proved that Ideal CQM is applicable, workable, and sustainable. That is, Ideal CQM sustainably directs the market competition to enhance the quality of service along with the care quality indicators approved by governments. The remaining question was how to measure the providers' care quality, as seen in Figure. This question was answered in Part II.

Part II. Process-based Performance Measurement Model: Reflecting Users' Needs in Human Service

As Part I proved, governments could direct the market competition to enhance the market's care quality by implementing Ideal CQM. Part II investigated the remaining question: How does one measure quality of care? The research began

by comparing current outcome-based performance measurement and the alternative process-based performance measurement. The comparison found weaknesses in both measurements: process-based performance measurement does not fit the current market utilising public administration theory and outcome-based performance measurement does not fit the ambiguous policy goals of human service. However, the weaknesses of process-based performance measurement are compensable, whereas the weaknesses of outcome-based performance measurement are crucial in terms of ensuring the quality of human service. Favouring the alternative process-based performance measurement, this thesis modified the market utilising public administration theory for the use of process-based performance measurement.

This thesis then presented and tested the process-based performance measurement with modified market-utilising public administration theory (i.e., process-based performance measurement model). Process-based performance measurement model seeks to reflect users' needs in the care service by promoting the interaction between governments and providers who know the best about users' needs. To this end, process-based performance measurement model requires the input of providers' behaviour and the output of providers' training.

The required modification of the current market-utilising public administration theory can be described, using 'logic of governance' presented by Lynn et al (2000). Adding the element of care workers' behaviour to the current theory

achieved the necessary modification (Table 10-2).

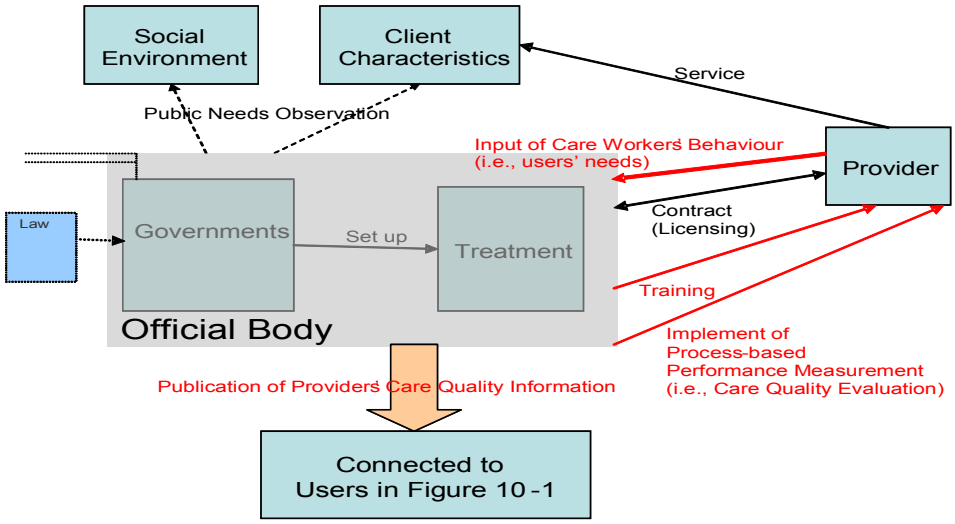
Table 10-2. Modifying Public Administration Theory, Using a 'Logic of Governance'

	Performance Measurement	Public Administration Theory
Current Theory	Outcome-based	O = f(E, C, T, S, M)
Modified Theory	Process-based	O = f(E, C, **B**, T, S, M)

Note: O = policy outputs/outcomes; E = environmental factors; C = client characteristics; B = care workers' behaviour; T = treatment (i.e., performance measurement); S = structure; M = management. See chapter 7 for details.

The image of process-based performance measurement model can be described as follows: The policy "Outcomes" depend on the governance in that the governments (or public bodies) 1) grasp the public needs by observing "Social Environment", 2) set up the "Treatment (performance measurement)" based on "Client Characteristics" and "Care Workers' Behaviour", 3) build the "Structure" of the market outsourcing of human service provision to non-government sectors with trained care workers, and 4) finally, "Manage" the human service market (Figure 10-2).

Figure 10-2. Structure of Process-based Performance Measurement Model



Finding 5: Process-based Performance Measurement Model Reflects Users' Needs in Human Service

This thesis found that process-based performance measurement model reflected users' needs in care service. Although this is very important, the existing outcome-based performance measurement has missed the chance to recognise users' needs. Focusing on the outcomes, in outcome-based performance measurement, governments do not interact with providers (care workers), who know the best about users' needs. Unlike many other public services, service recipients of human service often cannot deliver their needs properly (e.g., elderly with dementia). Connecting between governments and providers, however, the process-based performance measurement model allows governments to grasp the users' needs and to ensure their reflection in service by measuring and training the behaviour of care workers.

Implication

This finding reinforces the concept of Lipsky's (1980) "street-level bureaucracy" in the human service market. In the era of the traditional public bureaucracy theory scheme, Lipsky (1980) claimed the importance of human service's front-line workers, named "street-level bureaucrats" because they inevitably had a considerable amount of discretion on providing the service. As the provision of human service has been outsourced to non-government sectors, however, governments have gradually lost the interaction with the front-line workers. As Lynn et al's (2000) 'logic of governance' shows, such interaction

has become unnecessary in their outsoucer-outsoucee relationship. Nonetheless, the human service's feature of front-line workers' discretion is unchanged. Missing the interaction with front-line workers who know the best about users' needs, governments have faced a long-standing care quality issue in the human service market. This thesis revealed the mechanism of reflecting users' needs in the service (and/or performance measurement) and suggested the use of the process-based performance measurement model.

For Further Research

For further research of this model, it was necessary to investigate its applicability and financial sustainability. Although the model theoretically reflects users' needs in the measurement, questions remained. a) How can governments interact with care workers? b) How should governments train care workers? c) How can governments ensure the financial sustainability of care workers' training, which tends to be costly as the number of care workers increases? These questions were answered in the following findings.

Finding 6: The Interaction with Care Workers Can be Achieved by Giving Care Workers Career Path Advantages to Policy-making Positions in the Process of Performance Measurement

Finding

Analysing primarily the case of Japan, this thesis found that the interaction with

care workers could be achieved by giving them career paths advantages to be involved in the process of performance measurement. In Japan, to participate in the process of setting the performance indicators, implementing the measurement, and - if the market applies Ideal CQM - classifying the care recipients' care needs, the experience of being a care worker is either necessary or very advantageous. With this system, the setting and implementation of process-based performance measurement always reflects the voice of front-line workers.

This system benefits not only governments, but also care workers. Although the salaries of care workers may not be satisfactory, the career paths to be able to make decisions in the policymaking process motivate them and attract capable human resources. As the survey of OECD indicated (see Table), recruiting a competent work force is commonly a major concern of governments. The system benefits both governments and providers.

Implication

This finding has implications for the discussion of how to listen to the voice of the socially vulnerable. In most cases, human service users are socially vulnerable and often incapable of exercising the consumer's right of complaint. As Lipsky (1980) claimed, their voices are unlikely understood by 'top-floor executives' of policy makers. The finding presents the model for governments to listen to the voice of the socially vulnerable through front-line (street-level) workers.

For Further Research

The remaining question of this finding was how governments could trust these front-line workers. As they may take on very important roles of human service provision, governments need to ensure the quality of care workers. Certainly as mentioned above, the career paths advantages for care workers attracts capable human resources. However, that does not assure their qualification for delivering the users' voice, and eventually, reflecting it in policy. How to train care workers was, then, the next issue.

Finding 7: Care Workers Training For Uncovering Hidden Needs

Finding

Identifying two phases of care workers' training, this thesis found that care workers' training needs to cover communication skills to uncover hidden users' needs. Phase 1 training is to assure appropriate care implementation. Focusing on physical skills, governments train to ensure the safety of care implementation, such as care recipients' physical transfer. This training also protects care workers from injuries including back-pain. The purpose of Phase 2 training extends to strategies and skills to discover care recipients' hidden care needs. Valuing care workers' communication skills, governments train care workers to be able to respond not just to visible care needs, but to invisible needs as well. This training helps care workers to be able to deliver care

recipients' hidden needs to governments. In addition, understanding care recipients through the communication training protects care workers from becoming emotionally drained[47]. The purpose of process-based performance measurement model is not only to ensure the implementation of care service, but also to pick up hidden care needs. Therefore, the required training for the model is Phase 2 training.

Implication

This thesis identified the training required for the process-based performance measurement model. As the model expects care workers to respond to visible and hidden service needs, Phase 2 training is necessary. This finding is among the first to identify required training content for utilising the concept of "street-level" representation in human service provision.

For Further Research

The remaining question was the financial sustainability of Phase 2 training. The research showed that Phase 2 training required 2-24 times more training hours than Phase 1 training. The needs of human service, particularly long-term care, are expected to increase. The cost of the training could be a serious concern in the provision of service.

Finding 8: By Aiming at the Best Possible Human Service, Governments Can

[47] As discussed in Chapter 8, care workers inevitably face some very dramatic stages of care recipients' emotions.

Ensure the Sustainability of the Training

Finding

This thesis found that governments could ensure the suitability of care workers' training by aiming at the best possible human service. Analysing the case of Japan, the research discovered that hidden care needs uncovered by trained care workers boosted the national economy. That is, the care workers' efforts to provide the best possible service elicited the potential service needs and the industries responded to these needs. Supporting such collaborations, for example, Japanese governments predict the livelihood that the support robot industry will grow up to about 2 trillion yen (25 billion AUD) scale by 2035 (METI, 2010).

Implication

The impact of this finding projects on the discussion of increasing human service needs. For some time, increasing human service needs have been perceived rather negatively, because they create a lot of public expense. As discussed in Chapter 2, one of the key factors behind the shift in public administration theory to market utilisation was to ease this financial 'burden.' Certainly, the finding from the Japanese case does not decrease the expense, but increases it. Highlighting the positive social effects of increasing human service needs, however, the experiences of Japan provide a mechanism to make the service provision sustainable. That is, the more training of care workers, the more hidden needs uncovered. Then, the elicited needs boost the economy.

Importantly, the collaboration among governments, providers, and industries benefit them all, bringing financial sustainability for governments[48]; better care for providers[49]; and new business for industry. Certainly, connecting elicited long-term care needs and the robot industry might be rather unique to Japan. However, the principle of market economy that elicited needs to stimulate industrial activities is applicable to every market.

For Further Research

For further research of this finding, a multidisciplinary research may be required. To strike a balance between market contestability and service quality assurance by this finding, research needs to include several views such as economics (business), engineering, medicine (nursing), and public policy. This challenge is multidisciplinary.

Additional Contribution: Significance of Introducing Japanese Case

An additional contribution of this thesis is to introduce the case of Japanese human service. The process-based performance measurement model takes a 'bottom-up' approach in that the model values the role of front-line workers. This approach has been actively researched in the field of business as a

[48] The size of human service expense is usually compared by the expense-to-GDP ratio (see Table 2-2, for example). Although the expense is increased, the related GDP growth offset the increase.

[49] This of course benefits users as well, because the supply is originally the response to their needs.

'Japanese-style management,' especially after Vogel (1979) conceptualised it. Unlike the field of business, however, the Japanese-style management in the field of human service has been greatly overlooked. Even when Lipsky (1980) claimed the importance of front-line workers ("street-level bureaucrats" in his words) in human service, little study mentioned the case of Japan. Such bottom-up approaches in human service provision gradually lost attention[50], in fact, as market-utilisation public administration became popular in the provision of human service. Nonetheless, the importance of such a bottom-up approach is unchanged, because the provision of human service still needs a considerable amount of front-line workers' discretion. The Japanese case is, therefore, important, not only because Japan has faced the most radical increase of long-term care needs, but also because the Japanese style management has many implications for the provision of human service. An additional contribution of this thesis was to address the absence of the Japanese case in the research of human service provision.

Summary

This thesis proved that governments could reflect users' needs in the human service market by introducing the process-based performance measurement model. Connecting the measurement model to Ideal CQM presented in Part I,

[50] This does not mean that Lipsky's (1980) work has lost attention. His idea has still been actively quoted in various fields in public administration, but not in the role of front-line workers in the field of human service provision.

the long-standing quality issue in the human service market is solved.

The models in this thesis respond to two unique features of human service: ambiguous policy goals and a considerable amount of front-line workers' discretion. Therefore, the models are applicable to other fields of human service (i.e., childcare, homeless support). However, the empirical value of these potential models needs further research, because the context of these areas is different from that of long-term care.

Implications to Market Utilising Public Administration Theory

The nature of human service is different from that of other public services. As repeatedly mentioned in this thesis, a considerable amount of service providers' (i.e., care workers') discretion and the ambiguous policy goals are distinctive characteristics of human service. Despite this fact, the existing market-utilising, public administration theory treats human service the same as other public services in terms of provision through a competitive market. Throughout the thesis, this research suggested that such treatment has actually caused the long-standing care quality issue. This research studied an alternative theory for human service provision through a competitive market and, in turn, the impact on the existing public administration theory. The findings of this research can be summarised in a simple claim that recurs throughout this thesis:

As the nature of human service is different from that of other public services, the

existing public administration theory used in the market provision of other public services is not directly applicable to that of human service.

This section examines the implications of these research findings for the current literature on public administration theory and identifies some avenues for future research. In doing so, this section shows that the research undertaken in this thesis contributes to current knowledge about public administration theory and about public service provision in a competitive market.

Reconciling Service Quality Assurance to Human Service Provided through the Market

In reviewing existing studies of public administration theory, Chapter 2 identified that public service provision through the market is not fully supported due to concerns about service quality assurance. Certainly, some public services, including telecommunication, delivery, and public transportation, are successfully provided through the market in that they do not usually sacrifice service quality over the competition. These successes are, however, only because the quality of these services is heavily standardised and, in turn, the purchasing model works as $Y = xp$ (i.e., competing services of the same quality for better efficiency). In the fields of human service, on the other hand, the quality is not uniform, because each service needs to be customised for a user. As a result, the purchasing model becomes $Y = x\ (p,\ q)$, which

accommodates 'a poor quality but inexpensive good' as well as 'a good quality but expensive good' in the market. In addition, it is difficult to measure the quality of service due to ambiguous policy goals. The information asymmetry models (i.e., Contract Failure Model, MAR Model, and Suzuki and Satake's Model) also support the difficulty of the measurement.

Nonetheless, this thesis proved that such service quality issues could be solved. Implementing Ideal CQM, governments can direct the competition to enhance the service quality. Care performance can be measured by the process-based performance measurement model. The information gap between users and providers can be bridged by making the care quality information (i.e., the outcome of the performance measurement) available to the public. Under these conditions, these findings support the use of a competitive market in the provision of public care services.

In sum, this thesis supports the market use of human service provision, but the research suggests that a public administration theory is not indelibly written. As each type of public service has distinguishing features, public administration theory needs, continuously, to adjust to the changing needs in each type of service.

References

AIST (2007). *Seikatsu-shien robotto no sangyou-ka nimukete (Industrialising the livelihood support robot)*.
http://rd.kek.jp/slides/20070221/rtm.pdf, Oct, 2010.

AIST (2006). *Paro Found to Improve Brain Function in Patients with Cognition Disorders.*
http://www.parorobots.com/pdf/pressreleases/Paro%20found%20to%20improve%20Brain%20Function.pdf, Oct 2010.

Albrow, M. (1970). *Bureaucracy*. Pall Mall Press, London.

Aulich, C., Halligan, J. & Nutley, S. (2001). *Australian Handbook of Public Sector Management*. Allen & Unwin, Sydney.

Australian Institute of Health and Welfare (1995). *Australia's welfare: services and assistance*. Australian Government Publishing Service (AGPS), Canberra.

Bates-Jensen, B. M., *et al*. (2003). The minimum data set pressure ulcer indicator: Does it reflect differences in care processes related to pressure ulcer prevention and treatment in nursing homes. *Journal of the American Geriatrics Society, Vol. 512*: 1203-1212.

Behn, D. R. (2003). Rethinking Accountability in Education: *How* should *who* hold *whom* accountable for *what*? *International Public Management Journal, Vol. 6 (1)*: 43-73.

Ben-Ner, A. (2002). The shifting boundaries of the mixed economy and the future of the nonprofit sector. *Annals of Public and Cooperative Economics, Vol. 1*: 5-40.

Berenson, R. A., Bodenheimer, T., and Pham, H. H. (2006). *Speciality-service lines: salvos in the new medical arms race. Health Affairs, Vol. 25 (5)*: 337-343.

Boston, J. (1991). The theoretical underpinnings of public sector restructuring in New Zealand, *in* J. Boston, J. Martin, J. Pallot and P. Walsh (eds), *Reshaping the State: New Zealand's Bureaucratic Revolution*. Oxford University Press, Auckland.

Boyne, G. A. (1996). The intellectual crisis in British public administration: Is public management the problem or the solution? *Public Administration, Vol. 74*: 679-694.

Braithwaite, J (2006). Regulating nursing homes: The challenge of regulating care for older people in Australia. *BMJ 2001:323*; pp.443-446.

Bureau of Labor Statistics (2010). *Occupational Outlook Handbook 2010-11 Edition*. http://www.bls.gov/oco.htm, Oct, 2010.

Burns, T. and Stalker, G. M. (1961). *The Management of Innovation*. Tavistock, London.

Calvin, J (1536). *Institute of the Christian Religion. Christian Classics External Library*. http://www.ccel.org/ccel/calvin/institutes.html, 20th Nov, 2007.

Certified Social Worker and Certified Care Worker's Law (Shakaifukushi-shi oyobi Kaigofukushi-shi hou) of 1987. Government of Japan.
www.law.e-gov.go.jp/htmldata/S62/S62HO030.html, Sep, 2010.

CMS (2010). *Public Quality Indicator and Resident Report*. Centers of Medicare & Medicaid Services, The United States Deparment of Health and Human Services.

Cohen, J., and Spector, W. (1996). The effect of Medicaid reimbursement on quality of care in nursing homes. *Journal of Health Economics*, Vol. 15: 23-48.

Crozier, M. (1964). *The Bureaucratic Phenomenon*. University of Chicago Press, Chicago.

Culter, D. M. (1996). Why don't markets insure long-term risk? *Harvard University and National Bureau of Economic Research, Working Paper*.Cambridge, M. A.

Cutler, D. and Maera, E. (2001). Change in the Age Distribution of Mortality over the 20th Century. *National Bureau of Economic Research, Working Paper No. 8556*, Cambridge, M. A.

Davidson, B. (2009). For-profit organizations in managed markets for human services, *in* King, D and Meagher, G (eds), *Paid Care in Australia: Politics, Profits, Practices*. Sydney University Press, NSW.

Diamond (2008). *Jidousha oute ga shinogi wo kezuru robotto suit kaihatsu (Big car makers, competing for the development of robot suit)*.
http://diamond.jp/articles/-/2656, Dec, 2009.

Devers, K. J., Brewster, L. R., and Cassalino, L. P. (2003). Changes in hospital competitive strategy: a new medical arms race? *Health Service Research, Vol. 38 (12)*: 447-469.

Diginfonews (2010a). *PARO Theraputic Baby Harp Seal Robot.*
http://www.diginfo.tv/2010/08/12/10-0138-r-en.php, December, 2010.

Diginfonews (2010b). *Robot wheelchair that automatically follows a companion*. http://www.diginfo.tv/2010/08/12/10-0140-r-en.php, December, 2010.

Dranove, D., Shanley, M., and Simon, C. (1992). Is hospital competition wasteful? *Rand Journal of Economics, Vol. 23* (2): 247-262.

Donabedian, G. (1987). Commentary on some studies on the quality of care. *Health Care Financing Review, Spec No: 75-85.*

Dubois, P. (1979). *Sabotage in Industry*. Penguin Books, Harmondsworth.

Dunleavy, P. and O'Leary, B. (1987). *Theories of the State*. Macmillan, London.

Dusansky, R. (1989). On the economics of institutional care of the elderly in the US: the effects of change in government reimbursement. *Review of Economics, Vol. 56*: 141-150.

Ellwood, J. (2000). Prospects for the Study of the Governance of Public Organizations and Policies, *in* Heinrich, C., and Lynn, L. Jr. (eds), *Governance and Performance: New Perspectives*. Georgetown University Press, Washington, D.C.

Endo, H. (2006). *Iryo to hieirisei, hoken, iryoteikyo seido (Medicaid patients, and the quality of nursing home care)*. Funso Shobo Publishing: 47-79.

Endo, H. (1995). Iryo fukushi niokeru eirisei to hieirisei（For-profits and nonprofits in care industry. *Iryo to shakai 1995; 5（1）*: 27-41.

Esping-Andersen, G. (1990). *The Three Worlds of Welfare Capitalism*. Polity Press & Princeton: Princeton University Press, Cambridge.

Farley, D. E. (1985). Competition among hospitals: market structure and its relation to utilization, costs, and financial position. Hospital studies program. *National Center for Health Service Research and Health Care Technology Assessment, Research note 7, 1985.*

Feng, Z. D., Grabowski, D.C., Intrator, O., and Mor, V. (2006). The effect of state Medicaid case-mid payment on nursing home resident acuity. *Health Service Research, Vol. 41 (4 Pt.1)*: 1317-1336.

Frederickson, G. H., and Smith, B. K. (2003). *The Public Administration Theory Primer.* Westview Press, Colorado.

Fries, B. E., *et al*. (1997). Effect of the national resident assessment instrument on selected health conditions and problems. *Journal of the American Geriatrics Society, Vol.45*: 994-1001.

Gertler, P. J. (1992). Medicaid and the cost of improving access to nursing home care, *Review of Economics and Statistics, Vol. 74 (2)*: 338-345.

Gertler, P. J. (1989). Subsidies, quality, and the regulation of nursing home. *Journal of Public Economics, Vol. 38*: 33-52.

Gertler, P. (1984). *Structural and behavioural differences in the performance of proprietary and not-for-profit organization*. Mimeo.

Gertler, P. J., and Waldman, D. M. (1992). Quality-adjusted cost functions and policy evaluation in the nursing home industry. *Journal of Political Economy, Vol. 100 (6)*: 1232-1256.

Gomez-Ibanez J., and Meyer J. (1993). *Going Private: The International Experience With Transport Privatization.* Brookings Institution Press,

Washington, DC.

Hakit21(2010). *Kaigonintei Shinsakai towa? (What is CLAC?).* Local Care Information System, Hyogo Prefectural Government, Japan. http://www.hakit21.ne.jp/system/main15.htm, Aug, 2010.

Hansmann, H. (1980). *The role of nonprofit enterprise. Yale Law Journal, Vol. 89 (5):* 835-901.

Harrington, C. (2001). Regulating nursing homes: Residential nursing facilities in the United States. *BMJ Sep*, pp. 507-510.

Hawes, *et al*. (1997). The OBRA-87 nursing home regulations and implementation of the Resident Assessment Instrument: Effects on process quality. *Journal of the American Geriatrics Society, Vol.45*: 977-985.

Health and Welfare Statistics Association, Japan (2008). *Kaigo saabisu jouhou no kouhyou seido (The system of care service information).* Ministry of Health, Labour, and Welfare, Government of Japan, Tokyo.

Health and Welfare Statistics Association, Japan (2007). *Toukei de wakaru kaigohoken (Statistics of Long-Term Care Insurance)*. Ministry of Health, Labour, and Welfare, Government of Japan, Tokyo.

Hebert, L. E., *et al*. (2003). Alzheimer disease in the US population prevalence estimates using the 2000 census. *Arch Neural, Vol.60 (8)*: 1119-1122.

Heinrich, C., and Lynn, L. Jr. (2000). *Governance and Performance: New Perspectives.* Georgetown University Press, Washington, D.C.

Hersch, P. L. (1984). Competition and the performance of hospital markets. *Review of Industrial Organization, Vol. 1 (4)*: 324-340.

Hirth, R. (1999). Consumer information and competition between nonprofit and for-profit nursing homes. *Journal of Health Economics, Vol. 18:* 219-240.

Hood, C. (1991). A public management for all seasons? *Public Administration, vol. 69*: 3-19.

Hughes, O. (1998). *Public Management and Administration.* Macmillian, Melborne.

Impress Watch (2009). *Panasonic minsei robotto jigyou de 2015nen ni 1,000okuen mezasu (Panasonic, aiming at 100 billion yen service robot sales in 2015)*. http://kaden.watch.impress.co.jp/docs/news/20091016_321906.html, Sep, 2010.

Institute of Medicine (IOM) (1986). *Improving the quality of care in nursing homes.* National Academy Press,Washington, DC.

James, E., and Rose-Ackerman, S. (1986) *The Nonprofit Enterprise in Market Economics*. Harwood Academic Publishers, London.

Japanese Association of Certified Care Workers (2005). *Kaigofukushi-shi no Jittai chousa (a survey of certified care workers)*. Japanese Association of Certified Care Workers, Tokyo.

Japan Logic Machine (2010). *Kaigo robotto Yurina (Care robot Yurina).* http://www.twendyone.com/concept_e.html, Oct, 2010.

Japan Society for the Promotion of Machine Industry (2008). *RT ni yoru sangyou hakyuu-kouka to shijou-bunseki nikansuru chousa (Market Research on Industrial Ripple Effect by Robot Technology*). Technical Research Institute, Tokyo.

Kadoya, Y (2010). Managing the Long-Term Care Market: the Constraints of Service Quality Improvement. *Japanese Journal of Health Economics and Policy, Vol. 21 (E1)*: pp.247-264.

Kasuno, K. (1997). *The History and Theory of Social Welfare: from Elizabeth Poor Law to Social Security.* Nishi-nihon Publishing (in Japanese),Tokyo.

Kawamura, M (2008). *Kaigo Kaigo-roudou chousa-kenkyu project 1 cyuukan-houkoku (Care Labour Force Survey Research Project 1 Intermediately-Report).* http://www.econ.hokkai-s-u.ac.jp/~masanori/2008.09kaigo00, February, 2010.

Kesseler, D. P., and McClellan, M. B. (1999). Is hospital competition socially wasteful? *National Bureau of Economic Research working paper No.7266.* Cambridge,M.A.

Kettl, D. (2000). *The Global Public Management Revolution: A Report on the Transformation of Governance.* Brooking Institution, Washington, D.C.

Kettl, D. (1993). Public Administration: The State of the Field, Political Science, *in* Ada Finifter (ed), *The State of the Descipline.* The American Political Science Association, Washington, D.C.

Kettl, D. (1988). *Government by Proxy: (Mis) Managing Federal Programs.* Congressional Quarterly Inc, Washington, D.C.

Knichman, J. R. and E. K. Snell (2002). The 2030 Problem: Caring for Aging Baby Boomers. *Health and Experimental Research, Vol. 37:4*, pp. 849-884.

Kübler-Ross (1969). *On Death and Dying*. Touchstone, New York.

Kuno Laboratory (2010). *Kaigoshano Koudou to Shuuhenkankyou no Keisoku ni Motozuita Jiritsu Idou Kuruma-isu (Robot Wheelchair recognizing the behaviour and circumstance of care givers)*. Saitama University, Saitama. http://www.cv.ics.saitama-u.ac.jp/research/WheelChair.pdf, Oct, 2010.

Landau, M. (1973). On the Concept of a Self-Correcting Organization. *Public Administration Review, Vol. 33 (6):* 536.

Lane, J-E. (1993). *The Public Sector: Concepts, Models and Approaches.* Sage, London.

Li, L., and Ziemba, R. (2009). *Direct Care Workers in the United States: Challenges in Recruitment, Retention and Training*. The 19th International Association of Gerontology and Geriatrics (IAGG) Congress 2009, July 5-9th, 2009, Paris.

Li, W., and Xu, L. (2004). The Impact of Privatization and Competition in the Telecommunications Sector around the World. *Journal of Law and Economics Vol. 47*, No. 2, pp. 395-430.

Lipsky, M. (1980). *Street-Level Bureaucracy*. Russell Sage Foundation, N.Y.

Luft *et al*. (1986). The role of specialized clinical services in competition among hospitals. *Inquiry, Vol. 23*: 83-94.

Luther, M. (1520). *To the Christian Nobility of the German Nation. Religious Encyclopaedia.*
http://www.ccel.org/ccel/luther/first_prin.v.i.html?highlight=to,the,christian,nobility,of,german,nation#highlight,May, 2007.

Lynn, L., Jr., Heinrich, C., and Hill, C. (2001). *Improving Governance: A New Logic for Empirical Research.* Georgetown University Press, Washington, D.C.

Lynn, L. Jr., Heinrich, C., and Hill, C. (2000). Studying Governance and Public Management: Challenges and Prospects. *Journal of Public Administration Research and Theory, Vol. 10 (2)*: 233-261.

Lynn, L. Jr., Heinrich, C., and Hill, C. (1999). *The Empirical Study of Governance: Theories, Models, Methods.* Presented at the Workshop on Models and Methods for the Empirical Study of Governance, University of Arizona, Tucson, Arizona, April 23th -May 1st, 1999.

Megginson, W. L. and Netter, J. M. (2001). From State to Market: A Survey of Empirical Studies on Privatization. *Journal of Economic Literature, Vol. 39 (2)*: 321-369.

Mehdizadeh, S., and Applebaum, R. (2005). A review of nursing home resident characteristics in Ohio. *Scripps Gerontology Center Report Series1-18.*

Merton, R. (1952). Bureaucratic structure and personality, *in* Merton R. *et al* (eds), *Reader in Bureaucracy*. Free Press, Glencoe, III, N.Y.

METI (2010). *2035nen ni muketa robotto sangyou no shourai shijou yosoku (Market forecast of robot industry in 2035).*
http://www.meti.go.jp/press/20100423003/20100423003-2.pdf, Nov, 2010.

METI (2009). *Sangyou kouzou bijon 2010 (Industrial structure vision 2010).* http://www.meti.go.jp/committee/summary/0004660/index.html,Sep, 2010.

Milward, H. B. (1996). Symposium on the Hollow State: Capacity, Control, and Performance in Interorganizational Setting. *Journal of Public Administration Research and Theory (April)*: 193-314.

Milward, H. B. (1994). Implications of Contracting Out: New Roles for the Hollow State, *in* Patricia Ingraham and Barbara Romzek (eds), *New Paradigms for Government: Issues for the Changing Public Service*. Jossey-Bass, San Francisco.

MHLW (2010a). *Kongo no kaigo jinzai ikusei no arikata ni kannsuru kentoukai chuukan matome (Interim Summary of the Investigation Commission on Care Worker's Training).* http://www.mhlw.go.jp/stf/houdou/2r9852000000jxj2-img/2r9852000000kg8o.pdf, Nov 2010.

MHLW (2010b). *Kaigo fukushi-shi no gaiyou (Overview of Certified Care Worker).* http://www.mhlw.go.jp/general/sikaku/25.html, Oct 2010.

MHLW (2009). *Fukushi, kaigo jinnzai kakuho taisaku nituite (Countermeasure to secure the human resource on welfare and care industries).* http://www.mhlw.go.jp/seisaku/09.html, Nov 2010.

MHLW (2008a). *Heisei 18 nendo Kaigokyuufu jittaichousa houkoku (Report on the payment of long-term care insurance's benefit 2007).* Health and Welfare Statistic Association, Tokyo.

MHLW (2008b). *Kaigo shokuin no youtuu tou kennkoumonndai ni kakawaru fukushi yougu riyou chousa (The usage of welfare equipment on care worker's health issues such as back pain).* MHLW, Tokyo.

MHLW (2007). *Heisei 18 nendo kaigo saabisu shisetsu/jigyousho chousa kekkano gaiyou (The research on long-term care providers 2007).* http://www.mhlw.go.jp/toukei/saikin/hw/kaigo/service06/kekka1.html, August 2008.

MHLW (2006a). *Chiiki micchakugata saasbisu niokeru jikohyouka oyobi gaibuhyoukano jisshinituite (Request on the self-evaluation and mandatory third-party evaluation for community-based care services).* http://www.mhlw.go.jp/shingi/2006/10/dl/s1005-7b01.pdf, December 2008.

MLHW (2006b). *Ninchi-shou koureisha Group Home riyou-sha futan (The Users' Expense of Group Home for elderly with dementia).* Asahi newspaper. http://www.asahi.com/life/update/0312/001.html, Oct, 2010.

MHLW (2006c). *Shugyou hoken-shi, Josan-pu, kango-shi, jun-kango-shi (Public Health Nurse, Maternity Nurse, Certified Nurse, and Assitant Nurse on duty).* http://www.mhlw.go.jp/toukei/saikin/hw/eisei/06/kekka1.html,Nov 2010.

MHLW (2002). *Long-Term Care Insurance in Japan.* http://www.mhlw.go.jp/english/topics/elderly/care/index.html, Sep 2010.

MHLW(2000). Social Security Systems Throughout the World, Annual Reports on Health and Welfare 1998-1999. *Social Security and National Life, Vol. 2, White Paper.* MHLW, Tokyo.

MHLW (1996). *Jun-kangofu mondai chousa kentoukai houkoku no gaiyou (Summary of the report on the issue of Assistant Nurse)*. MHLW, Tokyo.

MHLW (1995). *The Comprehensive Survey of the Living Conditions of People on Health and Welfare*. MHLW, Tokyo.

Morozumi, R. (2007). *Quality of Care in Japanese Group Homes for the Elderly with Dementia: Synergy of Facility Services and Medical Services. Working Paper No. 216.* Faculty of Economics, University of Toyama.

Musgrave, R. (1959). *The theory of public finance: A study in public economy.* McGraw-Hill, London.

Musgrave, R. (1957). A multiple theory of budget determination. *Finanzarchiv, Vol. 17 (3)*: 333-343.

Naegele , G. (2009). *15 years Long-Term Care Insurance in Germany : Time for an interim evaluation –After the refom is before the (next) reform*. The 19th International Association of Gerontology and Geriatrics (IAGG) Congress 2009, July 5-9th, 2009, Paris.

Nanbu, T. (2000). Kaigo saabisu sangyo he no kotekikaigohoken donyu no keizaitekikiketsu (Economic consequences of introduction of public long-term care insurance system into long-term care industry in Japan), *in* Nationnal Institute of Population and Social Security Research (IPSS) (ed), *Iryo kaigo no sangyo bunseki (Analysis of health care and long-term care industry).* Tokyo University Press, Tokyo.

National Trained Home-Helper Council (2010). *Home-helper no shikaku to shigoto (The license and task of Trained Home-Helper).* http://www3.shakyo.or.jp/hhk/helper/helper%20naiyo.htm, Oct, 2010.

NEDO (2010). *NEDO seika repouto 2010 (NEDO outcome report 2010).* http://www.nedo.go.jp/kankobutsu/pamphlets/23seika/seika/index.html, Oct 2010.

NEDO (2008). Ningen shien-gata robotto jitsuyouka kiban gijutsu kaihatsu (Developing the platform for the use of human support robot), *in* METI (ed), *21st century Robot Challenge Program*. Ministry of Economics, Trade and industry, Tokyo.

Niigata City (2008). *Kaigo hoken saabisu gaido (Long-term care insurance service guide)*. Niigata, Japan.

Nissei Life Insurance Research Institute (1998). Oubei de susumu kaigo service he no shijou mechanism dounyuu (The introduction of market mechanism into elderly care services in Western nations: International comparison and the problem of Japan). *Nissei Kisokenkyu Report 1998 (Feb),* NLI Research Institute, Tokyo.

Norton, E. C. (2000). Long-Term Care, *in* Culyer, A. J., and Newhouse, J. P. (eds), *Handbook for Health Economics, Vol. IB*: 956-994., Elserver Science B. V.. New York.

Nyman, J. A. (1994). The effects of market concentration and excess demand on the price for nursing home care. *Journal of Industrial Economics, Vol. 42 (2)*: 193-204.

Nyman, J. A. (1988). Excess-demand, the percentage of Medicaid patients, and the quality of nursing home care. *Journal of Human Resource, Vol. 23 (1)*: 76-92.

Nyman, J. A. (1985). Prospective and cost-plus Medicaid reimbursement, excess Medicaid demand, and the quality of nursing home care. *Journal of Health Economics, Vol.4 (3)*: 237-259.

O'Brien, J., Saxberg, B. O., and Smith, H. L. (1983). For-profit or not-for-profit nursing homes: does it matter? *Gerontologist, Vol. 23: 341-348.*

OECD (2009). *Population Statistics for OECD Member countries.*OECD, Paris.

OECD (2005). *The OECD Health Report: Long-term Care for Older People*. OECD, Paris.

OECD (2000). *The OECD Labour Force Statistics*. OECD, Paris.

Ostrom, V. (1989). *The Intellectual Crisis in American Public Administration*. University of Alabama Press, Tuscaloosa, ALA.

Ouslander, J. (1997). The resident assessment instrument: promise and pitfalls. *Journal of the American Geriatrics Society, Vol.45*: 975-976.

Paraprofessional Healthcare Institute (PHI) (2008). *Health Coverage For Direct-Care Workers: 2008 Data Update.* http://www.directcareclearinghouse.org/.../PHI-447%20FactSheet4_singles.pdf, December, 2009.

Paraprofessional Healthcare Institute (PHI) (2010). *Fact Sheet: Who are direct-care workers?* http://www.directcareclearinghouse.org/download/NCDCW%20Fact%20Sheet-1.pdf, February, 2010.

Parkin, M., and Bade, R. (2006). Solution to Odd-Numbered Problems, Chapter 9 Organization, Production, Economics, *Canada in the Global Environment, Sixth Edition*. Pearson Education, Canada.

Peters, B. G., and Pierre, J. (1998). Governance Without Government? Rethinking Public Administration. *Journal of Public Administration Research and Theory, Vol. 10*: 35-48.

Phillips, C. D., *et al*. (1997). Association of the Resident Assessment Instrument (RAI) with changes in function, cognition, and psychosocial status. *Journal of the American Geriatrics Society, Vol.45*: 986-993.

Rahman, A., and Applebaum, R. (2009). The nursing home minimum data set assessment instrument: Manifest functions and unintended consequences-past, present, and future. *The Gerontologist, Vol.49 (6)*: 727-735.

Robinson, J. C. (1988). Market structure, employment, and skill mix in the hospital industry. *Southern Economic Journal Vol.55 (2)* : 315-325.

Robinson, J. C., and Luft, H. (1985). The impact of hospital market structure on patient volume, average length of stay, and cost of care. *Journal of Economics, Vol. 3 (1)*: 1-24.

Sakurai, M. (2008). Hieiri/EIri soshikino saabisu no shitsu nikannsuru hikakukento (The comparison between for-profit and nonprofit in care service quality). *Journal of Research on NPOBP, Vol. 10*:51-60.

Salamon, L.M. (1989). *Beyond Privatization: The Tools of Government Action*. Urban Institute Press, Washington, D.C..

Sankai, Y. (2006). *Leading Edge of Cybernics: Robot Suit HAL, SICE-ICASE.* International Joint Conference, 18-21 Oct, 2006, Busan, S. Korea.

Scanlon, W.J. (1980). A theory of the nursing home market. *Inquiry, Vol 17*:25-41.

Schmolling, P., Jr., Youkeles, M., & Burger, W. R. (1997). *Human services in contemporary America (4th ed.)*, Brooks Cole Publishing, California.

Schnelle, J. F. (1997). Can nursing homes use the MDS to improve quality? *Journal of the American Geriatrics Society, Vol. 45*: 1027-1028.

Schnelle, J. F., *et al*. (2003). The minimum data set urinary incontinence quality indicators: Do the reflect differences in care processes related to incontinence? *Medical Care, Vol. 41*: 909-922.

Selznick, P. (1949). *TVA and the Grass Roots*. University of California Press, Berkeley, California.

Shimizutani, S., and Suzuki, W. (2002). The quality of efficiency of at-home long-term care in Japan: evidence from micro-level data. *ESRI Discussion Paper Series 18*.

Shortell, S. M., and Hughes, E. F. (1988). The effect of regulation, competition, and ownership on mortality rates among hospital inpatients. *The New England Journal of Medicine, Vol. 318*: 1100-1107.

Simons, S. F., *et al*. (2003). The minimum data set weight loss quality indicator: Does it reflect differences in care processes related to weight loss? *Journal of the American Geriatrics Society, Vol. 51*: 1410-1418.

Slevin, M. L., *et al*. (1998). Who should measure quality of life, the doctor or the patient? *British Journal of Cancer, Vol. 57*: 109-112.

Sloan, F. A., and Norton, E. C. (1997). Adverse selection, bequests, crowding out, and private demand for insurance: evidence from the long-term care insurance market. *Journal of Risk and Uncertainty, Vol. 15*: 201-219.

Smith, S. and Lipsky, M. (1993). *Nonprofits for Hire: The Welfare State in the Age of Contracting*. Harvard University Press, Cambridge, MA.

Sturgess, G. (1996). Virtual government: What will remain inside the public sector? Australian *Journal of Public Administration, Vol. 55 (3)*: 59-73.

Sugahara, T (2010). Invited Counter Argument for Managing the Long-Term Care Market: The Constraints of Service Quality Improvement. *Japanese Journal of Health Economics and Policy, Vol.21(E1)*: 265.

Sugano Laboratory (2007). *Support Robot Twendy-One.* http://www.twendyone.com/concept_e.html.

Suzuki, W. (2002). Hierihoumon kaigosha wa yuri ka?(Do nonprofit care providers have advantages?). *Shakaihosho kenkyu, Vol. 38 (1)*: 74-88.

Suzuki, W., and Satake, N. (2001). Nihon no kaigo saabisu jigyo no jittai (Analysing Japanese care service industry). *Economics (Toyo Keizai Shinpo sha), Vol. 6*: 180-195.

The General Insurance Association of Japan (2002). *Songai hoken ni kannsuru zenkoku chousa sougou houkokusho (National Comprehensive Report regarding Insurance)*. The General Insurance Association, Tokyo.

The Life Insurance Association of Japan (2002). *Seimeihoken jigyou gaiikyo (Outline of Insurance Business).* http://www.seiho.or.jp/data/statistics/index.html, June, 2010.

Thomas, G. (2006). *Performance Measurement, Reporting, Obstacles and Accountability: Recent Trends and Future Directions.* ANU E Press. http://epress.anu.edu.au/anzsog/performance/pdf/performance-whole.pdf, Oct, 2010.

Tuckman, H. P., and Chang, C. F. (1988). Cost convergence between for-profit and not-for-profit nursing homes: does competition matter? *Quarterly Review of Economics and Business, Vol. 28 (4)*: 50-65.
Tullock (1970). *Private Wants, Public Means.* Basic Books, New York.

Uman, G. (1997). Where's Gertrude? *Journal of the American Geriatrics Society, Vol. 45*: 1025-1026.

Unicharm Humancare (2010). *Nyou kyuuin robotto humany (Humany, urine aspiration robot)*. http://www.humany.jp/index.html, Nov, 2010.

United Nations (2008). *World Population Prospects: The 2008 Revision Population Database.* http://esa.un.org/unpp, 19th May, 2009.

University of Tokyo (2008). *Kourei-sha tou no kaitekide sukoyaka-na seikatsu wo sasaeru 'omoidashi gijutsu shien' no happyou (Press release on the reminding support that helps the comfortable life of elderly people).*
http://www.irt.i.u-tokyo.ac.jp/pressrelease/irtomoi.pdf, Oct, 2010.

Vogel, E. F (1979). *Japan as Number One: Lessons for America*, Harvard University Press, Mass. U.S.A.

Wada, K., Shibata, T., Musha, T., and Kimura, S. (2008). Robot Therapy for Elders Affected by Dementia: Using Personal Robots for Pleasure and Relaxation. *IEEE Engineering in Medicine and Biology Magazine, July/August*: 53-60.

Welfare and Medical Service Agency (2010a) Home page
http://www.wam.go.jp, Dec, 2010.

Welfare and Medical Service Agency (2010b). *Kaigo-hoken seido kankei no kaigo jujisha no shikaku (Care worker's licenses of Long-Term Care Insurance System).* http://www.wam.go.jp/wamappl/bb05Kaig.nsf/0/41b148c659e3ac3849257759001e74fd/$FILE/20100707_1shiryou3_3.pdf, Nov, 2010.

Weller, P., Bakvis, H., and Rhodes, R.A.W. (1997). *The Hollow Crown: Countervailing Trends in Core Executives*. Macmillan Press LTD, London.

Weisbrod, B. A. (1980). Heteroscedasticity-Consistent Covariance Matrix Estimator and a Direct Test for Heteroscedasticity. *Econometorica, Vol. 48 (4)*: 817-837.

Wholey, S. J., and Newcomer, E. K. (1997). Clarifying Goals, Reporting Results, *in* Newcomer, E. K.(ed), *Using Performance Measurement to Improve Public and Non-profit Programs:New Directions for Evaluation*. Jossey-Bass, San Francisco.

Wiener, J. M. *et al*. (2007). *Quality Assurance for Long-Term Care: The Experiences of England, Australia, Germany and Japan.* AARP, Washington D.C.

Wilmoth J. R. (1998). The future of Human Longevity: A Demographer's Perspective. *Science, Vol. 280*. pp. 395-397.

Wilson, J. C., and Jadlow, J. M. (1982). Competition, profit incentives, and technical efficiency in the provision of nuclear medicine services. *The Bell Journal of Economics, Vol 13*. pp. 472-482.

World Bank (2005). *World Development Indicators Database.* World Bank, Washington, D.C.

Yin, R. (2002). *Applications of Case Study Research Second Edition (Applied Social Research Methods Series Volume 34)*.Sage Publications.

Yomiuri Newspaper (2010). *Robotto jigyou nihon no 'oiegei' katsuyou Canon (Canon, utilising robot, 'Japan's hallmark')*, 21st Sep, 2010.

Yomiuri Online (2010). *Robotto suit rihabiri wo sapoto (Robot suite supports rehabilitation).* http://job.yomiuri.co.jp/news/ne_10082004.htm, Oct, 2010.

Zhou, Y., and Suzuki, W. (2004). Nihon no houmonkaigoshijo niokeru shijosyucyudo to kouritsusei (The correlation among the market centralization, efficiency and service quality in Japanese care market). *Japan Economic Research, Vol. 49 (3)*: 173-187.

Zins, C. 2001. Defining human services. *Journal of Sociology and Social Welfare, vol. 28, no. 1*, pp. 3-21.

Zontek, T. L., Isernhagen, J. C., and Ogle, B. R. (2009). Psychosocial factors contributing to occupational injuries among direct care workers. *Official Journal of the American Association of Occupational Health Nurses, Vol. 57(8)*: 338-347.

Zwanziger, J., and Melnick, G. (1988). The effects of hospital competition and the Medicare PPS program on hospital cost behaviour in California. *Journal of Health Economics, Vol. 7*: 301-320.