Consumer’s Satisfaction With and Evaluation of Quality Provided by Community Long-Term Care: A Review of The Literature

December 1999
Prepared for
Florida Department of Elder Affairs

Jinkook Lee, Ph.D
University of Tennessee

&

Jane Kolodinsky, Ph.D
University of Vermont


**Introduction and Background**

**Growth in the Elderly Population**

The elderly population increased elevenfold during this century, reaching 33 million (Hobbs, 1999). By 2050 it is expected that it will comprise 20 percent of the total population in America (Estes and Bodenheimer, 1994). Among the elderly population, the oldest old (persons over age 85) are predicted to be the fastest growing population (Neugarten, 1996), and will double in number to 7 million by 2020, and reach 24 million by 2050 (Estes and Bodenheimer, 1994). Estimates of their growth are in the neighborhood of encompassing 5 percent of the population by 2050, increasing from 1 percent in 1980 (U.S. Senate Special Committee on Aging et al., 1999). It is estimated that by 2050 almost one in four Americans will be over the age of 85 (Kiely and Prince, 1994). There is great significance to this estimated increase in the "old-old." While many of these individuals may not be acutely ill, many are frail and require assistance performing daily activities (Regnier and Overton, 1997).

The demographics of the elderly point to a predominantly female population. Due to differences in life expectancies, those who reach old age are more likely to be women (Kiely and Prince, 1994). Women over age 65 outlive men aged 65 by about 4 years (National Center for Health Statistics, 1985). In fact, according to the Federal Council on Aging (1994), females comprise 60 percent of the population over age 65. This fact alone leaves many elderly women without assistance in later life. Most elderly men have a spouse to rely on for care, however according to the Federal Council on the Aging (1994), in 1989 there were five times as many rural elderly women living alone as compared to elderly men. Among those aged 85 and older, 50 percent of men and only 8 percent of women are married (Rosenwaike, 1985).

Among the elderly, the rural population also experiences a lower level of health status, and shows different patterns of health care utilization than the elders in non-rural areas. Specifically,
the U.S. rural population experiences higher rates of morbidity and mortality and greater number of sick or restricted activity days than non-rural populations (Yawn, Bushy, and Yawn, 1994; Schneider and Greenberg, 1992; Palmore, 1983). Using a multivariate regression analysis, Dansky et al. (1998) found that rural elders have greater activities of daily living restrictions (ADL) and instrumental activities of daily living restrictions (IADL) impairments than urban elders.

A number of factors are related to the decreased health status of the rural elderly. In addition to the limited number of resources available in rural areas, Palmore (1983) identified a number of barriers that rural individuals face when the need for medical care arises. The first barrier is ignorance or denial, often generated by a lower level of education and a "strong work-ethic." In addition, debate over whether the service is deemed worth the cost keeps many rural individuals away from health care. The belief that lay treatment will suffice reduces the number of professional care visits, in addition to transportation or financial difficulties. Finally, there is a general resistance to professionals, which hinders the elderly to receive health care (Palmore, 1983).

Increasing age among the elderly increases the likelihood of needing assistance due to functional impairment (Wieland, Ferrell, and Rubenstein, 1991). Regardless of living arrangements, elderly women suffer from numerous ailments, such as arthritis, osteoporosis, and certain cancers (Older Women's League, 1997). The elderly population as a whole suffers from a disproportionately large number of disease and disabilities (Wolinsky and Johnson, 1991). According to a study of National Medical Expenditure Survey data, in 1987 approximately 5.6 million functionally impaired elders were residing in communities, which comprised about 19.7 percent of the non-institutionalized elderly population (Short and Leon, 1990). Two major physical limitations occur in older age, daily living restrictions (ADL) and instrumental activities of daily living restrictions (IADL). ADL limitations are defined as requiring
assistance with such activities as bathing, dressing, using the toilet, or eating (Norgard and Rodgers, 1997; Houde, 1998). IADL limitations are those regarding shopping, transportation, housekeeping, or managing money (Norgard and Rodgers, 1997; Houde, 1998).

The increased disability levels of the elderly make them reliant on others for assistance. A great deal of care comes from friends or relatives. Studies have shown that an elder’s spouse and adult children are the most likely to provide care when assistance is needed (Stoller and Earl, 1983). The reliance on these individuals for care often creates what is known as the "sandwich generation," those who are caring for a dependent elderly parent as well as their own growing children (Barnes, 1997). In the absence of adult children, an elder may have to rely on a spouse for care. When neither of these two sources of care is available, elders often turn to formal care services to provide needed assistance.

In addition to the lack of an informal care network, the use of formal care services is driven by the desire for elders to remain in their homes for as long as possible (Lopata, 1971; Schorr, 1980). Many elders are torn between the decision to remain independent in their homes and communities and to increase dependence on others (Parsons, 1993). Despite this dilemma, many elders, when given a choice, prefer to receive care in their own homes (Hohl, 1994). Even though one is generally most comfortable at home, there are still many issues to deal with care received at home. In fact, home care is a source of great anxiety for many elders (Parsons, 1993). The onset of home care introduces a new way of living for the elder. Whereas one may have been previously used to a quiet relaxing atmosphere at home he or she is now in the middle of new faces, multiple phone calls, schedules, and attempts to change his or her behavior (Parsons, 1993).

With the expansion of the elderly population comes an increase in individuals with chronic illnesses and physical limitations. Data from the 1990 and 1991 Surveys of Income and Program
Participation revealed that 4.5 million elderly persons needed assistance with one or more activities of daily living (ADL) (McNeil, 1993). It is projected that by the year 2000, 2.4 million persons in the elderly population will have one or two ADL limitations, 1.0 million will have 3 to 4 limitations, and 1.3 million will have 5 to 6 ADL limitations (Manton and Soldo, 1992). By 2040 13.1 million persons are expected to have at least one ADL limitation.

**Growth in the Need for Long-Term Care**

The increasing number of elderly and individuals with activity limitations means an increasing need for long-term care, with individuals over age 65 the most likely to require it (Estes and Bodenheimer, 1994). In 1987 there were an estimated 5.6 million individuals living in communities who were disabled and elderly, comprising 19.7 percent of the entire non-institutionalized elderly population (Short and Leon, 1990). The number of functionally impaired elderly is expected to increase to over 6.7 million by the year 2000 (Manton and Soldo, 1992).

Because of the increasing need for health care services for the growing elderly population, community health care has become a rapidly growing industry. Community health care encompasses a large array of services provided to individuals in need of assistance. Community care has been defined as that which enables people to fulfill three needs: socialization, activities of daily living, and personal assistance (Cantor and Little, 1985). The rising demand for these types of services comes from the fact that many older persons prefer to live independently in their homes and communities (Lopata, 1971; Schorr, 1980). Services such as home health care, Meals-on-Wheels, congregate meals, adult day care, shopping assistance, and support groups for family caregivers (Neary, 1993) enable elders to remain at the highest level of functioning possible while living independently (Beaulieu, 1991; Wieland, Ferrell, and Rubenstein, 1991).

With the growing demand for long-term community-based health care services, it is imperative that these services meet the needs of those served. By identifying areas within health care delivery systems in which quality is low, improvements can be made to improve the quality
of the health care system as a whole (John, 1991). While there is an abundance of literature on patient satisfaction with medical care, very little focuses on long-term community-based care. The majority of research looks at patient satisfaction in either hospital or outpatient settings (See, for example, Lee and Kasper, 1998; Yucelt, 1994). This study helps fill that void of literature by focusing on long-term community-based care.

**Long-Term Care**

**The Continuum of Health Care**

The ideal system for providing needed care has come to be known as the "continuum of care." This continuum is "a comprehensive, coordinated system of care designed to meet the needs of patients with complex and/or ongoing problems efficiently and effectively" (Evashwick, 1999, 307). Within the continuum of health care, lies over 60 services. These services are divided into seven general categories, including extended care, acute inpatient care, ambulatory care, home care, outreach, wellness, and housing (Evashwick, 1999).

A distinction must be made between all components of care available. In the general category of "health care," a health care system generally is made from a number of basic services (Torrens, 1999). These include health promotion and disease prevention services, emergency medical services, ambulatory care, inpatient care for simple and complex problems, long-term care, social/psychological services, rehabilitation services, dental services, and pharmaceuticals/supplies, and equipment. Long-term care services include both those provided in homes and within institutions designed to provide care to individuals needing ongoing health, mental health, and social support services over an extended amount of time (Evashwick, 1999). The goal of these services is to provide support in order to enable a person to maximize
functional independence. Since individuals have different needs for long-term care services, there must be a range of services available to meet all needs.

**Home Health Care**

Home health care describes preventive, therapeutic, restorative, or supportive health care services in one’s home (Wieland, Ferrell, and Rubenstein, 1991). These services include health care, high technology care, home-delivered meals, and homemaker and personal care. In addition to home health care, long-term care services may be community-based, providing care to large numbers of people within a geographic area. These services include meals on wheels, congregate meal services, adult day services, transportation, and homemaker services, to name a few (Neary, 1993). These services generally are provided to individuals with fewer needs, who desire to stay in contact with their communities and health care systems (Evashwick, 1999).

Home health care is one of the oldest components of the continuum of care (Evashwick, 1999). The first home health care program was created with the Boston Dispensary in 1796 (Wieland, Ferrell, and Rubenstein, 1991). The focus of care at that point in time was on acute illness, generally provided to those without access to skilled care. By the late 1800s previously established volunteer programs evolved into visiting nurse associations (VNAs) known today. By the 1940s the stigma attached to institutional care was removed and hospital care was in great demand. Home based care services were continually provided to the medically indigent, often chronically ill patients (Wieland, Ferrell, and Rubenstein, 1991).

As recent as the 1970s, home and community-based care services were quite limited, and hospice and respite care was yet to enter our vocabulary (Lawson, 1998). In fact, in 1967 there were only 1,809 Medicare-certified home health agencies in the United States. That number
grew to 5,875 by 1987, and today there are about 9,000 Medicare-certified home health agencies, and over 8,000 non-Medicare-certified agencies (Lawson, 1998).

Increased technology in addition to the creation of Medicaid waivers in 1981 contributed to the drastic increase in home health care. Ten years ago the typical patient receiving home care was one just released from the hospital with a wound that needed short-term care, or a diabetic learning to administer insulin (Hohl, 1994). Advances in technology have allowed individuals to be released from the hospital sooner into a more comfortable atmosphere. Patients now can leave the hospital while still on IV therapy, or while requiring other complicated treatments. The services provided by home care agencies have grown to include skilled nursing, physical, occupational, and speech therapies, home aides, nutritional services, as well as many others (Hohl, 1994). The increase in the range of community-based care services has contributed to a decline in the number of institutionalized elders. Only 5 percent of elders in the United States lives in an institution (Brakman, 1994). In fact, for every person age 65 and older in a nursing home, there are approximately 2 elders in the community with similar functional capacity (Johnson and Grant, 1985).

**Structure of the Home Health Care System**

Two forms of care create the structure of home health care: formal and informal systems. The formal care system includes formal organizations and professionals who deliver care, whereas the informal system consists of family, friends and neighbors who provide care to elders or other disabled individuals. It is estimated that over 80 percent of home care is provided by informal caregivers (Gould, Haslanger, and Vladeck, 1992). This care is generally provided by an elder’s spouse or adult children (Stoller and Earl, 1983). For disabled elderly men age 65 to
84, wives are the main source of care, whereas elderly women are more likely to rely on children and other relatives for care (Manton and Liu, 1984). Adult daughters are the more likely than adult sons to provide care. In fact, according to Brakman (1994), daughters are 3 times more likely than sons to co-reside with a dependent elderly parent.

Despite the large percent of care provided by informal caregivers, there are many concerns with the use of family and friends for the provision of care. Providing care to a dependent elder puts tremendous strain on the caregiver. Very often the caregiver balances time between paid labor, care provision, and managing an immediate family. In a study of caregiver use, knowledge of, and satisfaction with community services, Neary (1993) found that many caregivers needed to reduce time spent in the labor force in order to provide care to a dependent elder. Other researchers have found similar results, that caring for a dependent elder reduces time spent in the labor force (Chang and White-Means, 1995; Ettner, 1995a; Ettner, 1995b; Fredriksen, 1996; Pavalko and Artis, 1997; Stone and Short, 1990; White-Means, 1992).

In contrast to care provided by informal networks, formal care services are provided by professional caregivers, often in conjunction with a home health agency. Agencies may provide all levels of care, or one agency may specialize in aspects of care. Formal care providers administer care services such as patient education, physical, occupational, and speech therapy, respiratory therapy, nutrition counseling, and medical social service (Evashwick, 1999). Advances in technology have allowed these more complex procedures and services to be provided to individuals in their homes.

The nature of the relationship between formal and informal care services has been examined with mixed results. Some researchers have found informal and formal services to be substitutes for each other (Logan and Spitze, 1994). Houde (1998), in a multivariate analysis of
the use of formal care services, found that with every additional hour of informal care provided
the likelihood of using formal care services decreased. Coe et al. (1984) note that use of formal
health care services is highest among elders whose relatives are no longer nearby, or whose
community involvement is low.

Other researchers have proposed that informal and formal care services are compliments for
each other, in that informal care provides a link to formal care services (Sussman, 1976). This
was found to be especially true of friends and neighbors. Ward, Sherman, and LaGory (1984)
note that friends and neighbors are more likely to make referrals to various sources of care.
Edelman and Hughes (1990) found that use of informal care continued between 9 and 48 months
after the onset of formal care.

The existence of formal community-based care services allows many elders to benefit
from health care that may not have been previously available. Based on the above discussion,
those elders without a strong informal care network have to rely on formal care for services that
might not be available if informal care was the only available option. Many individuals in rural
areas, for example, have reduced access to necessary health care services, in large part due to
transportation issues (Parkinson, 1981). In addition, rural elders have fewer members in their
household, leaving them with fewer opportunities to rely on informal caregivers (Danksy et al.,
1998). The presence of community-based care offers them care by extending the services to
reach them. Unfortunately, there are fewer home health agencies in rural areas to extend
services to residents (Kenney, 1993; Danksy et al., 1998). When agencies do exist, the number
and range of services available is smaller than that found in more urban areas (Kenney and
This summary of literature shows the importance of community-based health care services. The many advances in technology have allowed a broader range of services to be available so that more individuals can benefit from these services. Through consumer satisfaction studies it can become clear how well these services are meeting the needs of those receiving care. These ratings, in turn, will also give an idea of the quality of community-based health care services as a whole.

**Satisfaction and Quality**

The concepts of satisfaction and quality are often used together, and sometimes interchangeably. Few researchers have identified the particular relationship between the two concepts, however a number of general statements have been made. According to Oliver (1981) "...satisfaction is the emotional reaction following a disconfirmation experience which acts on the base attitude level and is consumption-specific" (p. 42). Perceived quality, on the other hand, is defined and contrasted to satisfaction by Berry, Zeithaml, and Parasuraman (1994) as "...a global judgement, or attitude, relating to the superiority of the service, whereas satisfaction is related to a specific transaction" (p. 16).

Thus, these two concepts are related in that incidents of satisfaction, over time, result in perceptions of quality (Rodwin, 1994). Wensing, Grol, and Smits (1994), in examining quality judgements by patients, share this view, stating that patient satisfaction can be a means of achieving quality care. Each of the concepts is discussed below, and then connections between the two will be further discussed.
Consumer Satisfaction

Consumer satisfaction research gained momentum in the early 1970s with the U.S. Department of Agriculture's Index of Consumer Satisfaction (Churchill, Jr. and Surprenant, 1982). Since this time research in the field of consumer satisfaction has grown exponentially. Following Oliver's (1980) lead, consumer satisfaction studies have centered around the relationship between expectations and expectancy disconfirmation (See, for example, Churchill, Jr. and Surprenant, 1982; Spreng, MacKenzie, and Olshavsky, 1996; Bearden and Teel, 1983). Building on previous research, Oliver (1980) tested the relationship among expectations, disconfirmation, satisfaction, attitude, and purchase intentions. Expectations are thought to create a frame of reference around which to judge performance. The difference between one's expectations and actual results creates the disconfirmation, which affects satisfaction, depending on the direction of results. For example, if one's expectations are that a product will fail, when in fact it performs above expectations, the positive disconfirmation is likely to result in a satisfied consumer. On the other hand, if expectations are positive of a product, and the product fails to meet those expectations, the negative disconfirmation is likely to result in a dissatisfied response to the product. Oliver's (1980) model of consumer satisfaction led to the conclusion that expectations impact attitude, which affects intentions, which lead to disconfirmation of expectations, resulting in satisfaction level, which impacts attitude, which in turn, impacts purchase intentions.

The precise role of expectations in satisfaction is an area that has stirred debate among researchers. Those who have investigated the impact that expectations play in determining satisfaction have found that while it is generally statistically significant, it alone accounts for a
small percent of the variation in satisfaction (Aharoney and Strasser, 1993). For example, in a review of literature regarding satisfaction, Jackson and Kroenke (1997) found that although many researchers believe that fulfillment of expectations leads to increased satisfaction, none reported the amount of variance that could be explained by expectation fulfillment alone. In fact, Linder-Pelz (1982b) found that patient expectations, values, and perceived occurrences, while they did have an effect on satisfaction, these explained less than 10 percent of the total variance in satisfaction. Carman (1990) and Babakus and Mangold (1992) share in the belief that expectations may not play a vital role in the development of consumer ratings of satisfaction.

Since the development of this model of consumer satisfaction, various components of the model have been examined and modified. Churchill and Surprenant (1982) examined this model, specifically looking at the impact of disconfirmation on satisfaction, and whether it was necessary to include in a model of satisfaction. They analyzed the relationship between consumers' expectations and perceived performance of two products (one durable and one non-durable). Results indicate that for the non-durable good, the relationship between expectations, performance, disconfirmation, and satisfaction was as expected. When the product met consumers' expectations they were satisfied. On the other hand, when the product was below expected performance, the negative disconfirmation led to a dissatisfied consumer. The durable good, however, had different results. For this product consumers' expectations failed to significantly impact their satisfaction. Satisfaction levels were based solely on performance of the product (Churchill, Jr. and Surprenant, 1982). These results indicate that one's level of satisfaction is greatly determined by the product or service situation. General conclusions regarding the determinants of satisfaction cannot be made, since judgements differ based on the situation.
The beginning analyses of consumer satisfaction focused on satisfaction with products, in contrast to focusing on services. It became clear that the same theory applied to the evaluation of product performance was not applicable to service encounters. The nature of a service encounter sets it apart from product performance. Nelson (1974) identified two categories of properties of goods: search properties and experience properties. Search properties are the attributes that a consumer can evaluate before purchasing a good. Experience properties are the attributes that can be evaluated during consumption of a good. In building on this theory, Darby and Karni (1973) added a third property, credence properties. These are attributes that can be discerned only after the product is purchased or consumed. These three properties form a continuum in terms of ease of evaluation. Search properties are at one end of the continuum and are easy for consumers to evaluate. Credence properties, however, are at the other end of the spectrum and are often difficult, if not impossible for consumers to evaluate.

The distinction between products and services is clearest regarding the properties involved. Products contain more search properties that are easily evaluated by consumers. Services, on the other hand, contain many credence properties, making the evaluation of them more difficult. The difference in composition of properties of goods and services should lead one to conclude that consumers' evaluation of and satisfaction with the two would differ.

Soloman et al. (1985) note that for many service encounters, no tangible object is exchanged; therefore the consumer is left to evaluate the experience based solely on the service provider. Bitner, Booms, and Tetreault (1990) share this view, stating that many times the interaction between the customer and firm is the service in the eyes of the consumer. The interaction between a service provider and consumer is often viewed as a series of role performances. Each "player" is acting a role according to a "script." The role is not confined to
the service provider alone. The customer, as well, behaves according to a "script." A script is defined as a predetermined, stereotypical set of actions that is expected to occur regarding an incident (Shank and Abelson, 1977). Scripts, in regards to the service encounter, can be viewed as similar to consumers' expectations regarding a product performance. Since many service encounters contain many credence properties, consumers often have difficulty finding attributes on which to base the experience. As a result, consumers evaluate the process, based on predetermined scripts, as well as a reaction to the service provider, again, based on a set of scripts (Alford and Sherrell, 1996).

Taking into account the considerations regarding service transactions, researchers have redefined previous models of satisfaction. A large portion of the satisfaction literature has focused on the role of expectations, perceived performance, and disconfirmation in satisfaction ratings (Churchill, Jr. and Surprenant, 1982; Oliver, 1980). The application of this model to services has been questioned. Alford and Sherrell (1996) note that services are characterized by high levels of credence properties, making expectations difficult for many consumers to develop. The nature of service transactions often results in the service provider becoming the focal point of evaluation. When affective responses have been included in satisfaction models, they have generally been included as a result of the post-consumption experience (Oliver, 1993; Westbrook, 1987).

Alford and Sherrell (1996) addressed this issue and included components of consumers' evaluations of the service provider into a model of consumer satisfaction. They hypothesized that provider affect and general affect with the service provider category would have independent effects on satisfaction, performance evaluations, as well as on repeat purchase intentions regarding dental services, which is a service with high credence properties. Results
indicate that affect, both general and provider specific has an effect on satisfaction only through performance. Both levels of affect had a significant effect on performance, which had a significant effect on satisfaction. Disconfirmation of expectations regarding the process of the service was not found to have a significant effect on satisfaction. These results are contrary to previous models that included affective responses as part of the post-consumption experience. Alford and Sherrell (1996) state that in models of satisfaction with service affect should precede performance evaluations.

Other studies have found that the interaction between service provider and consumer is an important determinant of satisfaction. Bitner, Booms, and Tetreault (1990) investigated which actions resulted in positive and negative evaluations of service encounters. Three categories of incidences were identified. These include service provider's response to product failure, response to consumer requests, and unsolicited behavior of the provider. For all three of these categories, the performance of the service provider had a direct effect on satisfaction. For example, in the first category, response to product failure, providers were able to turn negative incidents into positive evaluations through their interaction with the customer (Bitner, Booms, and Tetreault, 1990).

Reviewing marketing literature regarding consumer satisfaction has led to a number of conclusions. First, different evaluations are required for products and services. Second, satisfaction evaluations are different for different types of products (durable vs. non-durable), as well as for different types of services (high search qualities vs. high credence qualities). Third, the nature of the service interaction suggests that consumers evaluate the performance of the service provider as the service encounter. Finally, expectations for many services are difficult for consumers to make, therefore most rely on a "script" to judge the process of the interaction.
Patient Satisfaction

Studies of patient satisfaction have found that satisfaction is influenced by aspects of care that are specific to the health care experience (Abramowitz, Cote, and Berry, 1987; Cleary and McNeil, 1988; Kolodinsky, 1997; 1999; 1996; Russell, 1990; Strasser, Aharoney, and Greenberger, 1993; Ware and Snyder, 1975; Woodside, Frey, and Daly, 1989). Linder-Peltz (1982a) defines patient satisfaction as "...positive evaluations of distinct dimensions of the health care," (p. 578). Some researchers have focused on the process of care as being an important factor in influencing satisfaction. For example, Buller and Buller (1987) found that "patients rely more on the physician's communication style than on the specific treatment information and success of treatment when evaluating medical care" (p. 381). This relates directly back to the previous discussion of the service provider being the focal point of service evaluations.

In addition to communication style of care providers, other dimensions of the health care experience have been found to influence satisfaction. Ware and Snyder (1975) found that quality of care, access to care, availability of resources, and continuity of care accounted for 72 percent of the variation in satisfaction. A closer examination of the dimensions of satisfaction is discussed below. While it has been shown that satisfaction with health care is based on satisfaction with experiences directly related to that care, consumers have been shown to be able to form summary judgements regarding their health care as a whole (Aharoney and Strasser, 1993; Strasser, Aharoney, and Greenberger, 1993).

The typical model of consumer satisfaction, that satisfaction is the result of expectations, performance, and disconfirmation, may not be applicable to the health care setting. Health care services in general contain high credence properties, making it difficult for consumers to develop
expectations prior to receiving service. While these individuals may not have a defined set of expectations regarding their care, they generally have an idea of the process that takes place, and therefore are able to judge whether the service is being provided at a satisfactory level (Alford and Sherrell, 1996).

**Dimensions of Satisfaction**

As stated by Williams (1994 p. 509), "...while patients’ evaluations are important we must first gain clearer understanding of how they evaluate before patient opinion can be accurately collated and interpreted." As was stated by the marketing literature, satisfaction varies across many dimensions. Satisfaction ratings not only vary between products and services, but between types of products, and types of services. For each evaluation of satisfaction, the dimensions that comprise that evaluation are going to differ. The evaluation of medical care in general is derived from a number of dimensions. Many studies have been conducted that support the notion that patient satisfaction ratings are developed according to multiple factors, not just one dimension (e.g., Gilleard and Reed, 1998; Yucelt, 1994; Strasser, Aharoney, and Greenberger, 1993; Russell, 1990; Ware et al., 1983; Kolodinsky, 1996; 1999).

Gilleard and Reed (1998) broadly identify patient satisfaction as related to the personal and professional aspects of care. Other researchers specify more detailed components of satisfaction with health care. Yuclet (1994) used factor analysis to and identified seven dimensions accounting for satisfaction with physicians. These dimension are the interpersonal skills of the physician, minor/major medical reasons to visit a physician, the socio-demographic background of the patient, the quality of the physician’s manners, as well as the competence and knowledge
of the physician, information sources used in selecting a physician, and the physician’s reasons for becoming a doctor.

Russell (1990) used principal component factor analysis to identify dimensions of arthritis patients’ satisfaction with physiotherapists and occupational therapists. Quality of care, resource availability, and accessibility were the factors identified. These three dimensions are part of a larger set originally identified by Ware and colleagues (1978). Ware et al. (1978) identify ten dimensions of satisfaction: accessibility/convenience, availability of resources, continuity of care, efficacy/outcomes, finances, humanness, information gathering, information getting, pleasantness of surroundings, and quality/competence of caregiver.

In an assessment of client satisfaction with home health nursing, Laferriere (1993) used the Client Satisfaction Survey to identify factors associated with satisfaction. Factor analysis identified technical quality of care, communication, personal relationship between client and provider, and delivery of services as being important dimensions of satisfaction.

In addition to being a multidimensional concept, satisfaction is believed to be an independent as well as dependent variable. On the one hand, satisfaction, as shown above, is dependent on a number of inputs, such as communication, accessibility, and quality. On the other hand, a link has been identified between satisfaction with health care and health behaviors. Patient compliance, such as appointment keeping (Alpert, 1964; Francis, Korsch, and Morris, 1969), compliance with recommendations (Wilson and McNamara, 1982), and medication use (Ludy, Gagnon, and Caiola, 1999) have all been shown to be related to one’s satisfaction with health care, generally stating that the higher the satisfaction with care, the more likely one is to comply with physician recommendations, etc.
Patient satisfaction has also been connected with health care utilization, although there is disagreement among researchers regarding this relationship. For example, Roughman et al. (1979) studied the impact of satisfaction on health clinic utilization levels of mothers receiving Medicaid, and results indicated that satisfaction with clinics was positively associated with utilization. Mirowsky and Ross (1983) found that satisfaction with physicians increases physician visits, which, in turn, decreases satisfaction. Still others have found no relationship between satisfaction and health care utilization. Kolodinsky (1995) examined consumer satisfaction with primary care physicians in managed care health plans. Results indicate that there does not exist a simultaneous relationship between use of physicians' services and satisfaction. The contradictory findings from researchers provide the motivation for continued research into this topic.

**Measurement of Satisfaction**

The measurement of satisfaction is another area where debate is stirred. Several researchers questioned the validity of using patient satisfaction as an indicator of the quality of care. Included in criticisms is the belief that patients lack the technical knowledge necessary to evaluate quality (Vuori, 1987; Mirvis, 1998). This is believed to be especially true for those in lower economic standing as well as for older individuals (Cleary, Edgeman-Levitan, and Delbanco, 1992). Many believe that consumer evaluations rely more on the *quantity* of services provided as opposed to the *quality* of those services (Mirvis, 1998; Davies and Ware, 1988). The possibility that individuals are too ill to provide an accurate evaluation is another concern raised (Vuori, 1987; Mirvis, 1998).
Patients, especially elderly patients, tend to report high levels of satisfaction, with little or no complaints (Owens and Batchelor, 1996). One explanation for this is the nature of the survey. Studies looking at global satisfaction with care tend to inflate ratings, masking specific areas of concern (Russell, 1990; Jackson and Kroenke, 1997). Focusing on global qualities eliminates the possibility to compare various aspects of care (Russell, 1990). Characteristics of the population are another reason given for high levels of satisfaction. The disparity of knowledge between physicians and consumers often leave consumers in a position in which they feel unable to adequately criticize the care, especially that of a technical nature (Russell, 1990).

Patients are also reluctant to critically assess their service, especially if a relationship had been established for an extended period of time (Owens and Batchelor, 1996). Consumers experiencing unsatisfactory care may be reluctant to criticize caregivers for the fear of worsening future experiences. Those who have long standing relationships with providers tend to develop a loyalty, which makes them more reluctant to criticize. The caregiver, often in this case, is viewed in terms of a good friend instead of an employee (Owens and Batchelor, 1996).

There is a strong opposition to these criticisms, however. Despite the fact that there are many dimensions involved in satisfaction, patients have been shown to be able to make summary judgements of these dimensions (Strasser, Aharoney, and Greenberger, 1993). Larsen et al. (1979) note the importance of including the consumer’s perspective in evaluations of care. They state that an evaluation omitting the consumer perspective is incomplete, and potentially biased. Mirvis (1998) and Davies and Ware (1988) share this belief, in that patient assessments offer a unique perspective which is unable to be obtained from other sources. The fact that satisfaction can determine outcomes is another reason given in supporting of the inclusion of consumer
evaluations. Finally, studies have found that consumer assessments of quality do correlate with that of physicians, implying that consumers can, in fact, assess technical ability (Mirvis, 1998).

Kolodinsky (1999) found that, controlling for predisposing, enabling, need characteristics of individuals, in addition to service utilization, objective evaluations of aspects of care were important predictors of satisfaction with the quality of care. This finding provides support for the use of consumers' evaluations of care. In addition, individuals who received information from their care provider were more likely to be satisfied with their care, indicating that consumers are interested in taking active roles in their health care.

A summary of the satisfaction literature identifies a number of important issues. First, service performance requires a different analysis than that for products. The high levels of credence properties surrounding services make it difficult for consumers to develop expectations on which to judge performance. As a result, the service provider is generally the focus of evaluation.

The literature has also shown that patients evaluate their care based on the satisfaction with various aspects that are directly related to the health care experience, and that individuals are able to form summary judgements regarding their satisfaction with health care services. Despite this conclusion by some researchers, however, there are still debates regarding the ability of consumers, especially medical care consumers, to effectively evaluate their care. Some researchers feel that patients lack the technical knowledge available to evaluate some medical procedures, while others have shown that patients are, in fact, able to evaluate their care. This disagreement provides motivation for further examining patient satisfaction.
Quality of Care

Service Quality

The search for quality was a driving force in marketing in the 1980s, stemming from consumer demand. Until the mid-1980s quality evaluations were mainly performed on manufactured goods (Berry, Zeithaml, and Parasuraman, 1985; Parasuraman, Zeithaml, and Berry, 1985). Knowledge of quality in goods sectors is, however, not sufficient in understanding quality in services. Three characteristics of services have been identified, which make quality assessments difficult. These include intangibility, heterogeneity, and inseparability (Parasuraman, Zeithaml, and Berry, 1985). Since services are performances rather than objects, specific manufacturing qualities cannot be set, and performance can vary from provider to provider. In addition, the production and consumption of services is simultaneous, making it difficult, if not impossible to separate the two (Carmen and Langeard, 1980; Gronoos, 1978; Regan, 1963; Upah, 1980).

Understanding the importance of service quality, Berry, Zeithaml, and Parasuraman (1985) began to take a closer look at quality measures regarding services. Their research has continued from their start in the mid-1980s, leading to the development of a measurement tool for service quality. Focus groups conducted initially identified 10 determinants of service quality. These include reliability, responsiveness, competence, access, courtesy, communication, credibility, security, understanding the customer, and tangibles.

Berry, Zeithaml, and Parasuraman (1985) draw some conclusions regarding service quality that are similar to satisfaction judgements. First, they state that perceptions of quality are related to comparison of consumers' expectations with experiences. Second, the process of services is equally important as the outcome when quality is concerned, just as the process of the service is important when satisfaction with the service as a whole is in question.

The original 10 dimensions that Berry Zeithaml and Parasuraman (1985) found as contributors to service quality have been developed by the researchers into a measurement scale for service quality
The scale has been refined in recent years to include a 22-item scale that measures 5 dimensions: tangibles, reliability, responsiveness, assurance, and empathy. Tangibles include the physical facility, equipment, and appearance of personnel. Reliability measures the service provider's ability to perform the service accurately and dependably. Responsiveness is the provider's willingness to help customers. Assurance measures the knowledge and courtesy of employees, and empathy is the caring, individualized attention provided to customers (Rodwin, 1994).

**Health Care Quality**

The majority of services to which quality assessments were applied used to include mostly banking and credit card services, as well as securities brokerages and product repair services (Berry, Zeithaml, and Parasuraman, 1985; Parasuraman, Zeithaml, and Berry, 1985). There has been a shift in focus and attention has been drawn to quality within the health care setting. A large portion of research conducted regarding health care quality has focused on the groundwork of Donabedian (1980) who defines quality as being a result of the structure, process, and outcome of a service. The structure of a service involves the characteristics of the provider and setting, whereas the process is the encounter between the provider and consumer, and the outcome, in the health care setting, refers to the patient's resulting health status.

While many researchers have used the structure, process, outcome dimensions of quality of health care, this format is not easily transferable to many long-term health care services. Beaulieu (1991) examined the issue of quality in home and community-based care, and identified some of the difficulties of applying quality assessments to these services. The structure of care is relatively easy to conceptualize. The structure consists of the trained nurses and aides as well as the policies behind their actions (Beaulieu, 1991). The importance of the structure of care has been noted in the literature. Russell (1990) found that accessibility and quality of care accounted for 64 percent of the variance in satisfaction. Kolodinsky (1999) notes that being prepared is an important characteristic of caregivers, which impacts satisfaction. Communication is another predictor of satisfaction, as well as continuity of care.
The process and outcome components, however, become more difficult to conceptualize when applied to community care, especially that of a long-term nature. The process of care is difficult to measure for a number of reasons. For example, there may be a number of interconnected services being performed that create a "package" of care (Beaulieu, 1991). It is much easier to assess the quality of one or two separate services, as might be performed in an institutional setting, but when numerous procedures and services are carried out, the lines between them are blurred and distinctions become difficult.

The third component of some quality assessments, outcome, is even more difficult to conceptualize with regard to long-term care. The very nature of most home and community based care services is to maintain one’s health and independence, making an "outcome" difficult, although possible. With an institutional procedure, such as a surgery, the outcome is obvious and easily measured. Because of the long-term nature of many diseases, improvements and changes in health status may be slow to develop, therefore measuring quality at one point in time may distort the overall change in functional status of the care recipient (Beaulieu, 1991).

As with consumers' satisfaction evaluations, researchers debate over the use of consumer evaluations of quality of care. Criticisms include beliefs that ratings depend greatly on the demographics of the individual, that consumers use quantity instead of quality to evaluate services. In addition, there is concern that consumers are unable to distinguish between technical and interpersonal aspects of care (Mirvis 1998)

There is belief that the criteria physicians and professionals use to evaluate quality of care is different from that used by consumers. However, empirical findings on this issue are inconsistent. Several researchers found that consumers of health care rate the relative importance of measures of quality differently from the physicians (Ware and Snyder, 1975; Hulka et al., 1970), while Davies and Ware (1988) found that patient assessment of technical as well as interpersonal quality correlated with that of physicians.

Researchers have continually attempted to dispel these doubts. Kolodinsky (1999) used a combination of subjective and objective measures to assess the satisfaction of disabled elders and adults
with community-based health care services. Results of the logistic regression analysis indicate that consumers use the same factors to identify quality with care that health professionals believe are important measures for consumers to base evaluations on.

The literature regarding quality of health care, and long-term care specifically, highlight a number of important issues. A major issue is that quality in health care services has generally been looked at in terms of the structure, process, and outcome, which may be applicable to institutional and traditional care, however this structure is not easily transferable to long-term care services. The lack of research that has applied the Berry, Zeithamal, and Parasuraman (1985) dimensions provides motivation for such research. In addition, the lack of consistency regarding consumer evaluations provides another impetus for further evaluation of quality and measures of consumers' perceptions.

**Summary of Literature**

A review of the literature highlights a number of important issues and provides a number of reasons for continued research into each area. First, it is clear that the elderly are a growing population, with the oldest-old category being the fastest growing segment of the population (Neugarten, 1996). With this growing elderly population comes a growing need for health care services to accommodate this population. The oldest-old category of individuals, while not necessarily acutely ill, requires assistance in performing many activities of daily living (Regnier and Overton, 1997). Due to the advances in technology, the number and range of home health care services available have grown considerably. This growth has allowed a number of individuals to remain living independently in their communities instead of living in nursing homes (Brakman, 1994).

While satisfaction and quality are different concepts, a relation between the two has been identified. Incidents of satisfaction, over time, result in perceptions of quality in services (Rodwin, 1994). This relationship, however, has not been widely tested empirically. The literature on satisfaction, particularly patient satisfaction, shows that satisfaction ratings are derived from satisfaction with various components of their care, and that consumers are able to make summary judgements regarding their care.
Similarly, quality is a multidimensional concept. Donabedian's (1980) structure, process, and outcome is more applicable to traditional health care settings, while SERVQUAL proposed by Berry, Zeithaml, and Parasuraman's (Parasuraman, Zeithaml, and Berry, 1985; 1994) captures quality in long-term care more effectively.

Both the satisfaction and quality literature has divided researchers on a number of issues (e.g., the use of consumers' evaluations of health care, and the relationship between satisfaction and health care utilization), which provides impetus for further research into these areas.

**Behavioral Model of Health Care Utilization**

**Framework**

Aday and Andersen (1974) have proposed a model of access to medical care, from which a number of important relationships is highlighted. This model has been used repeatedly by researchers examining health care utilization (See, for example, Rabiner, 1992; Harlow, 1993; Ozawa and Morrow-Howell, 1992; Norgard and Rodgers, 1997; Wolinsky and Johnson, 1991). The model states that access to medical care proceeds from health care policy through the characteristics of the health care system and the population, to utilization of health care and satisfaction with health care (Aday and Andersen, 1974). Health policy includes the financing, education, and organization of health care, whereas characteristics of the health delivery system include the resources and organization of the system. The resources reflect the labor and capital invested in health care, including both the volume and distribution. Organization refers to the coordination of personnel and facilities (Aday and Andersen, 1974).

Personal characteristics can be divided into three categories, predisposing, need, and enabling (See, for example, Aday and Andersen, 1974; Rabiner, 1992; Wolinsky et al., 1983). Predisposing characteristics are those that exist prior to the onset of illness or the need for care,
and are divided into three categories: demographics, social structure, and health beliefs (Wolinsky and Johnson, 1991), including race, gender, age, and values. Need characteristics are those regarding one’s illness. A distinction is made between perceived need and what is medically diagnosed (Aday and Andersen, 1974; Wolinsky and Johnson, 1991). A patient’s self-report of health is considered as "perceived need", while a physician’s diagnosis of a disease is a "medically determined need". The third category is enabling characteristics, which are those that provide the "means" for individuals to access health care services. These are divided into two categories, familial resources, and community resources (Wolinsky and Johnson, 1991), which include income, existence of insurance, education, as well as characteristics of the community in which the individual lives in, such as being in a rural setting (Aday and Andersen, 1974).

Aday and Andersen (1974) state that the utilization of health care services can be divided in terms of its type, site, purpose, and time interval involved. The type refers to the kind of service received; the site refers to where that care was received. The purpose distinguishes between preventive, illness-related, or "custodial" care. The time interval refers to the contact, volume, or continuity measures involved with the care.

The final component of the model, consumer satisfaction, according to Aday and Andersen (1974), "...refers to the attitudes toward the medical care system of those who have experienced contact with it" (p. 215). The five components of the model and their relationships is expressed below.
As can be seen from the model, there are a number of distinct relationships between the components. There is a relationship between the characteristics of the population and their utilization of health care services, and between their characteristics and satisfaction with services. In addition, there is a relationship between characteristics of the health services and utilization of and satisfaction with those services. Finally, there is a relationship between utilization of health services and consumer satisfaction, which is represented here as a simultaneous relationship. Research conducted concerning these relationships is discussed below.

**Empirical Work**

*Personal Characteristics of Population at Risk and Utilization of Health Services*

**Predisposing:** Age is an influence of service utilization, with older individuals using more services (Rabiner, 1992). Houde (1998), using a logistic regression analysis, found that as elders age one year they are 1.04 times more likely to utilize formal care services. Researchers have found that females are more likely to use formal health care services (Houde, 1998; Norgard and
Rodgers, 1997). Kemper, (1992) used probit analysis to predict use of formal and informal care services. Results indicate that women are 4 percent more likely to use formal care services than men. For the majority of male elders, a living spouse exists to provide them with care, making them less reliant on formal care services. Women over age 65, on the other hand, outlive men over 65 by about 4 years (National Center for Health Statistics, 1985); therefore they are more likely to be a widow when they are in need of care. Because of this, whereas women tend to use these services to a greater extent than men (Coughlin et al., 1992).

Non-whites have a tendency to rely less on formal care services than for whites. African American and Hispanic races tend to have stronger informal networks to rely on in time of need. This has been shown statistically in a number of studies. Kemper (1992) found that African Americans were 7.6 percent less likely than Caucasians to use formal care services and Hispanics 17.9 percent less likely. In contrast, they were 9.4 percent and 10.4 percent, respectively, to rely resident informal care.

Enabling: Income is positively associated with utilization of formal care services, most likely to due to the ability to access these services (Kemper, 1992; Stoller and Cutler, 1993). Possession of insurance also encourages consumer’s utilization of formal care services (Houde, 1998), however, only about 4 percent of the elderly have long-term care insurance (Pepper Commission, 1990; Wieland, Ferrell, and Rubenstein, 1991). Individuals with a higher level of education are more likely to use services than those with lower levels of education (Norgard and Rodgers, 1997; McCaslin, 1989). These individuals have a greater knowledge of services available and greater access to resources around them. Dansky et al. (1998), using a multivariate regression analysis, looked at the use of home health services, physician services, and hospital services of the elderly in rural areas. They found that those individuals receiving Medicaid to be 7.6 times more likely to receive home health care, and those who completed college to be 1.5 times more likely.
Marital status has also found to impact formal service utilization. Individuals who are not married tend to have a limited informal network to rely on, so they are more likely to utilize formal care services (Bowling, Farquhar, and Browne, 1991). Dansky et al. (1998) found that those elders not married were 15 times more likely to receive home health visits than married elders. In a similar vein, those living alone are more likely to rely on formal care services (Houde, 1998; Wieland, Ferrell, and Rubenstein, 1991). While many of these people have friends and relatives to depend on, there has been shown a tendency to rely on formal care services to provide needed assistance.

Elders living with fewer people are more likely to use formal services (Houde, 1998; Dansky et al., 1998). Individuals living alone are more likely to use services in general and formal services in particular (Wieland, Ferrell, and Rubenstein, 1991; Houde, 1998). Logan and Spitze (1994), using a logistic regression analysis, found that those living with others were less likely to use home-based care services compared to those living alone. In fact, the more people living in a household, the less likely an individual is to use paid care services (Houde, 1998). In a study of three populations’ use of district nursing services, home help services, and meals-on-wheels services, Bowling et al. (1991) found that as household size increased, all three populations’ use of home care services decreased.

Magaziner and Cadigan (1988) examined the service utilization of elderly women living alone. Their findings suggest that a larger percent of elderly women living alone rely on formal support, whereas those living with others are more likely to rely on their children or children’s spouses. These results, however, are based on bivariate analyses, which do not take into account other variables, which may be influencing the outcome.

The presence of informal support has been shown to decrease reliance on formal care services, implying that informal and formal care services are substitutions for one another (Rabiner, 1992; Houde, 1998). Norgard and Rogers (1997) found that compared to living alone, those elders living with a spouse only, a spouse and others, or just others were all less likely to use any form of formal help.
Living in a rural area has been shown to decrease formal care services (Kenney, 1993; Clark, 1992). This could be possible due to the lack of services in rural areas, or the limited number of available services. Individuals with greater knowledge of services are more likely to utilize those services (Bowling, Farquhar, and Browne, 1991; Mitchell, 1995).

Need: As would be expected, those in poor health are inclined to rely on formal care services (McConnel and Zetzman, 1993; Houde, 1998). Dansky et al. (1998) found that individuals in fair health are 2.8 times more likely to receive home health visits, and those in poor health 20.7 times as likely to receive care.

Wolinsky and Johnson (1991) used an OLS regression to analyze the effect of predisposing, enabling, and need characteristics on health care utilization. Among the health care services analyzed, use of home health services was included. Results indicate that needing assistance with basic and household ADLs is positively associated with utilization of home health care (Wolinsky and Johnson, 1991).

A number of studies have identified the connection between ADL and IADL limitations and service utilization. Houde (1998) estimate that individuals with ADL limitations are 1.2 times more likely to utilize formal care services. Kemper (1992) looked at the number of ADL limitations in relation to service utilization. Individuals with only 1 limitation were 8.7 percent more likely to use formal care services, three limitations were related to an 11 percent chance of formal care services, and individuals with five ADL limitations were a full 12.2 percent more likely to use formal care services. All percents were in comparison to individuals with no ADL limitations (Kemper, 1992). A higher number of IADLs is indicative of higher utilization of services as well. Norgard and Rodgers (1997) found those individuals with between 1 and 5 IADL limitations were more than twice as likely to receive any help, formal or informal. Recent hospitalization is linked to higher service use (Coughlin et al., 1992; Kemper, 1992). Logistic regression analysis found elders who had been hospitalized in the past year almost twice
as likely to use formal care services (Houde, 1998). If an individual has a chronic illness they are more likely to use formal health care services (Mitchell, 1995).

Personal Characteristics of Population at Risk and Consumer Satisfaction

**Predisposing:** Age is positively associated with satisfaction (Rabiner, 1992; Corrigan, 1990). Lee and Kasper (1998), however, found that, compared to those between the ages 65 and 69, individuals age 75 and over were less likely to be satisfied with the technical skills and interpersonal manner of their physician. Men are less likely to be satisfied with health care than women (Hulka et al., 1975). Hulka et al. (1975) attribute this finding to the possibility that since women use health care services more frequently than men, they are more effective users than men. Blacks are less likely to be satisfied with health care services (Lee and Kasper, 1998; Hulka et al., 1975). This effect was noted to be particularly true of Blacks aged 60 and over. Lee and Kasper (1998), in addition, found that blacks were less likely to be satisfied with access to care, and global quality as well.

The higher one’s self-reported health status, the more likely they are to be satisfied (Hall, Milburn, and Epstein, 1993; Pascoe, 1983). Lee and Kasper (1998) note that compared to individuals rating their health as excellent, those rating their health as "very good" to "poor" were all significantly less likely to be happy with the global quality, and access to medical care, as well as with the technical, interpersonal manner, and information-giving of their physician. Hall et al. (1993) found that self-reported health status was a stronger predictor of satisfaction than professionally diagnosed functional ability. This finding has led researchers to believe that the psychological aspects of health and illness are more important to consumers than diagnosed aspects in determining satisfaction (Hall, Milburn, and Epstein, 1993).
Enabling: Individuals with higher education levels are more likely to be satisfied with care (Corrigan, 1990). Lee and Kasper (1998) found that elders with greater than 13 years of education were at least 1.5 times more likely to be satisfied with all areas of their care, as compared to those with 8 or fewer years of education. Those with a higher education are more likely to have more resources available to them, or greater knowledge of services, allowing them greater decision making ability within their care setting. In a similar vein, higher income is associated with higher levels of satisfaction with medical care, as is the presence of health insurance, again possibly due to greater access to services (Lee and Kasper, 1998). Rabiner (1997) found that as the hours of informal care increased satisfaction with home-based care services increased. Living alone was found to negatively affect satisfaction (Hulka et al., 1975). Hulka et al. (1975) found that individuals living alone were least likely to be satisfied with both the professional competence of their care and personal qualities of their physician.

Need: Degree of disability and illness has been associated with higher levels of satisfaction with care (Rabiner, 1992). Buller and Buller (1987) found that a higher percentage of individuals with a high severity of illness were satisfied with physicians with a caring communication style. These results, however, are based on bivariate analysis, and therefore should be interpreted with caution. Rabiner (1992), however, performed multivariate regression analysis using ordered probit estimations, and found that elders with extremely or moderately severe ADL limitations were more likely to be satisfied with home and community-based care.

Characteristics of Health Delivery System and Consumer Satisfaction

The characteristics of the health care system will have their own effect on one’s satisfaction with care. Ware, Davies-Avery, and Stewart (1978) identified 10 dimensions of satisfaction
related to health care. These dimensions include accessibility/convenience, availability of resources, continuity of care, efficacy/outcomes of care, finances, humaneness, information gathering, information giving, pleasantness of surroundings, and quality/competence of caregiver.

A number of these factors have been studied and shown to influence satisfaction with care. Having the same provider deliver care is expected to increase one’s satisfaction with care (Hulka et al., 1975). Lee and Kasper (1998) found that elders with an established relationship with a physician lasting 5 years or longer were more satisfied with the technical skills, interpersonal manner, and information-giving of that physician, in comparison to individuals with relationships of less than one year. The quality/competence of caregivers has been shown to influence satisfaction with care. Lee and Kasper (1998) found that elders with favorable perceptions of the technical skills of their physician were 3 times more likely to be satisfied with the overall quality of care.

Communication with physicians has been shown repeatedly to influence satisfaction with care. Buller and Buller (1987) investigated the influence of physicians’ communication style and patient satisfaction with care. General results indicate that patients expressing increased satisfaction with communication with their physician were more satisfied with the care they received. With regards to communication style, patients whose physicians demonstrated a more affiliative style of communication were more satisfied with care compared to patients whose physicians communicated in more authoritative ways (Buller and Buller, 1987).

Having choice and control within one’s care is expected to have a positive effect on satisfaction (Beatty et al., 1998). Beatty et al. (1998) examined whether individuals receiving consumer-directed personal care services were more satisfied with care than those receiving
services not consumer directed. Results from chi-square analyses indicate that the amount of control over assistants’ work schedule was significantly associated with satisfaction. In addition to control of schedules, control over the choice of provider was significantly associated with satisfaction. The availability of assistants was also associated with satisfaction (Beatty et al., 1998).

Characteristics of Health Delivery Systems and Utilization of Health Services

Although models have shown that characteristics of the health care system are related to service utilization (Aday and Andersen, 1974), few empirical studies examine this relationship.

Utilization of Health Services and Consumer Satisfaction

According to Koos (1954), satisfaction is an outcome measure of one’s experience with health care (Roghmann, Hengst, and Zastowny, 1979). In this perspective, satisfaction is viewed as a product of perceived utility and cost. On the other hand, satisfaction is also recognized as an input into future health behaviors. Increased satisfaction increases the likelihood of continuing to use medical care (Ware et al., 1975). Suchman (1964) found that negative views of medical care led to a decrease in preventive health behaviors.

The relationship between satisfaction and utilization of medical care services has been identified as reciprocal (Roghmann, Hengst, and Zastowny, 1979). Aday and Andersen (1974, p. 216) simply state "...over time, the utilization of services is apt to influence a consumer’s satisfaction with the system, and in turn, the satisfaction or dissatisfaction he experiences from this encounter influences his subsequent use of services."
Researchers have tested this relationship, with varying results (Kolodinsky, 1995; Mirowsky and Ross, 1983). Mirowsky and Ross (1983) examined whether satisfaction and doctor’s visits were reciprocal in nature, and, if so, whether the relationship was self-regulating or self-amplifying. Two models were developed and tested on two populations: the first model was an instantaneous reciprocal model, and the second one was over time. Estimation of the overall fit of the two models indicates that satisfaction with doctors and subsequent visits form a self-regulating system, in that satisfaction increases after initial visits, however as the number of visits increases, satisfaction decreases, and consequently, future number of visits decreases (Mirowsky and Ross, 1983).

Kolodinsky (1995) examined the relationship with the satisfaction with primary care physicians in a managed care health care system. Results indicate that, unlike Mirowsky and Ross (Mirowsky and Ross, 1983), no simultaneous relationship exists between satisfaction with care and future utilization. This finding is consistent with that of other researchers (Wolinsky, 1976; Gray, 1980).

Zastowny, Roughmann, and Cafferata (1989) examined the relationship as well in a study of 5 health clinics in upstate New York. Results of regression analyses indicate that the relationship between satisfaction and utilization was specific for each care provider. With some providers the relationship was negative, yet in others, positive. The authors also not that demographics are related to use and satisfaction in various ways (Zastowny, Roughmann, and Cafferata, 1989).

Roughman, Hengst, and Zastowny (1979) took another look at the relationship using a sample of mothers receiving Medicaid from four areas in the New York state. Regression analyses were run for predicting satisfaction from utilization, and utilization from satisfaction. Results indicate that, similar to Zastowny, Roughmann, and Cafferata (1989), the relationship
between satisfaction and utilization was significant only when examined for each area separately. Specifically, satisfaction increased the proportion of explained variation in utilization, however utilization did not increased the explained variance in satisfaction (Roghmann, Hengst, and Zastowny, 1979).

**Conceptual Model**

Based on the literature, satisfaction is clearly as a multidimensional concept. One’s personal characteristics, characteristics of the health care system, and utilization of services all combine to influence satisfaction (Aday and Andersen, 1974). Each of these components has its own individual effect on satisfaction. There may be simultaneous effects as well, for example satisfaction has been found to influence health care use, just as health care use has been found to influence satisfaction (Mirowsky and Ross, 1983; Roghmann, Hengst, and Zastowny, 1979; Zastowny, Roghmann, and Cafferata, 1989).
References


Alpert, J.J. (1964). "Broken Appointments." Pediatrics, 34(127-


Donabedian, A. (1980). "Explorations in Quality Assessment and Monitoring, Vol. I." In The Definition of Quality and Approaches to its Assessment, Ann Arbor, MI: Health Administration Press,


Hulka, B.S., Kupper, L.L., Daly, M.B., Cassel, J.C., and Schoen, F. (1975). "Correlates of Satisfaction and Dissatisfaction With Medical Care: A Community Perspective." Medical Care, 13(8), 648-658.


Kolodinsky, J. Satisfaction of Disabled Rural Elders and Adults with the Quality of Community-Based Long-Term Care Services. 1999. Ref Type: Unpublished Work


Ware, J.E. and Snyder, M.K. (1975). "Dimensions of Patient Attitudes Regarding Doctors and Medical Care Services." _Medical Care_, 13(669-682.


