Published in final edited form as:
J Am Geriatr Soc. 2010 February ; 58(2): 352–356. doi:10.1111/j.1532-5415.2009.02684.x.

Willingness of Older Korean-American Adults to Use Hospice

Yuri Jang, PhD[*], **David A. Chiriboga, PhD**[*], **Jessica Y. Allen, BA**[†], **Jung Kwak, PhD**[‡], and **William E. Haley, PhD**[†]

[*]Department of Aging and Mental Health Disparities, University of South Florida, Tampa, Florida

[†]School of Aging Studies, University of South Florida, Tampa, Florida

[‡]Department of Social Work, University of Wisconsin at Milwaukee, Milwaukee, Wisconsin.

Abstract

Responding to an urgent need for more research on end-of-life concerns of racial and ethnic minorities, the present study explored predictors of willingness of older Korean-American adults (N = 675) to use hospice. Guided by Andersen's behavioral health model, the study considered predisposing factors (age, sex, marital status, education), potential health needs (chronic conditions, functional disability), and enabling factors (health insurance, acculturation, prior awareness of hospice). Nearly three-quarters of the sample answered yes to the following statement and question, "Hospice is a program that helps people who are dying by making them feel comfortable and free of pain when they can no longer be cured of their disease. If you needed hospice services, would you use them?" A greater willingness was observed in younger persons (odds ratio (OR) = 0.96, 95% confidence interval (CI) = 0.93–0.98) and those with higher levels of education (OR = 1.67, 95% CI = 1.12–2.48), more chronic conditions (OR = 1.23, 95% CI = 1.05–1.44), health insurance (OR = 0.59, 95% CI = 0.37–0.94), higher levels of acculturation (OR = 1.07, 95% CI = 1.03–1.10), and prior awareness of hospice (OR = 4.43, 95% CI = 2.85–6.90). The present study highlights the role of prior awareness in shaping individuals' attitudes toward services, calling attention to a need for community education and outreach programs for racial and ethnic minorities, with specific emphasis on dissemination of information and greater awareness of hospice services.

Keywords

hospice; older Korean-American adults

As the U.S. population becomes more diverse, greater attention is being paid to racial and ethnic disparities in various aspects of health and health care.[1,2] One area that still has not received much attention is that of racial and ethnic diversity or disparities in end-of-life (EOL) care.[3,4] Disparities in EOL care are particularly important, because the beneficial functions of hospice in terms of symptom management and enhanced well-being for patients and their families have been well documented.[5,6] Despite the value of hospice in ensuring quality of life

Address correspondence to Yuri Jang, PhD, Department of Aging and Mental Health Disparities, Florida Mental Health Institute, University of South Florida, 13301 Bruce B. Downs Boulevard, Tampa, FL 33612. yjang@fmhi.usf.edu.

Author Contributions: Yuri Jang: conceptualization and design, data collection, analysis, and preparation of manuscript. David A. Chiriboga: conceptualization and design and preparation of manuscript. Jessica Y. Allen and Jung Kwak: preparation of manuscript. William E. Haley: conceptualization and preparation of manuscript.

Conflict of Interest: The editor in chief has reviewed the conflict of interest checklist provided by the authors and has determined that the authors have no financial or any other kind of personal conflicts with this paper.

Sponsor's Role: None.

as long as possible, few members of racial and ethnic minority groups know about EOL care options and use such services.[7,8] According to a report by the National Hospice and Palliative Care Organization,[9] of the approximately 1.4 million individuals who received hospice care in 2008, only 18.1% were nonwhite.

Of particular note is the pronounced underuse of hospice by Asian Americans.[5] A series of studies with Medicare beneficiaries registered in the Surveillance, Epidemiology, and End Results program found that terminally ill older Asian Americans with cancer were less likely than their white counterparts to use hospice.[10,11] The disparities observed between older Asian-American and white patients with cancer persisted even after the effects of socioeconomic and clinical information were controlled for.

Given the heterogeneity between and within Asian-American groups, the present study focused on Korean Americans, the fourth largest subgroup of Asian Americans.[12] The study examined factors that might increase or decrease willingness of older Korean-American adults to use hospice. Although willingness and use represent distinct constructs, studies have shown that when combined with skills, abilities, and minimal environmental barriers, personal willingness is a critical determinant of help-seeking behaviors in many health-related contexts.[13] The exploration of a broad range of predictors of willingness to use hospice was expected to provide essential information to help in the design of interventions to increase awareness and acceptance of services and eventually to lead to greater use of services.

Andersen's behavioral health model,[14,15] which has proven to be a useful framework for studying use of various types of services,[16–18] including hospice,[19] guided the present investigation. Predisposing variables usually include demographic variables that may influence individuals' propensity to use services. Physical health constraints, such as chronic conditions and functional disability, represent potential needs for hospice use. Enabling variables consist of a variety of resources that may facilitate access to services. Studies have suggested that younger individuals, women, and those with a spouse and more education are likely to have more-favorable attitudes toward service use.[16–18] It was also expected that older individuals who currently had severe health constraints would be more favorably disposed to using hospice. Health insurance is a critical enabler of health service use,[20] and those with such coverage are likely to have a greater willingness to use services. Research on immigrant populations has shown that those who are more acculturated to the host culture have a more-positive perception of and greater use of services.[21] Finally, prior knowledge and familiarity may promote service use.[16,18]

Taking the existing literature as a springboard, the goal of the present study was to explore factors that might increase or decrease willingness of older Korean-American adults to use hospice. An array of potential predictors, including predisposing variables (age, sex, marital status, educational attainment), potential health needs (chronic conditions, functional disability), and enabling factors (health insurance, acculturation level, prior awareness of hospice), was assessed.

METHODS

Participants

The Mental Health Literacy Among Korean American Elders project provided data for the study. Data were collected from March through August 2008 in Tampa and Orlando, Florida. The surveys were conducted with Korean adults aged 60 and older who were able to understand and complete the questionnaire. The survey questionnaires were in Korean and were developed through back-translation and pilot-testing with 20 older Korean adults who were representative of the anticipated sample. Because immigrant populations are often underrepresented in public

databases (e.g., Census data, telephone directories), a variety of sources were used for recruitment, including specific organizations and a telephone directory. The survey sites included 25 local Korean churches, two other groups with a religious affiliation, one Korean senior center, two senior apartments, and a local Korean elder association. Individuals for whom on-site contacts were not possible were mailed a packet including a set of questionnaires and pre-stamped return envelope. To recruit individuals who were not affiliated with the aforementioned groups, requests were made for referrals from respondents and other individuals associated with the primary data collection sites.

The convenience sampling procedure was supplemented with a systematic review of a telephone directory of Korean residents provided by the Florida Korean American Association. Two thousand Korean residents in Tampa and Orlando were listed in the directory. After excluding those who had already been recruited through the convenience sampling efforts, all remaining individuals were called to ask whether there were age-eligible members in the household. Up to five phone calls were made to each number. When there was an eligible person in the household, a survey packet was sent. This step was designed to improve sample representation by including individuals who were not recruited through the convenience sampling efforts; this is often done with hard-to-reach minority groups.[22]

The final sample consisted of 675 participants. Of these, 73.0% were recruited through visits and 27.0% through mail surveys. A series of analyses was conducted to determine whether there were any significant differences in sample characteristics according to recruitment method. Only one significant difference in a major demographic variable was found; participants recruited in visits were less educated those who responded to the mail surveys (chi-square = 10.3, $P < .01$). This finding suggests that sole reliance on the mail survey approach might have a bias in favor of more-educated individuals. All respondents were paid $20 for their participation.

Measures

Predisposing Factors—Demographic information included age, sex (0 = male, 1 = female), marital status (0 = married, 1 = not married), and educational attainment (0 = ≤high school, 1 = >high school).

Potential Health Needs—For chronic conditions, individuals were asked to report, using a yes-or-no format, existing medical conditions from a nine-item list of chronic diseases and conditions commonly found in older populations (e.g., arthritis, stroke, heart problems, diabetes mellitus, cancer). A summated score was used for the analysis, with a high score indicating more chronic conditions.

Functional status was assessed using a composite measure adapted from the Older Americans Resources and Services questionnaire.[23] The 20 items covered a wide range of instrumental and basic activities of daily living, including eating, dressing, traveling, managing money, carrying a bag of groceries, and reaching the arms above the head. Participants were asked whether they could perform each activity. The responses were coded as 0 (without help), 1 (with some help), or 2 (unable to do). Responses to individual items were summed for a total score. The possible range for functional status was 0 (no disability) to 40 (severe disability). Internal consistency for the measure was high in the sample ($\alpha = .93$).

Enabling Factors—Health insurance coverage, level of acculturation, and prior awareness of hospice were conceptualized as enabling variables. With respect to insurance, respondents answered yes or no in response to a question about whether they had health insurance coverage.

Acculturation was assessed using a 12-item acculturation inventory[24] that included items representing language, media consumption, food consumption, social relations, sense of belonging, and familiarity with the host culture. Each response was coded from 0 to 3. Total scores could range from 0 to 36, with a higher score indicating a greater level of acculturation to mainstream U.S. culture. Internal consistency for the scale was high in the present sample ($\alpha = .92$).

To assess awareness of hospice, participants were asked whether they had heard of hospice.

Outcome Variable—The following statement and question were used to assess willingness to use hospice: "Hospice is a program that helps people who are dying by making them feel comfortable and free of pain when they can no longer be cured of their disease. If you needed hospice services, would you use them?" To use a nontechnical definition of hospice, the wording was based on a consumer guide developed by the Hospice Association of America.[25] A binary code of yes or no was used. Affirmative response indicated a personal willingness to use hospice.

Analytical Strategy

Descriptive information and bivariate correlations were assessed to understand the underlying characteristics of the sample and study variables. Logistic regression models of willingness to use hospice were estimated by entering the constructs in an order determined using Andersen's model: predisposing factors (age, sex, marital status, educational attainment), potential health needs (chronic conditions, functional disability), and enabling factors (health insurance, acculturation, prior awareness of hospice). Because of the individual distinctness, each of the enabling variables was added in succession. Analyses were performed using SPSS version 17.0 (SPSS Inc., Chicago, IL).

RESULTS

Sample Characteristics and Descriptive Information

As shown in Table 1, the sample consisted of 675 older Korean-American adults ranging in age from 60 to 96, with an average age of 70.2 ± 6.9. More than half (58.8%) of the sample was female, and approximately three-fourths was married. Approximately 45% of the sample had more than a high school education. All participants were foreign born, and the number of years lived in the United States ranged from 1 to 54, with a mean of 28 years. These demographic characteristics were similar to previously reported profiles of older Korean-American adults in Florida and in other U.S. states.[24,26]

The sample was in reasonably good health, as evidenced by average scores for chronic conditions and functional disability of 1.35 ± 1.24 and 1.81 ± 4.47, respectively. Approximately 82% of the sample had health insurance coverage (39% Medicare only, 6.3% Medicaid only, 14.2% private insurance, 12.2% Medicare and Medicaid, 9.9% other combinations). Acculturation scores averaged 15.8 ± 7.6 out of a possible 36. More than half of the participants (52.8%) reported that they had heard about hospice, and 73.6% of the sample expressed a willingness to use hospice.

Predictors of Willingness to Use Hospice

Table 2 summarizes the series of logistic regression analyses on willingness to use hospice. Of the predisposing variables entered into the initial model, age and education made significant contributions. Those who were younger (odds ratio (OR) = 0.96, 95% confidence interval (CI) = 0.93–0.98) and who had more than a high school education (OR = 1.67, 95% CI = 1.13–2.48) were more willing to use hospice. Variables representing potential health needs were

entered into the second model, and a significant contribution was made by chronic conditions (OR = 1.23, 95% CI = 1.05–1.03). As the number of chronic conditions increased, so did the likelihood of endorsing a willingness to hospice use. In the subsequent models, three enabling variables were entered in succession, and each was significant. The likelihood of endorsing a willingness to use hospice increased when individuals had health insurance coverage (OR = 0.59, 95% CI = 0.37–0.94), a greater level of acculturation (OR = 1.07, 95% CI = 1.03–1.10), and prior awareness of hospice (OR = 4.43, 95% CI = 2.85–6.90). During the process of adding the predictive variables, age, education, and health insurance coverage lost their significance, although the significance of chronic conditions, acculturation, and prior awareness of hospice persisted.

DISCUSSION

Responding to the demographically driven imperative for more research on EOL issues in racial and ethnic minorities,[3–7] the present study explored predictors of willingness of older Korean-American adults to use hospice. Andersen's behavioral health model,[14,15] which considered predisposing factors (age, sex, marital status, education), potential health needs (chronic conditions, functional disability), and enabling factors (health insurance, acculturation, prior awareness of hospice), guided the study.

The generally low use of hospice by racial and ethnic minority groups[3–7] suggests that older Korean Americans might also lack knowledge of hospice and be unwilling to use such services. It was encouraging, therefore, to find that more than half of the present sample had heard of hospice and that nearly three-quarters were willing to consider using it. However, the rate of endorsed willingness to use hospice reported in the present study (73.6%) is still notably lower than the 94.4% and 89.8% found in whites and African Americans in a statewide survey of older Floridians.[27] Although higher than expected, this overall lower rate of willingness of Korean Americans to use hospice than of other ethnic groups is consistent with previous findings for Korean Americans.[28,29] A study that compared four ethnic groups in California found that Korean Americans had the lowest level of knowledge about advance directives and that a majority of those participants exhibited negative attitudes toward EOL care planning.[28] Focus groups of older Korean adults and caregivers living in Florida also found a lack of knowledge and misconceptions about advance care planning and hospice.[29]

Of the array of predisposing variables included, age and education contributed significantly to the variance in willingness. Younger individuals and those with more education were more likely to endorse willingness to use hospice. This finding is in line with the gerontological literature showing that those who are younger or more educated are generally more open to service use.[16,18] The significance of age disappeared when prior awareness of hospice was entered into the model. The same pattern was found for education, whose contribution became nonsignificant with the entry of acculturation. In short, awareness of hospice and acculturation had a greater effect on the outcome variable than did age and education.

Chronic conditions played a significant role in increasing willingness to use hospice. Functional disability did not contribute to willingness. The lack of a significant association may result from the fact that most of the sample were functionally intact and that hence variance was limited. The existence of health concernsFparticularly chronic conditionsFseems to prime older individuals on EOL issues. The significance of chronic conditions persisted through the final model.

Each of the three enabling variables considered made a substantial contribution to the predictive model. Although it lost its significance in subsequent models, health insurance promoted willingness to use hospice. Numerous studies have reported that health insurance is a critical

determinant of the use of health-related services.[20] As previously noted, those with higher levels of acculturation were more willing to use hospice. The positive associations between acculturation and service utilization have been reported in many studies with immigrant populations.[21,24] A greater level of adaptation to the host culture seems to be linked to greater knowledge about and acceptance of available resources and services.

The present study highlights the role of prior awareness in shaping individuals' attitudes toward services. Older Korean-American adults who were aware of hospice were at least four times as likely as those who were not to endorse the use of hospice. This finding is consistent with other studies that have shown that prior exposure to services promotes openness to and acceptance of those services.[16,18] The fact that 28% of the sample had never heard of hospice but indicated an willingness to use such services when provided information in a questionnaire underscores the potential benefits of community education and outreach programs. Previous research has shown that simple educational interventions can dramatically increase hospice use.[30] A supplemental analysis also showed a positive association between willingness to use hospice and personal interest in having advanced directives (correlation coefficient = 0.37, $P < .001$). This latter analysis suggests that there may be moderate overlap across domains of health decisions and further supports the importance of educational and outreach programs on EOL care.

To maximize the effectiveness of the programs, particular attention should be paid to the unique characteristics and needs of the target group. Given previous studies that document the central role that family plays in EOL decision-making of Korean Americans,[29] programs that target not only older adults, but also their family members are recommended. In addition, cultural beliefs that may influence perceptions and attitudes toward EOL care such as filial piety and filial expectations need to be addressed in the programs.[29] Within-group differences in the level of acculturation also represent a challenge. For those who are less acculturated and especially for those with limited English proficiency, programs should be disseminated in the native language of the target population. Overall, the openness to and acceptance of hospice observed in the present sample of older Korean-American adults provides support for the idea of including the presentation about EOL care not only in a community setting, but also in a clinical setting.

Some limitations to the study should be noted. Because a cross-sectional design and a geographically defined, non-representative sample were used, causal inference and generalizability are not warranted. The outcome criterion, willingness to use hospice, was measured using a simple yes-or-no format. Future studies need to incorporate continuous variables with multiple items and adopt a mixed methodology combining qualitative approaches to expand the knowledge base of the attitudes of older ethnic minority adults toward EOL services. In addition, research interests should be extended to issues of access and quality by addressing use of services and perceived satisfaction with service use. In the present assessment, the scope of predictive variables was limited to factors at the level of the individual; future studies need to consider a broader spectrum of variables, including structural and systematic barriers. The fact that participants' cognitive abilities were not systematically screened may add to the limitations. Despite these limitations, the present study expands researchers' knowledge about EOL issues in understudied and underserved older ethnic minority adults. The findings may serve as a basis for developing and implementing educational interventions to promote awareness and use of hospice in older minority populations.

Acknowledgments

The project was supported by National Institute of Mental Health Research Grant 1R21MH081094 (principal investigator: Yuri Jang, PhD).

REFERENCES

1. Smedley, BS.; Nelson, S., editors. Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care. National Academics Press; Washington, DC: 2003.
2. Mental Health: Culture, Race, and Ethnicity—A Supplement to Mental Health: A Report of the Surgeon General. U.S. Department of Health and Human Services [on-line]. [February 24, 2009]. Available at: http://www.surgeongeneral.gov/library/mentalhealth/cre/sma-01-3613.pdf
3. Braun, K.; Pietsch, J.; Blanchette, P. Cultural Issues in End-of-Life Decision Making. Sage Publications; Thousand Oaks, CA: 2000.
4. Kwak J, Haley W. Current research findings on end-of-life decision making among racially or ethnically diverse groups. Gerontologist 2005;45:634–641. [PubMed: 16199398]
5. Enguidanos S, Yip J, Wilber K. Ethnic variation in site of death of older adults dually eligible for Medicaid and Medicare. J Am Geriatr Soc 2005;53:1411–1416. [PubMed: 16078971]
6. Teno JM, Kabumoto G, Wetle T, et al. Daily pain that was excruciating at some time in the previous week: Prevalence, characteristics, and outcomes in nursing home residents. J Am Geriatr Soc 2004;52:762–767. [PubMed: 15086658]
7. Cohen LL. Racial/ethnic disparities in hospice care: A systematic review. J Palliat Med 2008;11:763–768. [PubMed: 18588409]
8. Han B, Remsburg RE, Iwashyna TJ. Difference in hospice use between black and white patients during the period 1992 through 2000. Med Care 2006;44:731–737. [PubMed: 16862034]
9. NHPCO Facts and Figures: Hospice Care in America. National Hospice and Palliative Care Organization [on-line]. [November 18, 2009]. Available at: http://www.nhpco.org/files/public/Statistics_Research/NHPCO_facts_and_figures.pdf
10. Ngo-Metzger Q, McCarthy E, Burns R, et al. Older Asian Americans and Pacific Islanders dying of cancer use hospice less frequently than older white patients. Am J Med 2003;115:47–53. [PubMed: 12867234]
11. Ngo-Metzger Q, Phillios RS, McCarthy EP. Ethnic disparities in hospice use among Asian-American and Pacific Islander patients dying with cancer. J Am Geriatr Soc 2008;56:139–144. [PubMed: 18047496]
12. The American Community—Asians: 2004. U.S. Census Bureau; Washington, DC: 2007.
13. Fishbein, M.; Triandis, HC.; Kanfer, FH., et al. Factors influencing behavior and behavior change.. In: Baum, A.; Revenson, TR.; Singer, JE., editors. Handbook of Health Psychology. Erlbaum; Mahwah, NJ: 2001. p. 3-17.
14. Andersen, R. Andersen's Behavioral Health Model. Center for Health Administration Studies; Chicago, IL: 1968.
15. Andersen R. Revisiting the behavioral model and access to medical care: Does it matter? J Health Soc Behav 1995;36:1–10. [PubMed: 7738325]
16. Jang Y, Kim G, Hansen L, et al. Attitudes of older Korean Americans toward mental health services. J Am Geriatr Soc 2007;55:616–620. [PubMed: 17397442]
17. Bradley EH, Cramer LD, Bogardus ST, et al. Physician's ratings of their knowledge, attitudes, and end-of-life-care practices. Acad Med 2002;77:305–311. [PubMed: 11953295]
18. Segal D, Coolidge F, Mincic M, et al. Beliefs about mental illness and willingness to seek help: A cross-sectional study. Aging Ment Health 2005;9:363–367. [PubMed: 16019293]
19. Kwak J, Haley WE, Chiriboga DA. Racial differences in hospice use and inhospital death among Medicare and Medicaid dual-eligible nursing home residents. Gerontologist 2008;48:32–41. [PubMed: 18381830]
20. Lillie-Blanton M, Hoffman C. The role of health insurance coverage in reducing racial/ethnic disparities in health care. Health Aff 2005;24:398–408.
21. Abe-Kim J, Takeuchi D, Hong S, et al. Use of mental health-related services among immigrant and US-born Asian Americans: Results from the National Latino and Asian American Study. Am J Public Health 2007;97:91–98. [PubMed: 17138905]
22. Yancey A, Ortega A, Kumanyika S. Effective recruitment and retention of minority research participants. Annu Rev Public Health 2006;27:1–28. [PubMed: 16533107]

23. Fillenbaum, G. Multidimensional Functional Assessment: The Duke Older Americans Resources and Services Procedure. Erlbaum; Hillsdale, NJ: 1988.

24. Jang Y, Kim G, Chiriboga D, et al. A bidimensional model of acculturation for Korean American older adults. J Aging Stud 2007;21:265–275.

25. All About Hospice: A Consumer's Guide. Hospice Association of America [on-line]. [February 24, 2009]. Available at http://www.nahc.org/haa/attachments/2008-Consumer_Guide.doc

26. Min J, Moon A, Lubben J. Determinants of psychological distress over time among Korean immigrants and non-Hispanic white elders: Evidence from a two-wave panel study. Aging Ment Health 2005;9:210–222. [PubMed: 16019275]

27. Kwak, J.; Salmon, J. Ethnic Differences in End-of-Life Care Planning and Preferences for Hospice.. The Annual Meeting of the Gerontological Society of America.; San Francisco, CA. November 16–20, 2007;

28. Murphy S, Palmer J, Azen S, et al. Ethnicity and advance directives. J Law Med Ethics 1996;24:108–117. [PubMed: 8945188]

29. Kwak J, Salmon JR. Attitudes and preferences of Korean-American older adults and caregivers on end-of-life care. J Am Geriatr Soc 2007;55:1867–1872. [PubMed: 17727642]

30. Casarett D, Karlawish J, Morales K, et al. Improving the use of hospice services in nursing homes: A randomized controlled trial. JAMA 2005;294:211–217. [PubMed: 16014595]

Table 1

Descriptive Information About the Sample and Study Variables (N = 675)

Variable	Value
Age, mean ± SD (range)	70.2 ± 6.9 (60–96)
Female, %	58.8
Not married, %	23.4
> High school education, %	44.6
Number of chronic conditions, mean ± SD (range)	1.35 ± 1.24 (0–9)
Functional disability score, mean ± SD (range)	1.81 ± 4.47 (0–40)
Uninsured, %	18.3
Acculturation score, mean ± SD (range)	15.8 ± 7.57 (0–35)
Prior awareness of hospice, %	52.8
Willingness to use hospice, %	73.6

SD = standard deviation.

Table 2

Logistic Regression Models of Willingness to Use Hospice

	Odds Ratio (95% Confidence Interval)				
Predictor	**Model 1**	**Model 2**	**Model 3**	**Model 4**	**Model 5**
Age	0.96 (0.93–0.98)**	0.96 (0.94–0.98)**	0.96 (0.93–0.98)**	0.97 (0.94–0.99)*	0.98 (0.95–1.01)
Female	1.05 (0.71–1.58)	1.04 (0.69–1.57)	1.05 (0.70–1.59)	1.06 (0.70–1.60)	0.90 (0.58–1.38)
Not married	0.85 (0.54–1.34)	0.83 (0.52–1.31)	0.86 (0.54–1.37)	0.80 (0.50–1.29)	0.82 (0.50–1.34)
> High school education	1.67 (1.13–2.48)*	1.69 (1.14–2.51)**	1.59 (1.06–2.38)*	1.12 (0.73–1.74)	0.68 (0.42–1.09)
Number of chronic conditions		1.23 (1.05–1.44)*	1.23 (1.04–1.45)*	1.25 (1.06–1.48)**	1.23 (1.04–1.45)*
Number of functional disability		0.98 (0.94–1.03)	0.99 (0.94–1.03)	1.00 (0.96–1.04)	1.01 (0.97–1.05)
Uninsured			0.59 (0.37–0.94)*	0.78 (0.49–1.26)	0.70 (0.43–1.15)
Acculturation				1.07 (1.03–1.10)***	1.05 (1.02–1.09)**
Prior awareness of hospice					4.43 (2.85–6.90)***
Summary statistics					
– 2 log likelihood	731.7	724.9	720.0	701.1	653.6
Chi-square	20.7***	27.5***	32.4***	51.3***	98.8***

P <

*.05

**.01

***.001.

J Am Geriatr Soc. Author manuscript; available in PMC 2010 April 12.