<특별기고>

Nursing Strategies for the Quality Assurance from the Current Situation of Home Care in Japan and Research Trends

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Objectives

Needs in home care have been increasing with a rapidly aging society in both Japan and Korea. Attention to quality assurance and efficiency are important in the progress of home care while expanding the care system and services. In this paper, focus will be placed on the quality assurance of home care in Japan. From the aspects below, issues in studies and nursing strategies will be discussed.

• Issues of care quality assurance from the aspect of international research of home care and research trends in Japan

• Issues of care quality assurance from the aspect of home care system and home care service

• Improvement in implementation based on research evidence and proposal of policies

International Research Trends in Home Care and Issues in Japan based on Japanese Research

<Figure 1> shows the international research studies on home care. The left graph indicates the studies on the user side of home care services, and the right graph indicates the studies
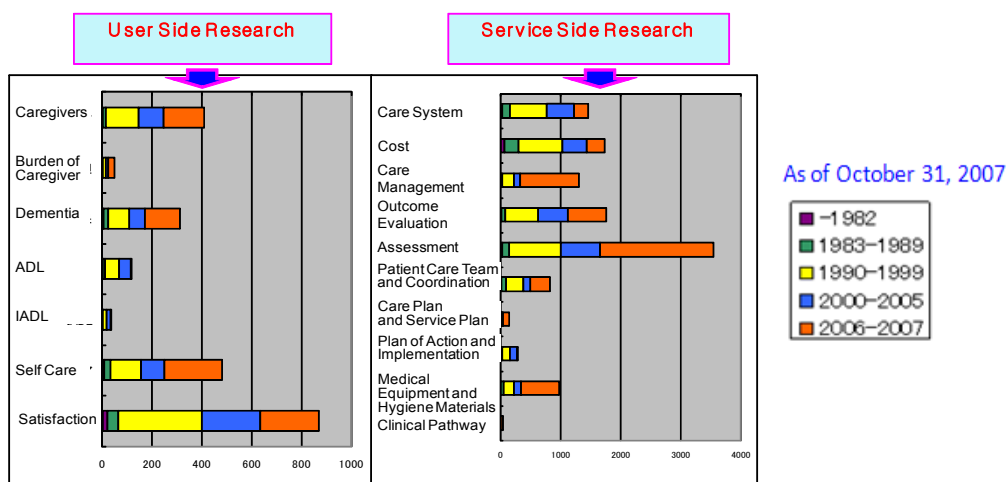
<Figure 1> International research trends in home care(PUBMED)

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on the service side. As a trend in international research, there were only a small number of studies until 1982 for the user side and the service side. The number of studies gradually increased for the user side involving satisfaction, self care, and caregivers. In the 1990s, the number and scope of studies expanded rapidly, and the studies on services increased, in particular, those on assessment, cost, and outcome. The reason for the increase of assessment studies is thought to be the increased use of assessment as an index for measuring outcome in recent years. For Medicare in the U.S., the assessment of cases has been mandated every 2 months using OASIS since 1999. A representative example is the user outcome assessment for each home care agency through this mandate.

<Figure 2> shows research studies in Japan. Most of the user studies are on caregivers, followed by dementia and ADL. Presently, the number of studies on users and services are approximately the same. On the service side, studies on team care and system are increasing. However, there are less Japanese studies on cost and assessment than international studies. In particular, there are only a small number of studies on cost. The reason for this situation is because the Japanese home care system began in 1983. Since there was a delay in establishing this system, it was necessary to place priority on the user research first. Therefore, the service research was delayed. It is essential to actively perform studies on satisfaction, cost, and outcome which are presently insufficient in Japan. It is also essential to examine plans and propose policies to improve the quality of system and care and to stabilize the management of care.

Population in Japan — Aging Population —

<Table 1> shows information on the aging population in Japan and people requiring care. People 65 years or older account for 21.3% of the entire population, and 15.7% of these people have been approved for long term care insurance. These people are subjects for home care or long term care in facilities. Other subjects of home care are children, adult and elderly with health insurance for medical needs.
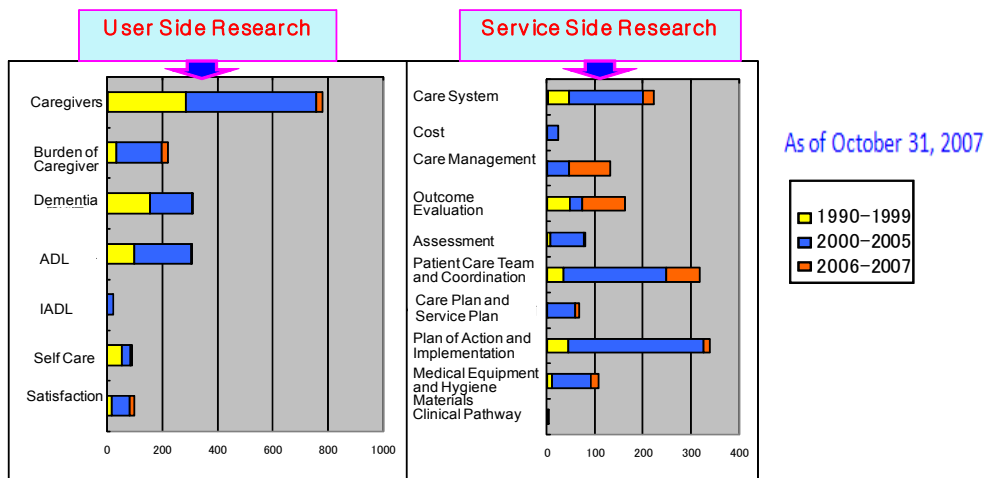
<Table 1> Population and aging in Japan

	(Million)
Total Population	127.8
Population 65 years or older	27.18
Percentage of people 65 years older in the total population	21.3%
Long Term Care for people 65 years or older (including Support) Number of People Approved for Long Term Care Insurance	4.27
Percentage of people approved for Long Term Care Insurance in the elderly population	15.7%

(From the Ministry of Health, Labour, and Welfare: May 2007)

Home Care Systems in Japan and Years Implemented

<Table 2> shows the home care systems and the years they

<Figure 2> Japanese research trends in home care(Japanese centra revuo medicina)

were implemented: (1) health insurance was implemented in 1983, and visiting nurse stations under the health insurance were implemented in 1992, and (2) long term care insurance was implemented in 2000.
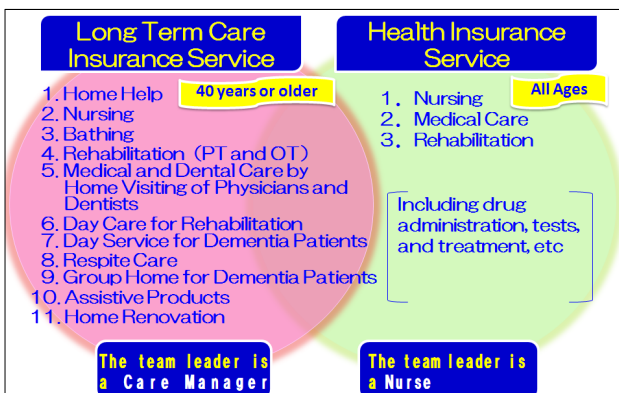
<Table 2> Home care act and years implemented

1. Health Insurance (All Citizen)	1983
(Visiting Nurse Stations)	(1992)
2. Long Term Care Insurance (for 40 years or older)	2000

Home Care Services in the Long Term Care Insurance System and Health Insurance System

System for Home Care Use

As shown in <Figure 3>, there are 2 types of systems for home care services. The long term care system is for people 40 years or older. The health insurance system is a medical insurance, and it is for people of all ages. People who require home care can receive services from one of the two insurance systems. The team leader for long term care insurance is a care manager and for medical insurance is a nurse. A few percentages of the patients of visiting nurse stations are users of these insurances.
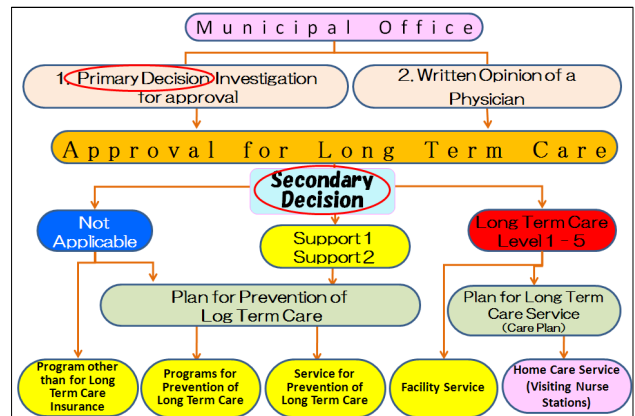

<Figure 3> Home care services in the long term care system/heath care system

Application for Long Term Care Insurance

<Figure 4> shows the pathways to services in the long term

care insurance system. First, the person himself/herself submits an application to the municipality in which he/she resides. After the submission of the application, the municipality will conduct an investigation. As shown in (1) in the figure, a computer makes the primary decision regarding the level of long term care. In addition, a written opinion of a physician (2) is used, and 5 specialists from different occupational fields make the secondary decision. The level of long term care is determined in this manner. The levels range from minor support level 1 to major long term care level 5 (for bedridden patients), and these levels are subjects of services. The patients who are subjects of visiting nursing care are indicated in Long Term Care Level 1-5. If these people are linked with the visiting nurse stations, then nursing care can begin.

<Figure 4> Pathways to service in long term care

Payment Limit for Long Term Care Insurance: Limit on One Month of Service Fees by Long Term Care Levels

<Table 3> shows the payment limit for one month of service fees by long term care levels. The monthly payment limit for the most minor care is approximately 50,000 yen. The monthly payment limit for the most major care is approximately 360,000 yen. The care manager consults with the user and his/her family to determine services and prepare a care plan, and the user can receive services up to the payment limit. The out-of-pocket expense is 10% of the total expense. If the user makes additional payments, he/she can receive more services. However, this type of user is rare. In 2 years and 4 months during 2002-2004, the number of people receiving support increased 2.2-2.4 fold. The number of people approved

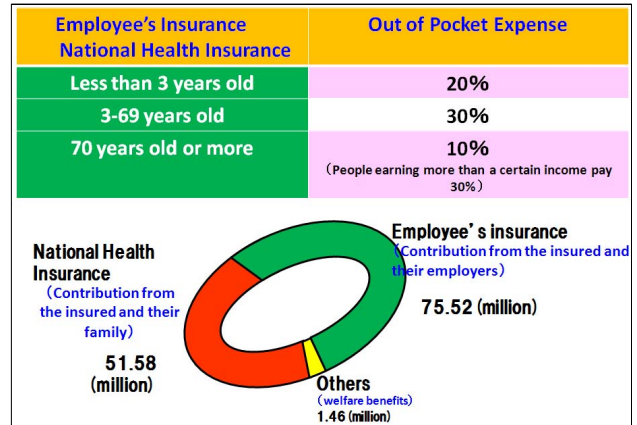for long term care insurance increased 1.8 fold.

<Table 3> Service fee in the long term care system

Long Term Care Levels	Time for Meeting Long Term Care Requirement Required time for care/day	Out-of-pocket expense 10% One-Month Payment Limit 1 yen=7.8 won	
		Yen	Won
Support 1	Within 25~30 min	49,700	388,584
Support 2		104,000	813,134
Long Term Care 1	Within 30-50 min	165,800	1,296,323
Long Term Care 2	Within 50-70 min	194,800	1,523,062
Long Term Care 3	Within 70-90 min	267,500	2,091,473
Long Term Care 4	Within 90-110 min	306,000	2,392,489
Long Term Care 5	110 min or more	358,300	2,801,401

(31st. Oct 2007)

Health Insurance System

Health insurance system is for all ages, and it can be used for hospitals, clinics, and home care when medical care is necessary. The patient's out-of-pocket expense is 10-30% of the total expense depending on the patient's age. The expenses include those for hospitalization, medical examinations, tests, treatment, surgery, nursing care, rehabilitation, and drugs. Therefore, health insurance is also called "medical insurance." Employees' insurance shown in the figure below is for people who are employed and working. The national health insurance is for elderly who are retired and for children and self-
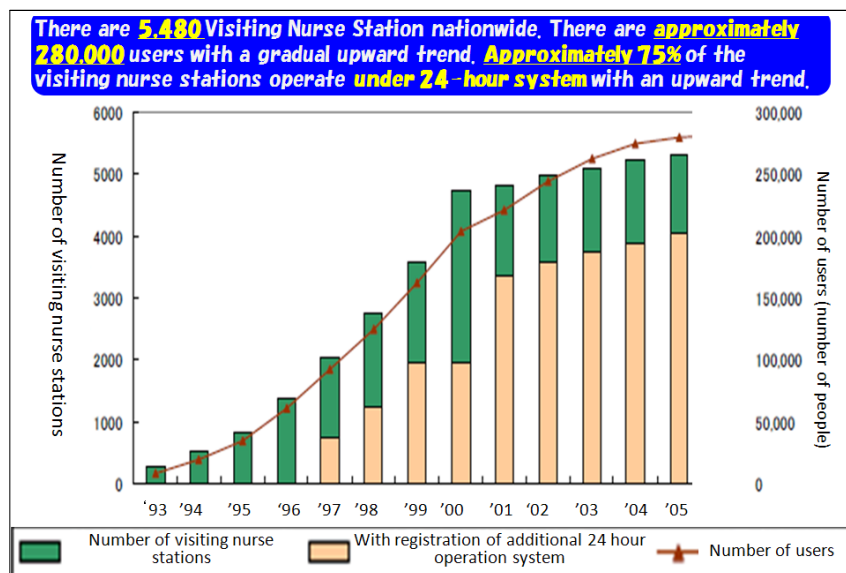
employed people.

<Figure 5> Health care insurance system

Changes in the Number of Visiting Nurse Stations and the Numbers of Service Users

Presently, there are 5480 visiting nurse stations as shown in <Figure 6>. There are 280,000 service users in the broken-line graph. Seventy-five percent of the stations operate under a 24-hour system and are shown in orange. This 24-hour system is a burden for nurses.

Care Management in the Long Term Care Insurance System

<Figure 6> Number of visiting nurse stations and number of users

Qualification Requirements of Care Managers

As shown in <Table 4>, a care management system by care managers was started under the long term care insurance system in 2000. To be a care manager, one must have at least 5 years of experience, pass a written test given by prefectures, and then receive training. As shown in the pink box, the characteristic of care managers in Japan is that they consist of people with various occupations.

<Table 4> Care manager in the long term care system

≪Qualification Requirements of Care Manager≫
At least 5 years of experience in healthcare or welfare fields

Physicians, Public Health Nurses, Nurses, Midwives, Practical Nurses, Physical Therapists, Occupational Therapists, Care Workers, Home Helpers, Nutritionists, Dentists, Pharmacists, Social Workers, Dental hygienists, Moxibustionists, Acupuncturists, Judo Therapists, Orthoptists, Prosthetists, and Orthotists

Problems in Care Management

<Table 5> shows the problems in care management.

<Table 5> Problems in care management

1. Since care managers are comprised of people with many different occupations, there are **differences in the quality of management** among care managers. In addition, care managers are paid **low wages**, and it **is difficult to assure quality of management** for Japanese citizens.

2. The scope of **management work is too large.**
(Each manager is in charge of 30-50 cases. The managers assess, plan care, coordinate visiting services, perform record keeping, and submit written claims for service charges.)

3. The monthly fee per case is low for care managers. The fee for one nursing care visit is slightly higher than 8300 yen (6500 won), and therefore, it is difficult **to ensure competent care managers.**

4. Too much time is required **for liaison and coordination since professionals are from different institutions.**

Occupations of Care Managers Affect the Outcome of Users

Our research group performed a study with a hypothesis that the care manager's occupation affects the outcome of the users.

The results of this study indicated that the occupation affected the outcome. Six care levels were examined, including a support level and long term care levels 1~5. A case study was performed with a total of 666 cases and involved their outcome data. It also involved 111 care managers. Outcomes were compared after routine services were provided. The care managers consisted of 52% nurses, 34% social workers, and 14% others. The improvement rate of the user outcome was significantly higher when the care manager was a nurse(shown in pink) than for other occupations in 4 ADL categories and 5 symptom items. This difference is apparent after only 2 months. Therefore, if data are collected over a longer period of time, the differences are expected to widen. Improvements in users were seen for the nursing care professionals because they had many assessment categories, plans with many types of services, and a combination of individual care and group care. These conditions were thought to have led to good results for nursing care professionals. This result indicated that as many nursing care professionals as possible should become care managers. Although the number of nurse care managers should be increased in the future, the difficult problem of low wages remains. In other advanced countries, the care managers are nursing care professionals or social workers. However, in Korea, it was decided that care managers must be nurses. We believe that this is a very good decision.

<Table 6> Comparison of users outcome improvement rates by professional occupation type in care management

Subjects		Improvement Rates (%) X² test: *P<0.05 , **P<0.01				
		Professional occupations	Nursing professionals	Social service workers	Others	Significant Difference
Outcomes Categories		Number of people with professional occupations	58	38	15	
		Number of users	258	193	101	
Outcomes	ADL	Toileting	12.6	2.4	6.5	*
		Level of the elderly (JABC)	7.8	2.6	4.1	*
		Mobility	6.0	0.6	6.9	*
		Grooming	5.1	0.0	2.9	*
	Symptoms	Bedsores	52.4	5.6	0.0	**
		Degree of pain	19.0	4.0	7.4	**
		Frequency of pain and duration	15.3	4.0	5.7	**
		Breathing	15.1	4.3	2.9	*
		Incontinence	9.7	0.0	4.9	*

Research by Setsu Shimanouchi (2002)

Advantages for users of the home care system in Japan

<Table 7> Merits for users of the home care syste in Japan

1. Either Long Term Care Insurance (for people 40 years or older) or Medical Insurance (for all ages) can be used based on health condition and disability.

2. Facility providing services can be selected.

3. The types of services are diversified and the selection is large for long term care insurance.

   However, the burden for family caregivers is large especially if the patient requires major care or medical treatment.

Proposals for Additional Visiting Nursing Fees based on Research Evidence and for New Fees

Problems exist for visiting nursing care such as low wages and overworked conditions of a 24-hour system. Therefore, as shown in <Figure 7>, proposals of policies were made for additional visiting nursing fees and new fees to resolve these problems.
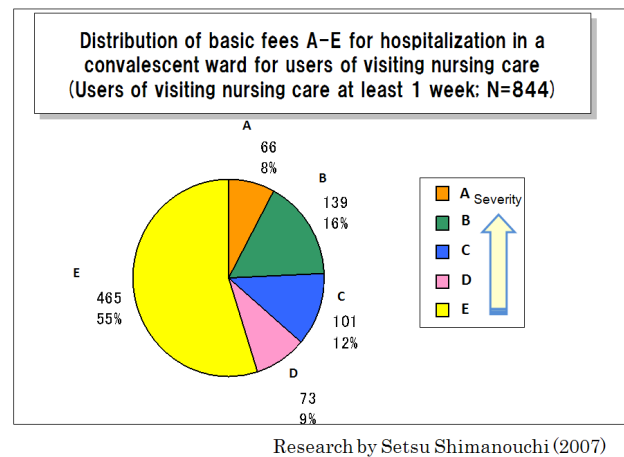
1) Japan Academy of Community Health Nursing established a Committee for the Social Insurance Union Societies Related Nursing to demand additional fees for nursing services and new fees.

2) Reviewed by the Social Insurance Union Societies Related Nursing

3) Demanded additional visiting nursing fees and 3 new fees to the Ministry of Health, Labour, and Welfare.

<Figure 7> Proposals to the ministry of health, labour and welfare for adding establishment of visiting nurse fee(July 1997)

Additional Fees in the Medical Insurance based on the Extent of Visiting Nursing Care

The first demand is the additional fees in the health insurance based on the extent of visiting nursing care. For the long term care insurance, the visiting nursing care is 8,300 yen per hour for 1 visit. It is 5,500 yen for health insurance. Even if the same nurse performs the visits, the difference is 3,000 yen.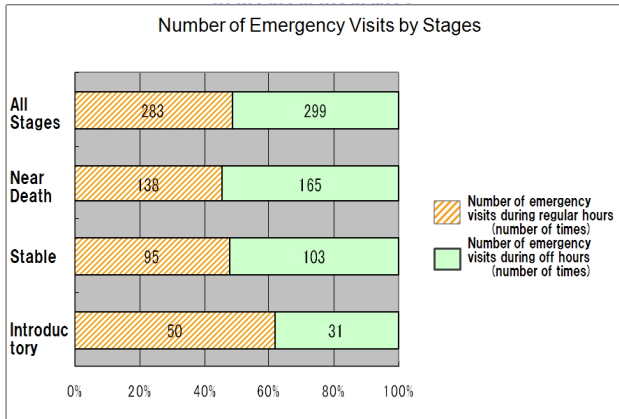 To correct this inconsistency, a distribution survey of severity of patient condition was conducted on subjects of visiting nursing care. In hospitalized patients of long term care wards, fees are established based on the severity of their condition in the long term care insurance system. The results of the distribution survey indicated that people with mild condition E accounted for 53% of the subjects as shown in <Figure 8>. Other levels of severity were distributed from A to D. The severity increases toward A, and more severe patients required more advanced skills, longer direct care, and 2-3 times indirect care time for service coordination and adjustment, travel time for visits, and management time for record keeping. Therefore, E was established as the basic fee for one nursing visit which was 8,300 yen per hour as in the long term care insurance. A fee system was demanded in which additional fees were placed on this basic fee depending on the severity for A, B, C, and D.

Distribution of basic fees A–E for hospitalization in a convalescent ward for users of visiting nursing care (Users of visiting nursing care at least 1 week: N=844)

Research by Setsu Shimanouchi (2007)

<Figure 8> Additional visiting nursing fee according to the level of severity

Additional Visiting Nursing Fee for Out of Day Time Care in the Medical Insurance

The second demand is the additional fees for off-hour visiting nursing care. As shown in <Figure 9>, the percentage of emergency visits during regular working hours and during off-hours is approximately 50% each. For early morning and night time off-hour visits, the long term insurance fee includes an additional 25% over the 8,300 yen basic fee. It includes an additional 50% for late night hours. Therefore, additional fees were demanded for health and medical insurance similar to those in the long term care insurance for off-hour care.
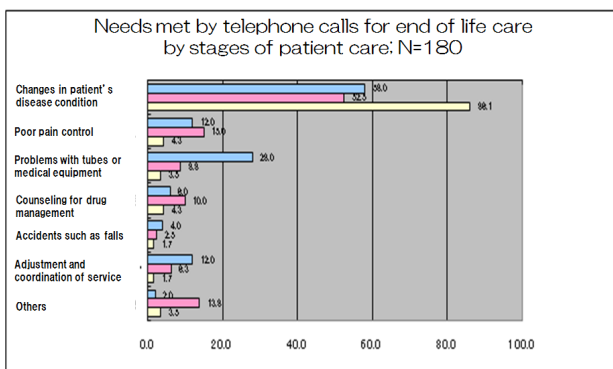
Number of Emergency Visits by Stages

Research by Setsu Shimanouchi (2004-2005)

<Figure 9> Additional visiting nursing fee for out of day time care in medical insurance

Establishment of New Emergency Telecounseling Fees during the First 7 Days and the Last 10 Days of End of Life Home Care

The third demand is for telephone counseling fees for end of life care. According to the survey results, there are many emergency telephone calls during the introductory stage of home care and the near death stage as shown in <Figure 10>. Furthermore, the duration of calls is long. Some needs were met by professional response by phone without visits as shown in the figure. A demand was made for a new nursing care fee for calls from the patients or family members during the first 7 days of introductory stage and during the last 10 days of end of life care.

Research by Setsu Shimanouchi (2004-2005)

<Figure 10> Establishment of telecounseling fees during the first 7 days / last 10 days in end of life home care

Improvement Methods of Care at Home Care Sites based on Research Evidence and Spreading the Use of these Methods

Our research group conducts studies on quality assurance of care by measuring the outcome of users. We discuss here quality assurance of care based on 3 of these studies.

Subjects of Long Term Care Insurance for Home Care: Outcome Indices and Care Items Affecting their Health Conditions and Improvement of Independence levels, and Care Process

First, <Figure 8> shows points involving the improvement in the level of independence outcomes for elderly patients needing home care - minor long term care (support required and care level 1). An adjustment was made for age, sex, and presence of dementia, and a logistic regression model was used for analysis. The order of improvement rates was Sweden>Japan> Finland. The items regarding care that were effective in improving the independence level were (1) to (5) in the table below.

<Table 8> Issue of care assurance based on research evidence of users outcome

Research by Setsu Shimanouchi (2004-2005)

Research Results on Development, Implementation and Spreading of Care Program for Standardizing End of Life Home Care

In the second study, the subjects of the end of life home

care program were divided into cancer and non-cancer patients, and the care stages were divided into 4 periods: introductory, stable, near death, and after death stages. At each stage, assessment, level of care implementation, and attainment of outcome were determined. When care was evaluated in this manner, it was easier to improve the outcome. In 2006, a patent application was filed for this framework computer system (Tokyo Medical and Dental University; No. 2006-299700). This system graphs changes over time and performs real-time statistical analysis. It has been published in Japanese and English on the website (http://www.cnsi.co.jp) and its use is being spread by training. The results of case studies in Korea and Japan were presented in the poster session today. In the comparison of cancer patients, even after adjusting for age, sex, and dementia, an incidence rate of needs was high for almost every 23 items of needs in Korea, and the nurses responded that there were high rates of identification of needs and high levels of difficulty. In addition, the implementation rate of care was high. Pain control had a relatively low outcome as the effectiveness of care. In both Japan and Korea, the training that is particularly needed is in "pain management," "management of physical symptoms other than pain," and "death management."

Development of Home Care Clinical Pathway and Research on Optimization

The third study was on the clinical pathway from hospital care to home care. The care professionals and users share the same goals and methods on paper or on the computer screen, and the users can participate in the planning and assessment process. The outcome assessment in the clinical pathway is placed within the red box in <Table 10>. In 2000, Chuoh Publishing Company has already published the information below. However, in this study, it has been made into computer software, graphed as time-series changes of individuals, and compared with a target value of group mean in real time. In this manner, motivation was increased, and advancement into the next step was made easier by cooperative efforts. This system is being used in patients with three disorders such as femur and hip fractures and cerebrovascular disease. With the use of this system: (1) hospital and home care organizations can share cases and strengthen cooperation, (2) standardization can be performed using the mean value from accumulating cases (target value), (3) time-series changes of individuals can be graphed and comparison with the standard value can be performed in real time, and (4) individuals can participate in the care plan and improve outcome. In Japan, if the pathway linked to home care is used in patients with hip fracture, a fee of 30,000 yen is paid during hospitalization. This fee system is being examined for expansion to cover the patients with cerebrovascular disease and cancer. For patients, this medical policy aims to improve care effectiveness and increase

<Table 9> Standardization of the end of life care program and utilization

Research by Setsu Shimanouchi (2002-2007)

<Table 10> Clinical pathway from hospital care to home care

Case with Femoral Fracture	Before hospital discharge		3 months after hospital discharge	
Schedule	XP Discharged day	Plan Implementation Rehabilitation	XP Blood Test	Plan Implementation Rehabilitation PT/OT Time/Week
Explanations	Home Assessment and Guidance Content		Explanation on the present state at the completion of house call guidance for family	
Coordination	Discharge conference Home renovation	1. Communication between hospitals and home care organization 2. Plans for discharge and after discharge 3. Confirmation of service after discharge Participants (physicians, nurses, coordination office, patients, and patients' families) Unnecessary/Necessary	**Visiting service** Visiting nursing care Necessary Visiting long term care Necessary Visiting bathing service Necessary Ambulatory day service Necessary **Day service** Day care Necessary Respite car Necessary	**Times/week** /week Unnecessary /week Unnecessary /week Unnecessary /week Unnecessary /week Unnecessary /week Unnecessary

Outcome Indicators

Case with Femoral Fracture	Before hospital discharge		3 months after hospital discharge	
Disease state and complications	Pain Fall Postoperative complications	Yes No Yes No Yes No	Pain Fall Postoperative complications Depression Dementia	
Psychiatric symptoms	Depression Dementia	Yes No Normal· I, IIa, IIb, IIIa, IIIb, IV, M	Pain Fall Postoperative complications Depression Dementia	Yes No Normal· I, IIa, IIb, IIIa, IIIb, IV, M
Range of activities			LSA Score	
ADL	eating, grooming, toileting, dressing, bathing, transferring, using stairs	Independence, supervision, partial assistance, total assistance, not performed	eating, grooming, toileting, dressing, bathing, transferring, using stairs	Independence, supervision, partial assistance, total assistance, not performed
IADL	taking medication, cleaning, cooking, laundering, shopping	Independence, supervision, partial assistance, total assistance, not performed	taking medication, cleaning, cooking, laundering, shopping	Independence, supervision, partial assistance, total assistance, not performed
Ambulation	determination of ability outdoors indoors	Independence, supervision, partial assistance, total assistance, not performed	determination of ability outdoors indoors	Independence, supervision, partial assistance, total assistance, not performed
Goal for mobility	Stand up by holding onto something		Walking with a cane	

Research by Setsu Shimanouchi (2000-2007)

patient satisfaction. For the medical professionals, this system aims to increase effectiveness and efficiency of care.

Conclusion

Quality Assurance of Care, Optimization of Future Research, and Issues for Activities in the Home Care Setting-

● Mutual Development of Home Care Sites and Research
• Routine incorporation of research results in care in home setting
• Substantiation of nursing strategies ←→ research based on strategies

• Investigation of method for mutually improving quality of research and home care sites
• Implementation of research results at home care sites and spread of use

● Issues in Japan: Perform the following from Comparison of International Research
• Advancement of cost and outcome research
• Quality improvement and optimization of care
• Proposal of policies for cost and a care system based on management analysis of visiting nursing care

It is necessary that the above issues lead to an improvement of care sites and reformation of the system.