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A Health Outcomes Approach to Evaluating Long-Term Care Facilities: Lessons from the United States

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With the number of long-term care facilities in Korea increasing substantially, their quality and evaluation system has been an issue of concern. Policy makers need to consider critical aspects relating to health outcomes and client satisfaction when evaluating quality in long-term care. This requires a substantial amount of information gathered from a system of inspection, survey, data, and feedback. This study reviews the characteristics of Online Survey Certification and Reporting system (OSCAR) and the survey instrument used by the Centers for Medicare and Medicaid Services (CMS) in the U.S. and introduces the history of the U.S. nursing home (NH) inspection/survey system. OSCAR is administered by state agencies that contract with CMS and collect data through onsite inspections of facilities approximately once per year. The major components of OSCAR data are facility characteristics, resident characteristics, and survey deficiencies including scope and severity. We discuss the strengths and weaknesses of OSCAR, the primary source of information on the performance of all Medicare/Medicaid certified facilities, including a comparison of resident health outcome evaluation measurement between Korea's assessment tool and OSCAR. Introduction of a data collection system that includes a periodic survey process similar to OSCAR may help policy makers gain a better understanding of the NH industry in Korea and address shortcomings of the system.

Key Words: Long-term care, Quality care, Online survey certification and reporting system, Korea, United States

INTRODUCTION

This is a very critical time for Korean families and society at large with regard to long-term care (LTC) for elders. In July of 2008, the Korean government introduced a LTC insurance system after three pilot projects begun in October 2005 were completed. The number of LTC facilities in Korea has been increasing substantially, growing from 1,271 in June 2008 to 1,865 in February 2009[1)]. Currently, about 1 percent of Korean elders are admitted to care facilities, and this rate is expected to increase rapidly. According to several reports, there were as many as 1,408 nursing home (NH) institutions in 2007 and 14,663 elderly Koreans aged 65 and older who potentially required care in the middle of 2008. These numbers are expected to have jumped to 11,567 NHs and 259,456 elderly Koreans by May 2009 (Fig. 1)[1)].

Despite this rapid expansion, we are inevitably facing quality-deficient facilities in terms of medical equipment, institutions, and human resources[2)]. For example, only 7% of LTC hospitals have an emergency call system, and about

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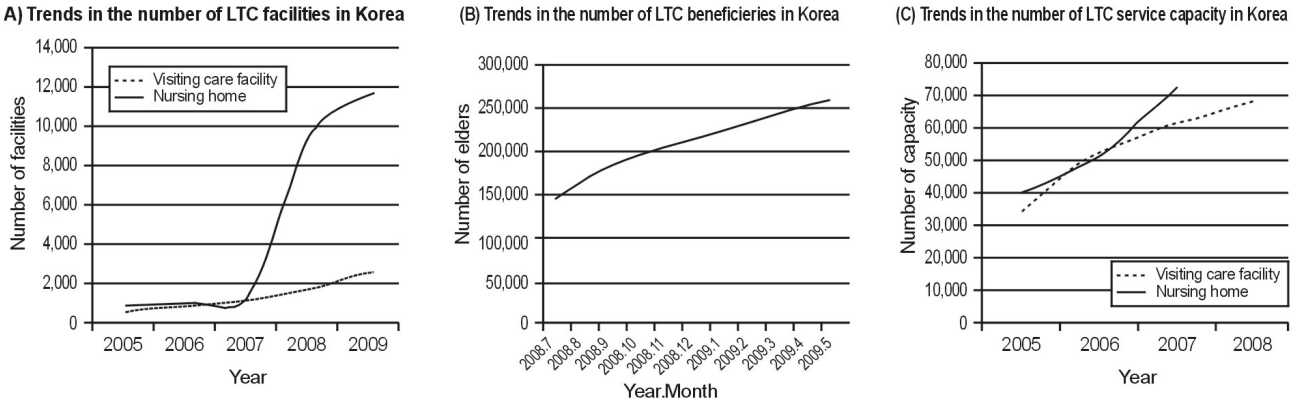

Fig. 1. Trends in (A) the number of long-term care facilities, (B) the number of long-term care beneficiaries among elderly Koreans, and (C) the long-term care service capacity in Korea.

53% of LTC hospitals have slip-resistant bathroom floors and stairs[2]. This might conceal potentially severe health outcomes of inpatients in the near future arising from preventable falls within facilities. Fall and fall-induced severe injuries are most frequently noted as an index of quality of care in facilities, and considerable research has been done with cumulative nursing home data to demonstrate its correlation with the future burden of health care spending for care beneficiaries[3].

Because of its short history, however, LTC in Korea still remains in the development phase in terms of resources, systems, and general quality of services. According to the 2007 preliminary survey on the quality of LTC facilities[4], the areas of nutritional management, training for functional recovery, leisure time activities, and health programs to prevent and manage Alzheimer's disease were considered inadequate. Additionally, small group homes with fewer than 10 residents were characterized by more quality-related problems than were other types of facilities[4].

It is a crucial transition point for Korea's formal LTC system. There are many factors that should be considered, including a proper inspection system to ensure quality of care that focuses on the well-being of residents and developing a data infrastructure that could potentially help shape formal elder care services in Korea. In particular, developing a database system where qualitative and quantitative data are collected through a structured survey, which addresses organizational structure, financing, and resident characteristics is an essential step to guide the development of a formal elder care system.

Current evaluation tools developed for care facilities and services in Korea address only the basic requirements[5]. For example, comprehensive health outcome indices rarely address the health needs of residents, in addition to lacking information on organizational structure and characteristics of patients residing in facilities. Furthermore, client satisfaction, which constitutes an important index of whether individualized services actually satisfy the needs of clients, remains unaddressed due to difficulties in establishing the validity and reliability of survey methods and tools[6].

The importance of developing a data infrastructure that can potentially be used to study and map out institutional elder care in Korea has become increasingly urgent. The introduction of the Online Survey Certification and Reporting system (OSCAR) and the survey instrument used by the Centers for Medicare and Medicaid Services (CMS) in the United States to regulate and oversee quality in NHs could help Korea make significant strides towards this goal.

This study reviews the basic characteristics of OSCAR and introduces the history of the U.S. nursing home inspection/survey system. Critical reviews of OSCAR in academic articles published from 1998 to 2008 focusing on the quality of nursing homes are assessed. More importantly, we examine the benefits of adopting and using a LTC database system like OSCAR in Korea.

WHAT IS OSCAR?

OSCAR is an administrative database maintained by CMS that collects and records the results of the state survey and certification process. All NHs certified by Medicare and Medicaid are required to submit data on facility characteristics including staffing levels, resident census and condition, and deficiency measurements. Certification also requires that NHs allow CMS inspection every nine to fifteen months so that compliance with federal and state requirements can be verified. OSCAR provides valuable information that indicates how providers are performing and meeting regulation requirements, in addition to other background information. CMS uses OSCAR as an integral component of its oversight of state agencies and NH performance[7].

HISTORY OF NH INSPECTION IN THE U.S. (DEVELOPMENT OF THE SURVEY SYSTEM)

The formal LTC industry in the U.S. has been evolving rapidly due to a growing elder population and increasing public interest. Although NH care has traditionally been at the center of the LTC industry, other care settings such as assisted living, home health care, and other forms of adult daycare have become more prevalent. NHs in the U.S. are typically residential facilities that help frail elders, unable to live independently, with daily living assistance. They provide rooms and meals and offer some medical treatment as needed. Despite the LTC industry in the U.S. being well established for many years, the quality of care provided by NHs has been an ongoing concern among the public and LTC advocates, as well as, policy makers. As concerns grew over the quality of care in NHs and indications of widespread problems within facilities arose in the late 1980s, several studies were conducted that addressed these issues[8]. These studies reinforced public concerns. One of the studies indicated that more than one-third of facilities were operating below the minimum federal standards[7]. As a result of the attention this drew from policy makers and the public, Congress passed the Comprehensive Nursing Home Reform Act as part of the Omnibus Budget Reconciliation Act in 1987[7]. This action expanded the minimum requirements that were defined for NHs to include the obtaining of a Medicare/Medicaid certification. In other words, to provide care for Medicare and Medicaid recipients and to receive reimbursement from Medicare or Medicaid, NHs were required to be certified and compliant with the minimum standards of care. Even though participation in the Medicare certification process is not federally mandated, most NHs are certified. More than 96 percent of all NHs in the U.S. are Medicare/Medicaid certified[7,9]. In 2008, there were 15,531 certified NHs in the U.S.[10] Table 1 shows the basic characteristics of certified nursing homes in the U.S. in 2008.

The prevalence of Medicare/Medicaid certification can be explained by the incentives arising from the preponderance of Medicare and Medicaid payments. Payments from Medicaid represent a large portion of all NH spending in the U.S. For example, in 2004, $46.5 billion out of $100.9 billion spent by Medicaid programs on LTC went to nursing facilities[11]. Furthermore, even though Medicare only pays for post-acute care in skilled nursing facilities (SNFs), spending on these units has been increasing at a rapid pace. In 2005, payments to SNFs accounted for 16 percent of all

Table 1. Characteristics of certified nursing facilities in the U.S. (2008)

Total number of certified nursing facilities	15,531
Total number of residents	1,388,383
Total number of beds	1,648,608
Occupancy rate	84.20%
Primary payer source	
Medicaid	64%
Medicare	14%
Private/Other	22%
Ownership type	
For-profit	67%
Non-profit	26%
Govemment oriented	6%

Source: Kaiser Family Foundation. 2008. State Health Facts.

Medicare spending[12]. It is this financial incentive that likely explains NHs' compliance with federal requirements to maintain their status as certified nursing facilities.

As part of the certification process, a facility must have had an initial survey, as well as, periodic follow-up surveys to ensure compliance. An unannounced standard survey process must be carried out at least every 15 months. The comprehensive survey system, which refers to OSCAR, was put into service in October 1991 as a replacement for the existing data system. In 1995, the number of survey requirements was reduced to 185 from 325[8].

HOW IS SURVEY DATA COLLECTED FOR OSCAR?

The survey is administered by state agencies that contract with CMS. These agencies collect the data during onsite inspections of the facilities, which take place approximately once per year (after an initial survey to verify eligibility for Medicare/Medicaid certification). Additional surveys may follow to ensure that deficiencies have been corrected, or if there have been any significant changes in the organization or management of a facility[8]. Self-reported information from the surveys is entered into the OSCAR database after it has been reviewed by the inspectors. The information undergoes verification by the state surveyors using facility reports with residents' medical records, staffing documentation, and in-depth interviews of residents in the NH[7]. After completion of each survey, the state surveyors decide whether a facility has met standard requirements. If a NH fails to meet the required standards, a deficiency citation is given and the OSCAR report notes that one or more standards were not met. As a consequence, CMS may fine a NH or deny reimbursements from Medicare or Medicaid. In addition, CMS may withdraw certification of a NH if problems are not corrected[7].

WHAT ARE THE MAJOR COMPONENTS OF OSCAR DATA?

The major components of OSCAR data are divided into facility characteristics, resident characteristics, and survey deficiencies including scope and severity. Facility characteristics include items such as the number of beds, occupancy rates, type of ownership, certification status, whether the facility is hospital-based, presence of specialty care units, payment sources, and other traits. Resident characteristics include case-mix indicators, activities of daily living (ADLs), restraint use, percent of residents with psychological diagnoses, and other special care needs of residents. Staffing information, such as nurse staffing levels (RNs, LPNs, and CNAs), is also present in the survey. This information is recorded in units of hours per resident day. Information on facility deficiencies is based on state surveyors' evaluations of processes and outcomes of care and is classified by scope and severity[7].

There are 190 deficiencies reviewed during inspections, which are broken down into 17 categories, with the extent and severity of each being assessed. Deficiencies are then recorded in OSCAR. These deficiencies undergo reviews by the states with an appeal process in place for facilities to contest[13].

WHAT ARE THE STRENGTHS AND LIMITATIONS OF OSCAR?

OSCAR is the only major source of information on staffing levels for all Medicare/Medicaid certified facilities, in addition to being the main nursing home database[14-16]. It has been a key source of information on many aspects of long-term care. In particular, numerous studies using OSCAR have shown associations between staffing levels and quality problems in NHs[14,17,18]. Furthermore, OSCAR has been an important data source for policy evaluation, influencing structural development of long-term care in the U.S.[14,16-24].

However, studies have raised concerns over the reliability and validity of data from OSCAR[15,16,23-28]. Despite the fact that OSCAR is a standardized reporting data system, it relies on self-reporting by facilities with an informal audit process, raising questions over the validity of the data. Other efforts have been made to increase data reliability and to develop a more resident-oriented survey by using in-depth face to

face interviews of randomly sampled residents, as well as, group interviews[7].

Moreover, OSCAR consists of yearly data collected at one point in time. This is prone to produce inaccurate information in some of the facility characteristics due to status changes between survey years. Lastly, since OSCAR does not include non-Medicare/Medicaid facilities, it may not represent a complete source of information on the nursing homes in the U.S.

ISSUES OF THE CURRENT ASSESSMENT TOOL IN KOREA

The current assessment tool in Korea is insufficient to address the quality of care received by nursing home residents. For instance, it places little emphasis on the health of residents and does not require regular structured evaluations. In March of 2009, a law mandating evaluations of LTC facilities was proposed to the Korean National Assembly. This act included an evaluation tool, stipulations about length of stay, and accreditation methods. However, this evaluation tool focuses heavily on management and addresses residents' health-oriented outcomes only sparingly.

On the other hand, the OSCAR survey process is intended to bolster and regulate quality of care, in addition to reviewing organizational factors. There are 7 categories of resident health status measures evaluated on an annual basis with, on average, more than 5 questions in each category. For instance, OSCAR addresses health statuses such as mobility, mental status, bowel/bladder status, and other related measures. In regard to mobility, there are seven categories required by the report including restraint status. Likewise, mental status measures include 6 categories that address the total number of residents with behavioral symptoms, among others. Comparisons of the resident health outcome evaluations in OSCAR and the Korean assessment tool are found in Table 2.

Overall, 190 deficiencies are extensively reviewed by state surveyors, reflecting the quality of care in nursing homes in the U.S.[29] Table 3 details three major deficiency categories, resident behavior, facility practices and quality of life and quality of care.

WHAT CAN KOREA LEARN FROM THE U.S.?

Policy makers need to pay close attention to the regulations that are necessary and to focus more on the quality of care provided to residents rather than on trivial measures. Both scheduled and unscheduled written evaluations, including assessments of on-site conditions, should be emphasized. Providers should be legally required to submit annual written evaluations, which could then serve as a basis for efforts to improve services. Indeed, this information might act as the driving force for voluntary quality assurance efforts in each institution, and could potentially educate consumers with regard to choosing qualified providers. The adoption of computerized evaluation systems should be considered to maintain current data and information on LTC facilities.

Introduction of a data collection system that includes a periodic survey process similar to OSCAR may help policy makers gain a better understanding of the NH industry in Korea and address shortcomings of the system. Korea could adopt a modified version of the OSCAR data system that takes different social and market factors into account to more accurately reflect the country's needs. In addition, structuring the data system in a manner that allows it to be merged with various existing data sources, such as medical claims and census data, may lead to questions related to the demographic composition of elders, rates of institutionalization among the elderly population, variation of care in local markets, and shifting market dynamics to be answered. For example, linkage to data from Korea's national health system would provide a powerful tool to assess quality of care and utilization trends (e.g., variation in rates of hospitalization).

The government could use a structured survey to collect quantitative and qualitative longitudinal data that serve as a foundation for studying the structure, operation, and quality of care in nursing homes. The development of such a database

Table 2. Comparisons of residential health outcome evaluation measurement between OSCAR and Korean LTC evaluation questionnaires

OSCAR: Resident census and conditions	Korean LTC facility evaluation manual
ADL	
Bathing (independent, assist, dependent), Dressing, Transferring, Toilet Use, Eating	-
A. bowel/Baldder status	
The number of facility residents with indwelling or external catherter, Of total number of residents with catheters, Occasionally or frequently incontinent of bladder, Occasionally or frequently incontinence of bowel, On individually written bladder training program On individually written bowel training program	-
B. Morbility	
The number of facility residents bedfast all or most of time, In chair all or most of time, Independently ambulatory, Ambulation with assistance or assitive device, Physically restrained, Of total number of resident restrained, With contractures, Of total number of residents with contractures	-
C. Mental status	
The number of facility residents with mental retardation, With documented signs and symptoms of depression, With documented psychiatric diagnosis, Dementia:multi-infarct, senile, Alzheimer's type, or other than Alzheimer's type, With behavioral symptoms, Of the total number of residents with behavioral symptoms, the total number receiving a behavior management program Receiving health rehabilitative services for MI/MR	-
D. Skin integrity	
The number of facility residents with pressure sores, Of the total number of residents with pressure sores excluding Stage I, Receiving preventive skin care, With rashes	The incidence of pressure sores
E. Special care	
The number of facility residents receiving hospice care benefit, Receiving radiation theraphy, Receiving chemotheraphy Receiving dialysis, Receiving intravenous theraphy, parenteral nutrition, and/or blood transfusion, Receiving respiratory treatment, Receiving tracheotomy care, Receiving ostomy care, Receiving suctioning, Receiving injections (excluding vitamine B_{12} injections), Receiving tube feeding, Receiving mechanically altered diets including pureed and all chopped food , Receiving specialized rehabilitative services, Assistive devices while eating	The number of receiving ostomy care
F. Medications	
The number of facility residents receiving any pyschoactive medication, Receiving antipsychotic medications, Receiving antianxiety medications, Receving antidepressant medications, Receiving hypnotic medications, Receiving antibiotics On pain management program	-
G. Other	
The number of facility residents with unplanned significant weight loss/gain, Who do not communicate in the dominant language of the facility, who use non-oral communication devices, With advance directives, Received influenza immunization, Received pneumococcal vaccine	The number (or %) of fall incidence in the institution The number of facility residents who are improved their LTC level

OSCAR, Online Survey Certification and Reporting system; LTC, long-term care; ADL, activities of daily living.

Table 3. Definitions of quality of care deficiencies by category

Resident behavior and facility practices	Quality of life	Quality of care
Resident has the right to be free from any physical restraint for purposes of discipline or convenience	Facility must promote/enhance quality of life	Facility to provide necessary care for the highest practicable physical, mental, and psychosocial well being
Resident has the right to be free from any chemical restraint for purposes of discipline or convenience	Facility must promote care that maintains or enhances dignity	Activities of daily living do not decline unless unavoidable
Resident has the right to be free from verbal, sexual, physical and mental abuse, corporal punishment and involuntary seclusion	Resident has the right to choose activities, schedules, interact with members of community and make choices about aspects of life in the facility	Resident is given treatment to improve abilities.
Facility must have written policies and procedures that prohibit abuse and neglect	Resident has the right to organize and participate in resident groups	Activities of daily living care is provided for dependent residents
Facility may not employ persons who have been found guilty of abuse	Facility must listen and respond to resident or family group	Resident receive treatment to maintain hearing and vision.
Facility must develop and implement written policies and procedures that prohibit mistreatment, neglect, and abuse of residents and misappropriation of resident property	Resident has the right to participate in social, religious and community activities	Proper treatment to prevent or treat pressure sores.
	Facility should have policies that accommodate residents' needs and preferences.	Resident is not catheterized, unless unavoidable.
	Resident to receive notice before room or roommate in the facility is changed.	Appropriate treatment for incontinent resident.
	Facility is to provide ongoing program of activities that fit resident	No reduction of range of motion, unless unavoidable.
	Facilities director must be fully qualified.	Resident with limited range of motion receives appropriate treatment.
	Facility must provide medically-related social services.	Appropriate treatment for mental or psychosocial problems
	Facility with more than 120 beds must employ a qualified social worker on a full time basis.	No development of mental problems, unless unavoidable
	Facility must provide a safe, clean, comfortable and homelike environment.	No naso-gastric tube, unless unavoidable.
	Facility must provide housekeeping and maintenance services necessary to maintain a sanitary, orderly and comfortable interior.	Proper care and services for resident with naso-gastric tube.
	Facility must provide clean bed and bath linens that are in good condition.	Facility is free of accident hazards.
	Facility must provide private closet space in each resident's room.	Resident receives adequate supervision and assistance devices to prevent accidents.
	Facility must provide adequate and comfortable lighting levels in all areas.	Facility must maintain acceptable parameters of nutritional status, unless unavoidable
	Facility must provide comfortable and safe temperature levels	Resident receives therapeutic diet, when required.
	Facility must provide comfortable sound levels.	Facility must provide sufficient fluid intake to maintain proper hydration and health.
		Facility must ensure that proper treatment and care is provided.
		Each resident's drug regimen must be free from unnecessary drugs.
		No use of antipsychotic drugs, except when necessary.
		Residents who use antipsychotic drugs receive gradual dose reductions.
		Facility must ensure that it is free of medication error rates of five percent or greater.
		Residents are free of any significant medication errors.

Source: Office of Inspector General (OIG). Nursing home deficiency trends and survey and certification process consistency. OEI-02-01-00600. 2003. Available from: http://oig.hhs.gov/oei/reports/oei-02-01-00600.pdf.

for academic research and policy assessment would assist in the formation of a sensible and comprehensive LTC system for vulnerable elders in Korea.

CONCLUSION

The formal U.S. LTC sector evolved from many concerns regarding quality of care. This led to significant efforts being made to promote higher quality of care, including developing and modifying an adequate data system. The current state of Korea's elder care system reflects the early years of the U.S. LTC industry. The longer history of the formal LTC industry in the U.S. offers lessons on effective measures leading to improved quality of care, as well as, potential missteps to avoid.

Given the limited knowledge of the characteristics of NHs and quality of care in Korea's elder care system, developing an instrument similar to OSCAR may be the key to forming an appropriate LTC system for the frail elderly. In particular, strengthening areas that address quality of care within a setting focused on residents' health is essential. As the number of elder care homes continues to increase at a rapid pace in Korea, it is crucial for the government to initiate effective oversight in a timely manner.

Summary

노인 장기요양보험제도 시행 이후 서비스의 양적인 증가에 이어서 장기요양 시설의 질 평가에 대한 관심이 모아지고 있다. 건강 결과 중심의 정보 생산과 제공, 평가 결과의 피드백 및 평가 연구의 수월성을 고려할 때, 미국의 Online Survey Certification and Reporting system (OSCAR)를 상세히 파악하는 것이 국가간 장기요양보험방식이나 보건의료 제도의 차이를 떠나서 도움이 될 것이다. 다양한 노인 장기요양시설을 매년 체계적으로 관리 감독하기 위해 개발된 OSCAR는 정책 결정과 노인 의료, 보건 연구에 이르기 까지 광범위하게 활용되고 있다. 이 논문은 미국 너싱홈 감독관리 시스템인 OSCAR에 대한 소개 뿐만 아니라, 장점(온라인 시스템 및 다수준 정보 활용 등) 및 단점 (타당성과 신뢰성 논란)에 대한 현재 논란들을 정리하였다. 국내 장기요양 입소시설용 평가 도구는 서비스의 제공 여부나 기록 여부 등 '과정 중심' 항목이 주를 이루고 있다. 이와 대조적으로, OSCAR는 입소 노인의 건강 결과를 7개 영역으로 나누어 전체 입소자 중 발생자 및 유소견자 비율을 주기적으로 모니터함으로써, 입소자의 건강 결과 중심 평가에 큰 비중을 두고 있다. 장기요양시설 평가 정보를 생산, 관리, 활용할 기본 틀을 확고히 해야 할 한국의 현 시점에서, OSCAR의 일부 적용 가능성이 있음을 확인하였으며, 그 과정의 한계와 장점 등을 미리 이해하는 데에 도움이 될 것으로 기대한다.

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