DEGREE OF FRAILTY AND ELDERS' SATISFACTION WITH PERSONAL CARE SERVICES IN A COMMUNITY SETTING

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ABSTRACT

This study assesses the characteristics that influence elders' satisfaction with communitybased long-term care services. Satisfaction is modeled as being impacted by personal characteristics, functional status, characteristics of service and characteristics unique to health care service. The results indicate that characteristics of service have the largest impact on the satisfaction with community-based care services for all elders. However, functional status separates elders into two distinct populations. For the less frail elders, the ability to discuss medical information about their particular health condition has the most impact on satisfaction with their health care service. For the more frail elders, the ability of their health care provider to be on time has the greatest impact on satisfaction.

INTRODUCTION

The number of elders in the U.S. population increased eleven-fold during the past century, reaching 33 million by its end (Hobbs, 1999), with the oldest old (those age 85 and over) being the fastest growing segment (Neugarten, 1996). Increasing age increases the likelihood of needing assistance due to functional impairment (Wieland, Ferrell, and Rubenstein, 1991), and, while most elders are not acutely ill, many are frail and require assistance performing daily activities (Regnier and Overton, 1997). At the same time we see an increase in the population of elders, the provision of long-term care has shifted from institutional care settings to individuals' homes. This increased use of home- and communitybased long-term care services has been fueled by a number of factors, the most important of which

is the desire of individuals to remain in their homes for as long as possible (Hohl, 1994).

Because of the nature of community-based long-term services, managing the quality of care can be difficult, as compared to institutional settings (Peters, 1992). Continued quality assessments must be performed to assure the quality of the care being provided. There are many ways to measure the value of services, ranging from supply side measures, such as cost containment and physician accounts, to demand side measures, including client satisfaction, their improved functional status, and reduced need for health care utilization. However, much previous research has focused on supply side measures such as physician accounts. While the assessments of the quality of home- and community-based services is also important, consumer satisfaction, if included at all, is generally a small part of the equation (Beaulieu, 1991; Brook, McGlynn, and Cleary, 1996). Davies and Ware (1988) and Mirvis (1998) share the belief that patient assessments offer a unique perspective, which is unobtainable from other sources. Health service researchers have noted the importance of including consumer evaluations, such as satisfaction surveys, into quality assessments (Miller-Hoehl, 1992; Monk and Cox, 1993; Wensing, Grol, and Smits, 1994).

In this study, we estimate client satisfaction with community-based personal care services. The satisfaction model is based on the literature from service quality, patient satisfaction, physical functioning, and health care use. Through the integration of these diverse literature bases, we hope to provide a more comprehensive understanding of what influences the satisfaction of clients of long-term community-provided care. Specifically, the objectives of this study are to

assess what qualities of community-based longterm care services impact elders' satisfaction and to determine whether there is a difference in the satisfaction between elders at two levels of frailty.

LITERATURE REVIEW

Relatively early literature in the health area suggests 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; Doering 1983; Russell 1990; Strasser, Aharony, and Greenberger 1993; Woodside, Daly 1980). Frey, and Communication with physicians has been shown to increase satisfaction with care (Buller and Buller, 1987; Kolodinsky and Shirey, 1999). Beatty et al. (1998) found that the availability of and amount of control over health care assistants were significantly associated with satisfaction. There now appears to be a consensus that patient satisfaction is a multidimensional concept (Gilleard and Reed 1998; Geron, Kolodinsky, 1995; 1997; Russell, 1990; Strasser, Aharoney, and Greenberger, 1993; Ware et al., 1983; Yucelt, 1994). However, we also know that consumers can form summary judgments regarding their care (Aharoney and Strasser, 1993; Kolodinsky and Shirey, 1999; Strasser, Aharoney, and Greenberger, 1993).

Research into elders' satisfaction with care has generally focused on the personal aspects of the client and the impact that has on satisfaction. For example, age has been shown to be positively associated with satisfaction of care (Corrigan, 1990; Rabiner, 1992). Hulka et al. (1975) found that men are less likely to be satisfied with health care than women, and that individuals living alone were least likely to be satisfied with both the professional competence of their care and personal qualities of their physician. Having Medicaid, which implies a lower income level, was found to increase the odds of satisfaction with the global quality of care (Lee and Kasper, 1998). Decreases in physical functioning have also been shown to increase satisfaction with health care (Rabiner, 1992).

In examining clients' satisfaction with homebased care, models of quality assessment in the consumer area can add to understanding. The early work of Berry, Zeithaml, and Parasuraman (1985) identified ten general determinants of quality, including reliability, service responsiveness, competence, access, courtesy, credibility. communication. security, understanding the customer, and tangibles. This research led to the development of a measurement tool for service quality (SERVQUAL), a 22-item scale covering 5 dimensions of quality: tangibles, responsiveness. assurance, reliability. empathy (Berry, Zeithaml, and Parasuraman, 1985). While this instrument was not specifically designed for the analysis of health care quality, the dimensions captured in SERVQUAL represent aspects of service that are easy for consumers to evaluate, and have also been shown to be important indicators of health care quality. Soloman et al. (1985) note that for the majority of service encounters, including health care services, no tangible object is exchanged; therefore the consumer is left to evaluate the experience based solely on the service provider.

While research into patient satisfaction with long-term care is expanding, the number of articles that has focused on community-based care Kolodinsky (1995, 1997, 2001) is limited. identified other influencing factors related to health care services based on Aday and Andersen's (1974) Behavioral Model of Health Care Utilization. The unique characteristics related to health care include the availability of care, communication with the care provider, and the amount of control over the care provider. Geron et al. (2000) identify some problems with current research into home- and community-based long-term care. These include the fact that many research instruments are simply adapted from instruments used to measure satisfaction with medical care. Another shortcoming is the use of single item global satisfaction measures which fail to capture the complexity of many of the services provided through home- and community-based

care. In addition, the majority of measures available are based on the perspectives of researchers or providers, and not the perceptions of the recipients of care (Geron et al., 2000). Geron (1997) has developed an instrument to measure the quality of care, specific to long-term care settings, with the emphasis on the structure and process of care (Brook et al., 1996). Structural issues relate to the setting, timing, and services offered. while process issues relate to communication between provider and client and include information flow, interpersonal communication, and respect.

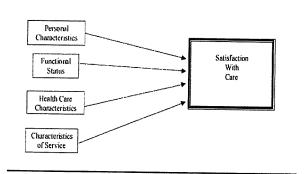
Studies in gerontology often focus their analyses on frail elders as a subpopulation. In the satisfaction literature to date, level of frailty, as measured by functional ability using measures such as limitations of activities of daily living (ADLs), instrumental activities of daily living (IADLS), falls, and chronic conditions are treated as "intercept shifters." That is, the effect of frailty is assumed to have no joint effect with other variables that impact satisfaction (Kolodinsky, 2001; Lee and Kasper, 1998; Rabiner, 1992; Benjamin and Matthias, 2001). Findings support the possibility that frailty both increases (Rabiner, 1992; Kolodinsky, 2001) and decreases (Benjamin and Matthias, 2001; Kolodinsky and Shirey, 1999) satisfaction. Given that there is no reliable evidence of the effect of frailty on satisfaction, this study tests the possibility that less and more frail samples represent two different populations of elders.

CONCEPTUAL MODEL

The general framework used to predict elders' satisfaction with long-term community-based care begins with Aday and Andersen's (1974) Behavioral Model of Health Care Utilization, which is used widely in the gerontology literature. According to the model, health care system use is impacted by health care policy, personal characteristics, characteristics of the health care system, and utilization of health care services. When one examines the patient satisfaction

literature, many of these same categories are included as inputs into satisfaction (See, for example, Kolodinsky and Shirey, 1999; Rabiner, 1992). In this study we predict satisfaction with community-based care services as an outcome based on personal characteristics of individuals, functional status, characteristics of service, and characteristics unique to health care service (See Figure 1). Characteristics of service form the linkage between this model and the service quality framework. This conceptualization moves the behavioral model forward. No longer is the output of service utilization the final step in the model. We assert that the final outcome of the behavioral model is satisfaction with services.

Figure 1
Conceptual Model of Health Care
Satisfaction



DATA

Data for this study are from the Florida State Department of Elder Affairs. In 1999, a study was commissioned specifically to examine elders' satisfaction with a variety of home-based services. The general purpose of the study was to use the information to improve the quality of home-based care for clients. This study focuses on personal care services. A total of 1,071 interviews were completed, of which 298 asked questions specifically about personal care services, including overall satisfaction and service quality, demographic characteristics of the care provider and receiver, amount of care received compared to amount of care needed, and presence of an

informal caregiver.

MEASURES

Dependent Variable

The dependent variable is whether, regarding perceived personal care services, the client is very satisfied versus not very satisfied. This variable was created from a five point Likert scale. Those responses that were reported being very satisfied were coded as a one and zero otherwise. The literature consistently shows that elders report being quite satisfied with health care (Biesecker, 1988; Biesecker and Biesecker, 1996). There are various explanations for this result. Some believe that elders are afraid to report dissatisfaction because they may lose care services. Others speculate that elders are happy to receive care, regardless of the quality. Our data are no different. In our sample 90% of the respondents reported being satisfied or very satisfied, with 50% being very satisfied, 40% being satisfied, and the remaining 10% being neutral, dissatisfied, or very dissatisfied. We think the 50% who say they are very satisfied are definitely satisfied. And we think the 10% who are neutral or dissatisfied are definitely not satisfied. We think the 40% who say they are satisfied are a combination of unknown proportions of people who truly are satisfied and people who are overclaiming satisfaction. Opting to be conservative, we included all of the 40% who are "satisfied" in the unsatisfied group. We realize that this reduces our likelihood of finding significant differences between the two groups given that the "unsatisfied" group probably has a substantial number of misclassified respondents. However, we can be reasonably sure that whatever difference we find are true differences. We hope the reader is not offended by our conservative We preferred this approach over approach. dropping the 40% from the sample and comparing the 50% "very satisfieds" with the 30% "not satisfieds."

Independent Variables

To measure the perceived quality of care, a multi-item measure is developed based on SERVQUAL (Berry, Zeithaml, and Parasuraman, 1985) and modified for long-term care services (Lee, 2000) using the frameworks of SERVPERF (Cronin and Taylor, 1992; Geron 1997). The variables included in multivariate analysis are factors that were formulated using principle components analysis with Varimax rotation based on client responses to twelve statements regarding characteristics of their care. The factors are consistent with the items identified by previous research in the area of satisfaction with medical services and include satisfaction with the of caregivers (DEPEND) dependability (Kolodinsky and Shirey, 1999), courtesy, respect and communication (SERVQUAL) (Kolodinsky and Shirey, 1999; Ware et al., 1978), scheduling and timeliness (SCHED and ONTIME) (Aharoney and Strasser, 1993; Cleary and McNeil, 1988; Kolodinsky and Shirey, 1999; Russell, 1990; Ware et al., 1978), and communication of information with caregivers (INFORM) (Buller and Buller, 1987; Kolodinsky and Shirey, 1999; Laferriere, 1993; Ware et al., 1978).

The characteristics unique to health care services are included as suggested by Kolodinsky (1995, 1997, 2000). First, MEDCAID indicates that the respondent receives Medicaid, (Hulka et al., 1975; Lee and Kasper, 1998). ADEOUATE, a variable that was computed using number of hours of care provided minus number of hours of care needed, is included to indicate the adequacy of care availability. This is a continuous variable that can range from a positive to negative number of hours. Third, INFORM2 is a dummy variable coded as one if an informal caregiver is available to substitute for formal care and zero otherwise. Fourth, MOBILITY is a measure of whether the client is able to leave the house one or more times a week and is coded as 1 if the answer is yes and zero otherwise.

The following variables capture the personal characteristics of the client: age, gender, race,

Table 1
Rotated Component Matrix Factor Loadings

Statement	DEPEND	ON TIME	SERVQUAL	INFORM	SCHED
Your personal care aid listens to					
your suggestions.	.86				
Your personal care aide is		1			
dependable.	.73				
Your personal care aide arrives					· · · · · · · · · · · · · · · · · · ·
late.		.86			
Your personal care aide leaves too					
early.		.77			
You feel safe with your personal					
care aide.		İ	.71		
Your personal care aide is		ļ			
consistently courteous.			.78		
Your personal care aide respects		Ī			
your privacy.			.77		
Your personal aide respects your					
personal belongings.			.85		
You received adequate					
information regarding personal					
care services.				.85	
You know about all of the services					
your personal care aide is supposed					
to provide.				.79	
Personal care services are					- ""
available when you					
need them.					.43
Personal care aide comes at times				Γ	
that are convenient for you.					
Extraction Mathed Division I C					.65

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 9 iterations. Cumulative percent of variance explained: 76.47.

education, and income. AGE is included (Kane, Maciewjewski, and Finch, 1997; Kolodinsky and Shirey, 1999; Rabiner, 1992). GENDER is a dummy variable that represents if the respondent is male (Kolodinsky and Shirey, 1999; Lee and Kasper, 1998; Rabiner, 1992). The variables BLACK and WHITE are dummy variables coded as 1 if the client is of that racial category and zero

otherwise. Hispanic is the left out category. The variables GHS and LHS are dummy variables that are coded as one if the client has had greater than or less than a high school education, respectively and zero otherwise. The left out category is having a high school education. INCOME is a dummy variable, coded as 1 if a client indicated their income was less than adequate to meet

Table 2
Descriptive Statistics

Variable	Definition	All	Low Risk	High Risk
Characteristics	of Service	!		
DEPEND	Factor: dependability	0.0	004	.11
SERVQUAL	Factor: service personnel	0.0	003	.007
•	quality			
ONTIME	Factor: caregiver on time	0.0	006	.11
SCHED	Factor: accessibility	0.0	008	.001
INFORM	Factor: information	0.0	007*	.16*
Characteristics	Unique to Health Care Service			
MEDICAID	Receives Medicaid	.55	.539	.584
ADEQUATE	Amount of care received	-105.95	-85.25	-153.93
	adequate (difference in			
	minutes of care)			
INFORM2	Presence of informal	.42	.394	.477
	caregiver			
MOBILITY	Gets out of house > 1 time per	.64	.64	.63
	week			
Personal Chara	cteristics			
AGE	Age divided by 10	78	78	78
GENDER	1=FEMALE	.84	.87	.80
BLACK	Race is black	.21	.216	.202
WHITE	Race is white	.75	.755	.73
GHS	Greater than high school education	.27	.272	.247
LHS	Less than high school education	.28	.293	.27
INCOME2	Income adequate to meet	.44	.429	.50
	expenses			
RISKDUM	1= high risk	.30		
SATISFAC	Dependent Variable	.52	.50	.55
N		232	204	88

expenses and zero otherwise. RISKDUM is also a dummy variable, coded as one if client is high risk of nursing home placement and 0 otherwise.

Two Different Levels of Frailty

One of the objectives of this study is to determine whether there is a difference in the

satisfaction between the elders at two levels of frailty. Thus, as a proxy for frailty, the Florida Department of Elder Affairs' measure of risk of nursing home placement is employed. A risk score is calculated based on the number of activity of daily living limitations (ADL), the number of instrumental activity of daily living limitations (IADL), and the degree to which a client requires

help with those limitations. The number of ADLS and IADLS are multiplied by the degree of help needed and summed. This score is combined with a client's self assessed health rating, and their caregiver situation. Due to small sample size, we collapsed two highest risk categories into "high risk" and the three lower categories into "lower risk" of nursing home placement. An "average" lower risk client has three to four IADLS that require some help and 1 ADL that requires some help. Their self-assessed health is fair. If they have an informal caregiver, the caregiver is younger than 66 years of age and is in good health. An "average" higher risk of nursing home placement client has more than 1 ADL that requires total help and more than 5 ADLS that require total help. Their self-assessed health is poor. If they have an informal caregiver present, the caregiver is over age 66 and in poor health. Descriptive statistics are included as Table 2. This table highlights all respondents, as well as low and high risk for nursing home placement respondents.

Statistical Model

Because our satisfaction measure compares those who are very satisfied compared to others, our dependent variable is bi-nomial with two possible responses. Bi-nomial logit is the appropriate statistical model to use. In addition, we hypothesize that physical functioning is related to how one forms one's judgment of satisfaction. Therefore, we run two different models, one on a less frail sample and one on a more frail sample.

RESULTS

Results of the bi-nomial logit analysis are presented as Table 3. Three service quality factors influenced the satisfaction of both levels of frailty: service personal quality, dependability and the caregiver being on time. For the higher risk clients the promptness of the caregiver has a much greater effect on satisfaction then with the

lower frailty clients. However, the lower frailty clients were more influenced by the dependability of the health care worker. Both levels were equally affected by the service personnel quality factors.

Low Level of Frailty

For those with lower nursing home placement risk all of the service quality factors significantly and positively impacted being very satisfied. Scheduling and being on time had the least impact; individuals at the average factor scores for those variables had about a one and a half times (1.64, 1.53) greater probability of being satisfied. Service personnel quality had the next greatest impact on satisfaction. Those at the average factor score were about two times (1.97) more likely to be satisfied with personal care services. Dependability and information were the most important characteristics. Clients at the average for those factor scores had a three point three and five times (3.3, 5.68) greater probability of being satisfied. It is also important to note that in the lower risk level clients, those who's income was adequate to meet expenses were half (.45) as likely to be satisfied with their health care. Finally, of the less frail population, age effects satisfaction, the older clients are one and a half times (1.59) more likely to report being satisfied with the health care they are receiving. Characteristics unique to the health care system did not effect their satisfaction with the overall quality of care.

High Level of Frailty

For the higher risk of nursing home placement clients, dependability and being on time had the greatest positive impacts. These clients were three times (3.03) more likely to be satisfied if their caregiver was dependable and two and a half times (2.49) greater probability of being satisfied if their caregiver was on time. Service personal quality factors had the next greatest influence on satisfaction. Clients at the average factor score

Table 3
Estimation Results

Variable	Definition	B	EXP	B	EXP	B	EXP
		(SE)	β	(SE)	β	(SE)	β
		All		Low Risk		High Risk	
Characteristics of		1 02	0.61	1.19	3.30	1.11	3.03
DEPEND	Factor: dependability	.93 (.20)***	2.51	(.28)***	3.30	(.41)***	3.03
CEDIVOLIAI	P4	.57	1.73	.68	1.97	.68	1.98
SERVQUAL	Factor: service	(.19)***	1./3	(.25)***	1.97	(.37)*	1.70
ONTHAT	personnel quality Factor: caregiver on	.53	1.76	.43	1.53	.01	2.49
ONTIME	time	(.17)***	1.70	(.20)**	1.55	(.32)***	2.47
SCHED	Factor: accessibility	.38	1.42	.49	1.64	.32	
SCHED	racior, accessionity	(.19)*	1.42	(.25)***	1.04	(.37)	
INFORM	Factor: information	1.13	2.98	1.73	5.68	.52	-
INFORM	ractor. Information	(.22)***	2.90	(.35)***	3.00	(.36)	
Chamastanistics I	 Unique to Health Care So			(.55)		(.50)	
MEDICAID	Receives Medicaid	.05	1	13	<u> </u>	26	1
MEDICALD	Receives Medicald	(.33)		(.43)		(.70)	
ADEQUATE	Amount of care	0009	.99	007	-	0009	-
ADEQUATE	received adequate	(.0005)*	.,,,	(.001)		(.0007)	
INFORM2	Presence of informal	07		56		.08	
INFORIVIZ	caregiver	(.33)		(.46)		(.61)	
MOBILITY	Gets out of house > 1	002		35		.30	T
WIODIDII I	time per week	(.34)		(.45)		(.67)	
Personal Charac		1 (12 1)					· · · · · · · · · · · · · · · · · · ·
AGE	Age divided by 10	.34	1.46	.46	1.59	.56	i
1102	1180	(.20)*		(.25)**		(.50)	
GENDER	1=female	.88	2.41	.54	 	1.04	<u> </u>
		(.46)*		(.64)		(.81)	
BLACK	Race is black	-1.02		77		98	
		(.94)		(1.79)		(1.33)	
WHITE	Race is white	76		69		11	
WIMIL		(.89)		(1.73)		(1.21)	
GHS	Greater than high	06		.64		-1.42	
	school education	(.39)		(.53)		(.76)	
LHS	Less than high school	52		10		-1.39	.25
	education	(.38)		(.47)		(.88)*	
INCOME2	Income adequate to	46		79	.45	.29	
	meet expenses	(.32)		(.43)*		(.58)	
RISKDUM	l= high risk	31					
		(.35)				<u> </u>	
Constant		-1.84		-2.05		-3.72	
- Śilomir		(1.87)		(2.63)		(4.10)	
N		239		165		74	
Log-Likelihood		247.34		151.65		77.45	
Chi-Sq.		83.77***		77.11***		24.64**	

were almost twice (1.98) as likely to be satisfied with their health care. Characteristics unique to the health care system did not effect their satisfaction with the overall quality of care. Most of the personal characteristics of the client did not influence their satisfaction except elders with more then a high school education were one quarter (.25) less likely to be satisfied with their long-term care.

DISCUSSION

The objectives of this study are to assess what qualities of community-based long-term care services impact elders' satisfaction and to determine whether there is a difference, in the qualities that satisfy, between elders at two levels of frailty. We found that for all those interviewed, the greatest impact on satisfaction were factors dealing with the service quality: specifically, characteristics of the health care provider. All the characteristics included in the service quality evaluations related to behaviors the caregiver or agency responsible for providing care could influence. This finding supports previous research in service and quality indicating the service provider is the focus of evaluation (Bitner et al., 1990; Solomon et al., 1985). We also found that the level of frailty, which was previously shown to have no joint effect with other variables that impact satisfaction (Kolodinsky, 2001; Lee and Kasper, 1998; Rabiner, 1992; Benjamin and Matthias, 2001), actually separates the elders into two populations. Both levels of frailty identify different qualities of the health care service as having a greater influence on satisfaction.

It is important to note that there are three characteristics that have a strong influence on both populations. All three are aspects of delivering service that can be somewhat controlled by the provider. Thus, for organizations wanting to improve the quality of care they provide clients, it appears there is room for improvement, and it lies with the actions of the caregiver.

First is satisfaction with the punctuality of the caregiver. Being on-time is more important for the more frail group, though even the less frail group is 1.53 times more likely to report being very satisfied if their caregiver arrives on time. For the more frail group, being on time could influence their functioning throughout the day if they need help with dressing, bathing, and carrying out other activities of daily living. The on time component of providing care is perhaps the easiest to control by a health care organization.

Second is satisfaction with the quality of interaction between the client and caregiver in the form of a client feeling safe, their property and privacy being respected and being courteous. Training of caregivers as to the importance of these qualities in a caregiver and in how to deliver these qualities to clients will improve overall satisfaction with care ratings by clients.

Third is satisfaction with the overall dependability of the health care. Highlighting this characteristic as an essential quality for the health care provider to possess would increase client satisfaction across both levels of frailty. In this study, dependability goes beyond being on time, as suggested by the statements about punctuality and dependability loading on two different factors. It seems that it is very important for caregivers to listen and follow through on suggestions made by clients, and this is more important for those at lower levels of frailty. These individuals likely value the autonomy they have and perhaps need to feel more in control of their care than those who are more frail. The difference in the likelihood between the two frailty groups of reporting being very satisfied, however, is only .3. This aspect of service is controllable by the caregiver, but perhaps not as easily as punctuality or treating people with respect. This characteristic involves more two way communication between the client and caregiver.

This study brings to light a number of issues surrounding community-based long-term care services and the elderly population. First, this research supports past research (Beatty et al., 1998; Buller and Buller, 1987; Kolodinsky and Shirey, 1999; Kolodinsky, 2001) that states characteristics of the health care system, particularly those related to the service provider, have a large impact on the satisfaction of individuals receiving the service. However, it combines this information with the new concept that levels of frailty guide what qualities influence satisfaction with health care services. The elderly population is not homogeneous. While this has been noted in previous research (Kolodinsky, 2001; Owens and Batchelor, 1996), we have highlighted in this study that clients with different levels of frailty focus on different qualities more heavily when evaluating their satisfaction with health care services. For the lower risk group being able to communicate about medical information with the care provider had the most impact on satisfaction of service. The results point to the possibility that these clients want their health care provider to be able to discuss their particular health conditions. The higher risk group shows that the care provider's ability to be on time has a high impact on satisfaction. These clients need assistance with daily tasks and promptness of the health care provider affects not only their immediate personal health care needs but also their daily productivity.

While past research has shown that personal characteristics of the client impact satisfaction, this research shows that those personal characteristics only significantly affect elders with a lower risk level. The results from the lower nursing home risk clients support the notion that older adults tend to report higher levels of satisfaction with care than do younger adults (Corrigan, 1990; Owens and Batchelor, 1996; Rabiner, 1992). This may be the result of the younger age group's difficulty in accepting their need for care. Also for lower risk clients, those reporting that income was adequate to meet expenses had a lower probability of being satisfied, signifying they may have other choices for care, or higher expectations. It is important to note that the higher frailty clients follow none of these trends. Personal characteristics show no impact on satisfaction with the health care received, with the exception of those not having completed high school.

There are differences as to what characteristic most impacts satisfaction between the two different levels of frailty. Health care providers should take into account these differences when working with clients. The statistical findings in this study of both the service quality factors and the level of frailty of elders have applicability for improving the personal care services that elders receive in their home.

Important conclusions can be drawn from this research. However, it is important to note that there are limitations to be acknowledged. The data were from a single state, although the state contains the largest count of elders in the country. This weakness, however, could turn into a strength if future research is conducted. By following one agency through time, future research could identify whether there is a change in the level of satisfaction of elders if changes in the training of caregivers is made that incorporate the findings of this study.

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