NURSING HOMES AND QUALITY OF CARE: CONCEPTS AND MEASURES—The Example of U.S.

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摘　要

美國老人人口比例占全國人口的11%,老人養護機構也隨需要而增加許多。美國的老人養護機構大多數經費是由聯邦醫療保險和醫療救助支付，經費形成一大負擔，降低經費同時又不犧牲掉醫療與養護的品質遂成爲爭議。

本文在探討評估養護機構品質的概念與方法，借用一般綜合性醫院評估的模式並討論其可行性。最後提出評估養護機構應特別注意的事項。

I. Introduction

The cost of health care has continued to rise over recent decades. Health care spending tripled between 1971 and 1981, substantially outpacing the growth of the national economy. The structures of health organization have also changed during this period with more competition , more regulation , and new technologies. Among these, the most significant factor influencing health care is demand for organizational cost-containment, cost-benefit and accountability (Levey & Loomba,1984).

Nursing home expenditures have also been a target of cost containment because of their growing share of overall health expenditures. Of the total national personal health care expenditures spent in 1982, nursing home care accounted for 27 billion dollars or 9.5% of the GNP (Gibson,Waldo, & Levitt, 1983). It increased at a rate of 17.4% between 1980 and 1981, and 12.9% between 1981 and 1982 (Swan & Harrington, 1985). Because of increasing costs in nursing homes , they are also subjected to close scrutiny of their performance.

This paper will include several parts. First, I will introduce the growing needs of nursing homes. Then, I will compare the differences between nursing homes and general hospitals to see how these differences influence the way of evaluating the quality of care in nursing homes. Second, I will focus on the concept of quality of care from a general hospital's context. In fact, many concepts and measures are similar and originated from measuring

the quality of care in hospitals. Last, I will try to apply the approaches which were developed to evaluate the quality of care in hospitals to nursing homes and see what factors influence the quality of nursing home care.

II. The growth of nursing home industry:

The increase of the expenditures in nursing homes was caused by two principally interrelated trends: the growth of elderly population and the growth need of nursing homes.

The population in the United States aged 65 and over has been increasing steadily during the 20th century both in absolute numbers and as a percentage of the total population. In 1900, about 4% of the population was aged 65 and over. By 1980, this proportion had increased to 11%. During this same period the percentage of people aged 85 and over had risen from 0.2% to 1.1%. (Boling et al., 1983) The growth rate in the very oldest categries increased faster than that of the younger bracket of the elder population. This rapid change in the size of the older elderly population has significant meaning because as of 1960, 10% of the popualtion eighty-five and over was residing in nursing homes-- a rate of use nearly four times that of the younger bracket of the elderly population (Dunlop, 1979).

With the anticipated surge in the number of elderly people, the demand for nursing home care is increasing now. Nursing homes have experienced significant growth since the Second World War. Much of this growth was during the 1960s when long term care facilities increased by 140%, beds by 232%, residents by 210%, employees by 405%, and expenditures for care by 465%. Furthermore , if we measured the growth from the 1960s to mid 1970s, the number is even greater, e.g. expenditures during that period increased almost 1,400% (Boling, et al., 1983). If conservative population projections based on the recent age and sex distribution rates of nursing home residents are used, in 2050, there will be 5,403,000 who are 65 and over living in nursing homes. Among these are 1.5 million males and 3.8 million females. In the same year, there will be projected 3.6 million elderly people who are 85 and over living in nusing homes (Brody & Foley, 1985).

The development of nursing homes can be explained partly by the growth of the elderly popualtion and partly by the changing needs

of the public for this type of organization.

Care of the elderly in nursing homes has come to replace a substantial portion of care that was delivered formerly in mental hospitals. Pollack had estimated that the diversion to nursing homes of elderly persons who formerly would have gone into mental hospitals could account for up to 32% of the growth in nursing home utilization between 1960 and 1970 (Pollak, 1976).The specialization of hospitals for acute care is another force. Hospitals were no longer the place to care for the impaired and indigent elderly on a long-term basis. This created increasing pressure to provide for the chronically ill or functionlly impaired in specialized long-term care settings, principally nursing homes (Dunlop, 1979). Family structure and functions were changed also. Some proportion of nursing home growth reflects substitution for informal care formerly rendered in the home. Therefore, calls for evaluating the quality of care in nursing homes are based on the need both to contain costs and to provide humanitarian care for this elderly population.

III. Characteristics of nursing home

A. Differences compared to general hospitals:

Before applying the framework developed to measure differences in general hospitals to the evaluation of quality of care in nursing homes, some differences need to be identified. Care in nursing homes (also known as institutionalized long-term care) is in many ways different from care provided by general hospitals. We review the most significant ones below.

First, the main purpose of nursing homes is maintenance and social support while hospitals are primarily treatment oriented (Shortell and Kaluzny, 1983). Therefore, patients spend a longer time in nursing homes than in general hospitals. For example, the mean length of stay in general hospitals is 7.8 days in 1974 (Dunlop, 1979). In contrast, about 1/3 of residents in nursing homes live for 1 to 3 years and another 1/3 have been there for 3 years or more (Brody, 1985). Owing to the different functions in the organizations, the concept of " homes " is important in nursing homes. The medical oriented atmosphere is less appropriate and the fundamental concern should be the quality of life and restoration of function. Quality of care in nursing homes should

measure the social climate and be long-term outcome oriented.

Second, ownership of nursing homes is largely for profit. In 1974, 83.5% of nursing homes in Alabama were proprietary, 79.6% in Florida, 70.3% in Mississippi, and 54% in New York (Dunlop,1979).In 1981, among 7,972 skilled nursing homes, 5,401(67.7%) were for profit. Among 11,242 intermediate care facilities, 8,079(71.9%) were for profit organizations (Shortell & Kaluzny, 1983). An emphasis on efficiency, especially on cost-saving practices, would be especially true for proprietary nursing homes (Kosberg & Tobin, 1972).

Third, the source of payment is different. 57% of nursing homes costs are paid by public funds. The remaining 43% is paid almost entirely by direct personal out-of-pocket payments by the residents and their families. Hospitals have about the same proportion of costs paid by public and private expenditures as do nursing homes. However, private insurance plans covered about 75% of the private expenditures on hospital costs, but less than 2% of the private expenditures on nursing home costs (Brody & Foley, 1985). The distribution of the residents having different sources of payment is very skewed. Thus access to nursing homes is an important problem especially for the middle class or poor. Most nursing homes in suburban areas served primarily white, private-pay, self-referred residents (Gottesman, 1974). These nursing homes have better performance than those which received a high proportion of public-pay residents. For example, Gottesman(1974) in his nursing home study found that high public-pay proprietary facilities had a high proportion of socially marginal residents with fewer financial resources.

Fourth, nursing homes are less technologically sophisticated due to maintenance and social support function (Shortel and Kaluzny , 1983). To measure quality of care in nursing homes, therefore, we need to focus on social function and atmosphere which provide quality of life for residents rather than measure only the complicated technology provided.

Fifth, many patients in nursing homes have some degree of mental health problems, for example, progressive senile deterioration and severe depression. Nursing home staffs must learn how to

deal with these behavioral problems (Kramer and Kramer, 1976). Also because of these special symptoms, sometimes it is not appropriate to measure the positive health as an outcome only. What procedures (of processes) have been done are more important here.

Sixth, physicians are relatively absent from the nursing home. Access to physicians in nursing homes can be a problem. Only 17% of physicians who would normally be expected to serve the elderly (general practitioners, family physicians, internists) actually make nursing home visits. Furthurmore,primary care physicians spend , on the average, less than one and half hours per month caring for their patients in nursing homes (Mezey, Lynaugh & Aiken ,1985). Nurses take the major responsibilities of caring residents in the nursing home. Therefore , nursing staffs' qualifications are important.

These differences make the application of evaluating quality of care somewhat different from those in the general hospital. In the next section, I will explicate the concept of quality of care in hospitals which has occupied the most attention when evaluating the quality of care in health care organizations. Then, in the application section, some adaptations for nursing homes will be explored.

B. Characteristics of nursing home patients:

Only 5% of persons aged sixty-five or older live in nursing homes at any given time , but the percent increases to 20 of those who are over eighty-five years old (Kane and Kane , 1982). Women dominate the nursing home population at all levels of ages. Unmarried elderly make up 89% of the nursing home population (Dunlop, 1979). Besides the demographic characteristices, elderly patients in nursing homes have problems in common like immobility, urinary or fecal incontinence, intellectual impairment (from mild forgetfulness to complete disorientation), deficit in vision and hearing, infections, side-effects or interaction-effects of drugs, isolation/depression because of losses of social roles , and impoverishment (Kane and Kane, 1982). Owing to these special symptoms or problems encountered in nursing home patients, it is difficult (sometimes impossible) to do certain kinds of evaluation

of quality of care in nursing homes such as those which depend information from the patient. This will be explored more in a l section.

IV. Quality of care

A. Defintion of quality of care:

Understanding the meaning of quality of care can help us conceptualize and to measure the quality of care in hospitals nursing homes. Donabedian(1980) defines quality of care from thr different senses. By the absolutist definition, he means that health professional should define health status, what their int vention can contribute to health and how that contribution is te measured. It focuses on the nature of the health problem that is be managed. By an individualized definition of quality, he mea that we should take into account the patient's wishes, expect tions, valuations, and means. By a social definition of quality, means we should consider the welfare of a certain population or t value for the entire society.

However , when he develops the conceptual framework structure-process-outcome, he only chooses the perspective from t absolutist definition and measured the physician's performanc principally. We will discuss more about his conceptual framewor later in this section.

The other definition accepted by many people is the definiti from the Institute of Medicine: The primary goal----should be make health care more effective in bettering the health status a satisfaction of a population, within the resources which socie and individuals have chosen to spend for that care (Greene, 1976) Basically, this latter definition also focuses on the change o health status produced by professionals and the subsequen satisfaction of a population. It is similar to Donabedian absolutist definition and social definition of quality of care.

B. Dimensions of quality of care in health organizations:

There are five major aspects of quality in health care which expands the definitions of quality:

(a)efficiency, (b)effectiveness, (c)accessibility, (d)acceptability, and (e)provider competence (Greene, 1976).

(a)Efficiency: Efficiency refers to the ratio of inputs to outputs and the number of products and/or services provided by minimized resources. (Scott & Shortell, 1983; Flood & Scott, 1987) The differences between effectiveness and efficiency lie in that the first is goal-oriented, and the second cost-oriented (Levey & Loomba, 1984).

Applying the concept of efficiency to the hospital sector requires one to focus on the organizational resources under the control of the hospital. But, when one focuses on this, some limitations must be recognized. For example, one limitation is that a hospital has multiple outputs. It is not a place which produces a standardized product or service. Hospitals provide a wide range of services such as dietary services and laboratory tests. Most of these services support the clinical services. Another is that hospitals do not control proscriptive medical service. The control over which and how many services and when to deliver them lies in the hand of physicians. This mean that physicians control the usage of resources allocation (Johnson, 1981).

Wyszewianski and his colleagues (1982) note that efficiency in producing care in a hospital is determined by clinical efficiency and production efficiency. Clinical efficiency requires the provider to select services in a manner that produces the greatest increment in health status for a given amount of resources. Production efficiency refers to how the services that make up any given clinical strategy are produced. Simply speaking,clinical efficiency requires using a certain amount of resources to achieve the maximum objectives and is thus related to effectiveness. Production efficiency, on the other side, tries to lower costs.

(b)Effectiveness: Effectiveness means the degree to which goals are met. It always includes goals or objectives of a program or a practice. Levels of goals need to be identified first before

evaluating the effectiveness of performance, where levels are based on immediate goals, intermediate goals and ultimate goals. For example, recruiting a coordinator for the hospital's quality assurance program is an immediate goal; improving the practice patterns is an intermediate goal, and reduction of mortality for a certain disease is the ultimate goal (Scott and Shortell,1983).

(c) Accessibility as a dimension of quality of care depends on the fact that ease of access is closely related to receiving maximum possible benefit from health intervention. Organizationally caused delays in receiving care or the provider's failure to persist with appropriate followups can produce poor health outcomes. Therefore, accessibility to good medical care is regarded as an essential ingredient of "good" quality of care.

(d) Acceptability is the same as patient satisfaction or amenities of care (Donabedian,1980).

(e) Provider competence is used to describe the assessment of the professional activities of an individual provider. To provide good care or better quality of care , the provider needs to have enough skills and knowledge. The skills have two components: one is technical skill; the other is interpersonal skill (Greene, 1976; Wyszewianski and Donabedian, 1982). Technical skill refers to "the application of the science and technology of medicine, and of the other health sciences, to the management of a personal health problem." (Donabedian, 1980) Barro further states that technical skill includes psychomotor skill (performing examinations, procedures, and operations) and cognitive skills (data-gathering, date interpretation, and decision-making). Interpersonal skills are those the provider employs in verbal and non-verbal communication with his patients (Donabedian, 1980). in other words, it is the manner that a provider delivers the service. As Barro points out, most studies of physician performance focus on technical performance and, within technical performance, on cognitive skills (1975).

C. Approaches to evaluate quality of care in hospitals: Three types of indicators are taken here following Donabedian (1980) and Flood and Scott (1987). The model was proposed by Donabedian but

s been modified and adaptedby almost every other writer in this field.

The model uses structure , process, and outcome measures to measure quality . Structure indicators refer to the " relatively stable characteristics of the providers of care, of the tools and resources they have at their disposal and the physical and organizagional setting in which they work" (Donabedian,1980).These indicators may include : descriptions of facilities and equipment, qualification and experience of personnel, staffing patterns.

Process indicators refer to the set of activities that go on between the providers and patients, including the management of both the technical and the interpersonal processes involved. Examples are procedures made and diagnosis work-up etc (Donabedian, 1980).

Outcomes are the changes in a patient's health status that can be attributed to the intervention of health care providers (Starfield, 1973; Shapiro, 1967). They are changes of physiological, psychological and social functions. Bonner further classified outcomes of patients care as "patient outcomes", "process outcomes", "administrative outcomes", and "economic outcomes" (i.e. cost-effectiveness data) (Greene, 1976). This classification implied that patient' outcomes are not contributed by physicians only. Other personnel also contribute to care.

When measuring the quality of care, we can use different methods separately. We can also build causal relationships among these three kinds of indicators and have a relatively holistic framework.

V. Implications for nursing home quality of care:

Variables in each approach: When monitoring the quality of nursing home care, structural and process criteria are most frequently used (Kane & Kane, 1982). Structural criteria concern variables like the condition and safety features of the physical plant, the record-keeping system, and qualification of the personnel in the nursing home (Kane & Kane,1982), licensing of the homes, educational and training programs of the nursing home personnel (Lee , 1984), and community involvement (Barney ,1974). Nursing hours, total staff to patient ratio, and the professionalstaff to patient

ratio are other important structural variables exhibiting the quality of nursing home care (Linn, Gurel, and Linn, 1977). Green and Monahan (1981) use direct patient care resources as measures of quality of nursing home care. Specifically, they use nursing hours, nursing expenditures, patient dietary expenditures etc. as measures of the quality of structure.

When we use the term, nursing homes, we connote that they can provide a home-like atmosphere for those patients who need long-term care. Moos developed an instrument that measures the social climate of the residential environments for older persons in 1977 (Eustis and Patten, 1984). He used the psychosocial meaning of the setting as measures ofquality.

Process measurement in nursing homes is particularly important and usually done because of their use in regulatory enforcement (Lee, 1984). In particular, in order to stay in the nursing home industry, nursing homes must be licensed by the state health department. If they expect to receive federal fund through Medicare and Medicaid, federal certification is also required (Dunlop,1979).

Most licensing processes focus on structural and procedural inspection in order to see whether the nursing homes meet the minimum standards (Lee, 1984). The process meansures usually test the orthodoxy of care such as the frequency of physician visits and the adequacy of nursing procedures, care plans and discharge plans. Sometimes, they borrow the process criteria from the hospital sector using the experts' judgments as a standard in order to compare the procedures done by the personnel.

Outcome measures are frequently used as an approach to assessing quality too . Patients' outcomes in nursing homes are multidimensional and differ from those measured for patients in the hospital sector to some extent. Kane and Kane (1982) argue that nursing home patients need long-term care because of functional inpairment. Measuring the outcome would center on the functional status of patients.

Physical functioning is typically measured through the patient's ability to perform basic self-care activities of daily living (ADL) such as bathing, feeding, toileting and dressing. The mental

domain includes cognitive functioning and affective functioning. The former is usually measured through the variables that assess patient's orientation for time, place, persons ; recent and remote memory; and judgment and reasoning ability. The latter includes variables which determine the extent of anxiety and depression, etc. Social functioning measures patients' relations to others and social satisfaction. However, Linn et al (1977) argue that measuring the functional status alone may be misleading. They explain that one of the primary functions of nursing homes is to provide humane care for dying or severely ill patients. They used three types of outcomes reflecting patients' health status: (a) mortality: living or dead; (b) changes in functional status: improved, the same, deteriorated or dead; and (c) location: discharged, still in nursing home, readmitted to the hospital or dead. The occurrence of decubitus ulcers and bedsores are good indicators of poor quality of nursing care of patients with chronic diseases (Thomsons, 1977). These also can be used as outcome measures of nursing home care since nursing homes patients are chronically ill and functionally impaired.

In addition to these outcome measures, Kane and Kane (1982) also argue that since institutional long-term care is an intrusive intervention for patients, the outcome should be measured by assessing satisfaction of the patients.

VI. Conceptual issues and methodological issues:

A. Conceptual issues: A conceptual framework to measure the quality of care in nursing homes must be able to address questions such as: What variables should be included in measuring the quality of care ? Should outcome be measured by the "health model" or the "illness model" ? Should we focus on short-term outcome or long term outcome ? Should we include social factors in processing the care ? What are the appropriate procedures ? What quantity of care provides better care? Is more always better?What are the standards of process to which we can compare ? How does the individual levels of measures affect the organizational level of measures ? (Flood & Scott, 1987).

The answers to these questions are still not clear or easily resolved for nursing home care. We enumerate some of the problems below.

(a) Structurual variables and process variables sometimes can be distinguished from each other very well. For example, resid nurse hours can be treated as structural measures because they a an indicator of staffing patterns. They also can be treated process measures because RN hours dictate the nursing procedures t some extent.

(b) Process variables are often used as a tool for regulatory systems to safeguard against the risk to health and against the risk of litigation. However, such a regulating system discourages permitting patients to engage in those risk-laden processes associated with patient autonomy, for example, bathing independently ,or leaving the facility unsupervised (Kane & Kane, 1982). Therefore , when measuring quality by procedures used only, we may encourage " good" process on the one hand and poor quality of life on the other.

(c) Outcome variables are important especially for long-term care. They should include positive health and mental health too. However, these dimensions are intercorrelated with each other, for example, when a patient is severely depressed, then he is likely to experience poor health due to poor eating and sleeping (Mangen, 1984).

B. Methodological issues: Several problems are shared by all approaches when measuring the quality of care. These problems are inadequate data quality, incomplete information, difficulties in generalization of the findings, problems in the comparability of the units of measurement, difficulties in setting standards for comparison, reactivity to the evaluation process and difficulty in creating indices of performance (Flood & Scott, 1987). Specific examples in nursing home quality of care are:

(a) Process criteria tend to focus on auditing the medical record. Yet , one of the characteristics of low technology industry is inadequate record keeping. Basing an evaluation of the quality of the care on inadequate information may lead to erroneous results.

(b) Assessjng the satisfaction of patients is an important outcome measure. However, many patients in nursing homes have problems of disorientation and thus information on self-report from such patients has low validity. An alternative is to evaluate

tisfaction through asking family members. However, taking care patients is a burden for many families and they may be prone to port satisfaction with the care because nursing home at least lease them from some problems. Therefore, using indirect data from milies on satisfaction also has problems.

II. Conclusion:

Evaluating the care of nursing homes

-- should use longitudinal research whicn is based on the improvement of health status of residents, comparing their condition before and after the admission of nursing home.

-- should use physician expectation or prognosis as an indicator against which to compare the outcome (Kane, 1982; Linn, Gurel & Linn , 1974).

-- should use on-site observation rather than use self-report data or medical record only in order to triangulate or validify different sources of data.

-- in using the self report method for data collection, we should take the respondent's ability to respond and ease in answering into account.

-- should be based on a reliable scale, summing responses from several related items (kane, 1982). That would decrease time needed to collect data.

-- should consider the causal relationships among the different types of quality measures, for example, how the process related to any change in the outcome.

-- should include social climate measures and also measure the quality of life of the residents.

-- should consider the residents' value priorities in terms of structure, process and outcome. In other words, we should develop measures about individualistic meaning of quality of care.

-- should be very careful in making generalizations.

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