

# The Social Stratification of Older Adults' Preparations for End-of-Life Health Care

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## Abstract

I use data from the Wisconsin Longitudinal Study ( $n = 4,971$ ) to evaluate the extent to which socioeconomic status affects three health-related (living will, durable power of attorney for health care, and discussions) and one financial (will) component of end-of-life planning. Net worth is positively associated with all four types of planning, after demographic, health, and psychological characteristics are controlled. Low rates of health-related planning among persons with low or negative assets are largely accounted for by the fact that they are less likely to execute a will, an action that triggers health-related preparations. Rates of health-related planning alone are higher among recently hospitalized persons, whereas financial planning only is more commonly done by homeowners and those with richer assets. The results suggest that economically advantaged persons engage in end-of-life planning as a two-pronged strategy entailing financial and health-related preparations. Implications for health policy, practice, and theory are discussed.

## Keywords

advance care planning, aging, death and dying, socioeconomic status, survey data

At the end of life, most chronically ill older adults experience physical discomfort, limited mobility, and impaired cognitive functioning (Field and Casse 1997). Patients who are incapacitated and have not previously made plans for their own end-of-life care may receive unwanted, futile, and costly medical interventions or the withdrawal of treatments they may have desired (Detering et al. 2010; Silveira, Kim, and Langa 2010). Difficult decisions about withholding or continuing treatment often fall to distressed family members, who may not know the patient's preferences or may disagree with one another (Breen et al. 2001). The aggressive use of medical interventions at the end of life also has broad societal and financial implications: Medical care for patients in the last year of life accounts for more than one quarter of annual Medicare expenditures (Riley and Lubitz 2010).

As a response to the well-documented financial and emotional costs associated with problematic end-of-life care, policy makers have established practices that enable patients to formally state their treatment preferences when they are still cognitively intact. The Patient Self-Determination Act

(PSDA), passed by Congress in 1990, requires that federally funded hospitals and nursing homes give patients an opportunity to complete advance directives, which comprise a living will and durable power of attorney for health care (DPAHC). A living will is a legal document specifying the medical treatments a person would like to receive if incapacitated. DPAHC permits a person appointed by the patient to make decisions about health care if the patient is incapacitated. However, living wills and DPAHC appointments have widely recognized limitations (Fagerlin and Schneider 2004), so health care professionals encourage patients to also convey their preferences and values to significant others via informal conversations (Doukas and Hardwig 2003).

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Although advance care planning (ACP) is encouraged by practitioners (e.g., American Geriatrics Society 2011; American Medical Association 2012) and policy makers, only one third to one half of older Americans make such preparations (Carr and Khodyakov 2007; Hopp 2000; Silveira et al. 2010). Mounting research investigates the factors that encourage or discourage ACP, with most studies focusing on health status (Collins, Parks, and Winter 2006), psychological factors such as death anxiety (Ditto, Hawkins, and Pizzaro 2006; Zimmermann 2007), and educational interventions (Moorman et al. 2012). However, the socioeconomic and structural factors that may affect ACP are unexplored. Recent studies have documented that blacks and Latinos are less likely than whites to have living wills and DPAHC, and these gaps are partly accounted for by ethnic minorities' lower socioeconomic status (SES) (Kwak and Haley 2005). However, I know of no studies that explore systematically the association between specific components of SES and ACP, or possible explanations for such an association. This omission is surprising, given the vast literature documenting SES gradients with respect to nearly every health-related outcome, ranging from quality of care to mortality (Phelan, Link, and Tehranifar 2010).

In this study, I use data from the Wisconsin Longitudinal Study (WLS), a long-term study of men and women aged 65 years, to investigate the extent to which (1) SES characteristics (i.e., education, occupation, assets, and home ownership) affect four end-of-life preparations (i.e., living will, DPAHC appointment, discussions, and will), (2) SES differences in health-related preparations reflect lower rates of financial preparation among lower SES persons, and (3) SES factors explain four planning "profiles" (i.e., health only, financial, both, and neither). Identifying obstacles to effective planning may inform policies and practices to ensure that end-of-life care is delivered in a patient-centered manner, regardless of patients' economic resources (Institute of Medicine, Committee on Quality of Health Care in America 2001).

## BACKGROUND

### *Socioeconomic Status and Advance Care Planning*

One of the most robust patterns in health research is the SES gradient; persons with more education, income, wealth, and higher status occupations

report superior health along multiple dimensions, including mortality risk, morbidity, functional limitations, mental health, and risks of specific illnesses including diabetes, heart disease, and most forms of cancer (Adler and Newman 2002; House et al. 1994; Phelan et al. 2010). A similar gradient is documented for health behaviors, including smoking, alcohol use, body weight, and a sedentary lifestyle (Centers for Disease Control and Prevention 2011) as well as quality of and access to health care (Goesling 2007).

Despite compelling evidence that SES affects the timing and cause of death, far less is known about the SES gradient in the quality of one's death. Emerging research shows that lower income persons, African Americans, and those residing in poorer neighborhoods are less likely than higher income persons and whites to use palliative care at the end of life (Greiner, Perera and Ahluwalia 2003; McCarthy et al. 2003). Palliative care, which emphasizes physical comfort, symptom alleviation, and spiritual and psychological needs, is considered a hallmark of the "good death" (Steinhauser et al. 2006). Persons who do not use palliative care often receive aggressive treatments that extend the duration though not necessarily the quality of one's life (Field and Cassel 1997). In part because of these disparities in the use of palliative versus aggressive care, medical expenditures in the last six months of life are significantly higher for blacks than for whites and for poorer persons relative to wealthier persons (Hanchate et al. 2009).

One potential explanation for SES disparities in end-of-life care may be that persons with fewer socioeconomic resources are less likely to engage in ACP. ACP is associated with a better quality death (Detering et al. 2010; Teno et al. 2007), higher rates of hospice use (Nicholas et al. 2011), lower medical expenditures (Nicholas et al. 2011; Zhang et al. 2009), and less emotional distress for bereaved family members (Teno et al. 2007). However, no studies have examined systematically the effect of SES on ACP. This omission partly reflects data limitations, as no large surveys (other than the WLS) currently obtain detailed data on multiple indicators of SES, estate planning, and ACP.<sup>1</sup> Thus, I investigate the extent to which education, occupation, and assets affect the likelihood that one engages in three health-related end-of-life preparations: living will, DPAHC, and discussing one's treatment preferences.

Fundamental cause theory provides a conceptual framework for understanding why and how SES may affect ACP. The theory posits that higher SES persons possess health-enhancing resources,

including money, knowledge, power, and beneficial social connections. These resources are flexible and may be deployed across a variety of contexts (Phelan et al. 2010). For example, education is positively associated with planfulness, comprehension of complex medical and legal information, and full-time employment that carries health benefits (Goesling 2007; Phelan et al. 2010). Persons in professional occupations also may have better health insurance coverage (Andrulis 1998), greater access to care, and greater ease in interacting with physicians and attorneys who may assist with ACP. Thus, I expect that persons with higher education and higher status occupations are more likely to engage in ACP than their less advantaged counterparts.

### *Importance of Wealth for ACP?*

Despite the importance of the social capital conferred by education and higher status occupations, wholly material aspects of SES, especially wealth (i.e., the value of property or assets owned), may be particularly salient to older adults' end-of-life health care planning. Persons with richer financial assets may be more likely than their less advantaged peers to engage in health-related planning, because it may be a natural step after doing financial or estate planning. That is, actions to protect one's assets, such as the execution of a signed and witnessed will, may trigger other types of planning in tandem. For persons at or nearing retirement age, the notion of planning for the future may entail a "hyper-focus on economic aspects of financial planning for retirement to the exclusion of . . . other important aspects of planning for later life" (Street and Desai 2011:380). However, this "hyper-focus" may be adopted only by those who own homes and other valuable assets that may be disbursed to their spouse, children, or other beneficiaries after one's death (Keister and Moller 2000).

The primary motivation behind estate planning is protecting one's assets, yet an equally important motivation is passing down inheritance and providing for future generations. When individuals execute or make changes in their wills, they may be encouraged by their attorneys or financial advisors to also appoint a DPAHC and execute a living will. The latter two preparations may also be conceptualized as acts of giving to the next generation, in that they may relieve loved ones from making difficult or uninformed decisions regarding end-of-life care (Khodyakov and Carr 2009). Thus, I evaluate the extent to which

assets and home ownership affect health-related planning and whether this association is partly accounted for by wealthier persons' greater tendency to execute wills.

### *SES and Planning Profiles*

Fundamental cause theory holds that socioeconomic resources are flexible, may be deployed across a range of situations, and thus have far-reaching effects on multiple aspects of health. However, Phelan et al. (2010) also recognized that SES is protective only to the extent that one's resources can be used to gain an advantage. If these resources cannot be accessed, or are not of potential use in a given situation, then "high SES should confer no advantage" (Phelan et al. 2010:S31). Consistent with this assumption, they proposed that policies or interventions that "automatically benefit individuals irrespective of their own resources or behaviors" should be effective in reducing SES inequalities (p. S37). The PSDA (2010) may be one such policy, in that federally funded health care facilities are required to give all patients an opportunity to complete an advance directive. As such, a counterintuitive pattern may be evidenced, whereby socioeconomic resources are unrelated to the use of living wills and DPAHC, as the opportunity to complete these documents is available to all "irrespective of their own resources."

Thus, I evaluate the influence of SES on four planning "profiles": those who have completed (1) health preparations only, (2) financial preparations only, (3) both health and financial preparations, and (4) neither health nor financial preparations. Given that health-related preparations can be completed upon intake at a health facility, without the assistance of lawyers, financial advisors, or a personal physician, this aspect of planning may not evidence an SES gradient. I expect financial-only and the two-pronged approach to evidence a positive association with SES. Documenting the correlates of each profile may point to different sites of intervention for increasing rates of specific types of end-of-life planning.

### *Other Influences on End-of-life Planning*

A statistical association between SES and ACP may reflect a spurious association; persons with richer socioeconomic resources may possess psychosocial or demographic characteristics that also increase the chances of end-of-life planning. Thus, all models are adjusted for potential controls and explanatory pathways. First, I control for gender,

marital status, and parental status. Married persons and parents are more likely than those with fewer social ties to engage in all forms of health-related planning (Carr and Khodyakov 2007; Hopp 2000) and also have richer financial resources than unmarried and childless persons (Treas and Marcum 2011; Wilmoth and Koso 2002).

Second, SES is positively related to psychological attributes associated with planfulness, such as conscientiousness, self-efficacy, and intelligence (Clausen 1991). Each of these traits has been found to predict ACP (Carr and Khodyakov 2007). Thus, analyses are adjusted for the personality attribute of conscientiousness, beliefs about personal versus physician control over one's health care decisions, mental ability (IQ), and death avoidance. Third, given the strong association between SES and both mortality risk and quality of care (Adler and Newman 2002; Centers for Disease Control and Prevention 2011; Teno et al. 2007), low-SES persons may have an elevated risk for witnessing the illness and premature and/or painful death of an immediate family member. Witnessing the painful death of a spouse or parent has been found to trigger ACP, perhaps as a strategy for preemptively protecting against a "bad death" of one's own (Carr and Khodyakov 2007). Thus, analyses are adjusted for whether one recently witnessed the painful death of a significant other.

Finally, SES is associated with access to care, including having a regular physician (Andrulis 1998). Persons with regular sources of care and who seek care at federally funded health care facilities are more likely to have engaged in ACP, in part because of the passage of the PSDA (1990). Health also is shaped by SES, and vice versa; for example, poor health is a source of wealth depletion (Lee and Kim 2003) and is associated with health-related planning (Collins et al. 2006). Thus, access to care (i.e., has a regular doctor, recently visited a hospital) and self-rated health are controlled in all analyses.

## DATA AND METHODS

Data are from the WLS, a random sample survey of 10,317 men and women who graduated from Wisconsin high schools in 1957. Participants were first surveyed during their senior year in high

school and were reinterviewed at ages 36 (1975), 54 (1993), and 65 (2004). Of the 9,025 living graduates in 2004, 7,265 (80.5 percent) participated in interviews. Some strata of the U.S. population are not represented. All sample members graduated from high school; in contrast, 75 percent of all Wisconsin youth graduated from high school in the late 1950s. Nearly all study participants are white. Despite these limitations, the sample is representative of older white Americans who have at least a high school education. Non-Hispanic whites who completed at least high school accounted for more than two-thirds all American women and men aged 60 to 64 years in 2000 (U.S. Census Bureau 2003).

Topical modules were administered to random subsamples to reduce the interview length. The end-of-life planning module was administered to a random 70 percent subsample and persons residing in the greater LaCrosse, Wisconsin, area (Moorman et al. 2012). The analytic sample includes 4,971 persons (2,289 men and 2,682 women) who were administered the end-of-life module. All measures used in this analysis are based on the 2004 data, unless noted otherwise. Further information on the WLS can be obtained at <http://www.ssc.wisc.edu/wlsresearch/>.

## Dependent Variables

Four components of end-of-life planning are considered: (1) living will, (2) DPAHC, (3) informal discussions about end-of-life treatment preferences, and (4) signed and witnessed will. Sample members were asked the following questions: (1) "Do you have a living will? This is a set of written instructions about the type of medical treatment you would want to receive if you were unconscious or somehow unable to communicate"; (2) "Have you made legal arrangements for someone to make decisions about your medical care if you become unable to make those decisions yourself? This is sometimes called a durable power of attorney for health care"; (3) "People sometimes make plans about the types of medical treatment they want or don't want if they become seriously ill in the future. Have you discussed your health care plans and preferences with anyone?" and (4) "I have some questions about the kind of arrangements you have made for your property or assets in the event of

your death. Do you have a signed and witnessed will?" Affirmative responses are coded 1. A composite measure also indicates financial preparations only (i.e., will), health-related preparations only (i.e., living will and/or DPAHC), both, or neither (the reference category).

### *Independent Variables*

The key independent variables are SES indicators, including education, assets, home ownership, and occupation.<sup>2</sup> Education refers to the highest level of schooling completed: 12 (high school diploma; the reference category), 13 to 15 (some college), 16 (college degree), and 17 or more years (postgraduate work). Assets refer to the total value of one's savings, investments, properties, and debts. A broad range of properties are included, such as homes, vehicles, farms, and business equity. The WLS project staff calculated a continuous measure of total net worth by summing these reports. On the basis of this continuous measure of asset value, I created five categorical indicators: no or negative assets (\$0 and lower), 25th percentile or below (\$1 to \$170,125), 25th to 50th percentile (\$170,125 to \$341,000), 50th to 75th percentile (\$341,000 to \$729,375), and 75th percentile and above (\$729,375 and above).<sup>3</sup> The latter is the omitted category.

Home ownership refers to whether one currently owns a home. Occupation refers to the major occupational group of one's longest ever job: upper white-collar (i.e., professional, technical, executive), lower white-collar (i.e., sales, administrative support), upper blue-collar (i.e., precision production, crafts), lower blue-collar or farm (e.g., operator, service workers, farm), and never worked for pay.

*Demographic and family characteristics.* Gender is a dichotomous variable for which 1 refers to women. Marital status includes currently married or cohabiting, separated or divorced, widowed, and never married (the reference category). Parental status refers to number of living children: none, one, two (the reference category), and three or more children.

*Health and health care encounters.* Self-rated health is assessed with the question "How would you rate your health at the present time: excellent,

good, fair, poor, or very poor?" "Fair" and "poor" are coded 1, and "good" or better is the reference category. Recent hospital admission is measured with the question "In the past 12 months, have you been a patient in the hospital for at least one night?" Access to a regular provider is assessed with the question "Do you have at least one medical provider you usually go to when you are sick or need advice about your health?" Affirmative responses are coded 1.<sup>4</sup>

*Direct experiences with end-of-life issues.* Participants who survived the death of a spouse or parent in the 10 years prior to the 2004 interview were asked about the perceived quality of the death. Persons who experienced both parental and spousal deaths are asked about spousal death only, whereas those who experienced the deaths of two parents are asked about the most recent decedent. Bereaved participants are asked, "During his/her last week of life, how much pain did your spouse/parent have?" Dichotomous variables indicate no deaths to parent or spouse in the past 10 years (the reference category), died with no or slight pain, and died in moderate or severe pain.

*Psychological characteristics.* I consider four psychological attributes that are associated with both ACP (Carr and Khodyakov 2007) and SES: death avoidance (Neimeyer 1994), beliefs about control over health care (Flynn, Smith, and Vanness 2006), conscientiousness (Chapman et al. 2010), and IQ (Hauser 1971). Death avoidance ( $\alpha = .70$ ) is a two-item scale, drawn from the Death Attitude Profile-Revised (Wong, Reker, and Gesser 1994): "I avoid thinking about death altogether" and "Whenever the thought of death enters my mind, I try to push it away." Items are averaged. The six response categories range from "agree strongly" to "disagree strongly."

Beliefs about personal versus physician control over medical decision making ( $\alpha = .70$ ) are assessed with two items (Flynn et al. 2006): "I would rather have my doctor make the decisions about what's best for my health than to be given a whole lot of choices" and "The important medical decisions should be made by my doctor, not by me." Five response categories range from "strongly disagree" to "strongly agree."

Conscientiousness ( $\alpha = .83$ ) is assessed with six items from the Revised NEO-Personality Inventory

(Costa and McCrae 1992; e.g., “I see myself as someone who does a thorough job”). Responses are averaged, and higher scores reflect a higher level of each attribute. IQ was evaluated with the Henmon-Nelson test of mental ability, when the WLS participants were juniors in high school (in 1956). Test scores were obtained from the Wisconsin State Testing Service. Scores range from 61 to 145.<sup>5</sup>

### *Analytic Plan*

The analysis has four parts. First, I present sample characteristics. Second, I estimate binary logistic regression models to identify statistically significant predictors of the four study outcomes (living will, DPAHC, discussions, and will). Third, I evaluate the extent to which the effects of SES on health-related preparations are accounted for by whether one has a will. Finally, I estimate multinomial logistic regression models to evaluate whether the four planning “profiles” (i.e., financial only, health only, both, and neither) are characterized by distinctive SES, demographic, health, and psychological predictors.

## RESULTS

### *Descriptive Statistics*

Descriptive statistics are presented in Table 1. The majority of WLS participants have made end-of-life preparations. Slightly more than half used legal tools to convey their treatment preferences: 55 percent have living wills and 52 percent have named a DPAHC. These figures are slightly higher than national averages, which range from 35 percent to 50 percent (U.S. Department of Health and Human Services 2008), but are consistent with other studies of older adults (Silveira et al. 2010). The most commonly used strategies are informal discussions (73 percent) and a signed and witnessed will (75 percent). Slightly more than half did both health and financial planning, one fifth did financial planning only, and just 6.5 percent did health planning only. Nearly one fifth have done neither.

Respondents are advantaged in terms of SES, reflecting the fact that all are high school graduates. Slightly more than half have a high school diploma only, while roughly equal proportions (14 percent to 16 percent) have either attended some

college, earned a four-year degree, or completed postsecondary education. More than half were white-collar workers, 8 percent were upper blue-collar workers, 19 percent were lower blue-collar or farm workers, and four percent (all women) had never worked for pay. The majority (79 percent) are married, and nearly all have children.

Most enjoy good health and adequate access to care. Only 10 percent have spent a night in the hospital in the past year, and 14 percent rate their health as “fair” or “poor.” Nearly all have a regular source of care, a finding consistent with their near universal health insurance coverage. One third experienced the death of a spouse or parent in the past decade, with most saying that the death was not painful to the decedent. Sample members report IQs slightly above national averages and very high mean conscientiousness levels (4.79 on a 6-point scale). Death avoidance beliefs and beliefs about control over health care decisions each average close to the respective scale midpoints.

### *Do Socioeconomic Resources Predict Specific End-of-Life Preparations?*

The four logistic regression models presented in Table 2 reveal that assets are a powerful predictor of each type of end-of-life preparation. Effects are large and statistically significant, even after psychosocial, demographic, and health characteristics are controlled. In contrast, education and occupation are significant predictors of having a will yet are weak and inconsistent predictors of the three health-related outcomes. These weak effects do not reflect high zero-order correlations among the SES measures; I also assessed the effects of each SES indicator separately and detected weak and inconsistent associations.<sup>6</sup>

Assets have a graded, positive association with the odds of planning; the likelihood of engaging in each of the four preparations increases for each successive quartile. For the outcome of will, however, persons in the 50th to 75th percentiles do not differ significantly from those in the top (75th to 100th percentiles) quartile. Persons with no or negative assets also are less likely than persons in the highest quartile to plan, with relative odds ranging from .36 for a signed and witnessed will to .58 for DPAHC. College graduates and persons with postsecondary education have 1.35 and 1.40

**Table 1.** Descriptive Statistics, All Variables Used in Analysis, Wisconsin Longitudinal Study, 1957 to 2004 ( $n = 4,971$ )

Variable	<i>M (SD) or Proportion</i>
<b>Dependent variables</b>	
Has living will	.55
Appointed durable power of attorney for health care	.52
Discussed end-of-life treatment preferences	.73
Has signed and witnessed will	.75
Overall planning summary	
Financial and health-related planning	.54
Health-related planning only	.065
Financial planning only	.22
Neither	.18
<b>Independent variables</b>	
Socioeconomic status	
Education (years)	
12	.56
13–15	.16
16	.14
≥17	.14
Assets	
No or negative assets (2004)	
0 to 25th percentile	.05
25th to 50th percentile	.24
50th to 75th percentile	.24
75th to 100th percentile	.24
Owns home	.92
Upper white-collar worker	.38
Lower white-collar worker	.28
Upper blue-collar worker	.08
Lower blue-collar or farm worker	.19
Never worked	.04
Demographic and family characteristics	
Female	.54
Currently married	.79
Separated or divorced	.10
Widowed	.078
Never married	.037
No children	.069
1 child	.063
2 children	.27
≥3 children	.26
Health characteristics	
Self-rated health: fair/poor (2004)	.14
Spent night in hospital, past year (2004)	.10
Has regular source of medical care (2004)	.96
Death experience characteristics	
Spouse or parent died in past decade, death was painful	.10
Spouse or parent died in past decade, death was not painful	.20
No spouse or parental deaths, past decade	.70
Psychological characteristics	
IQ (range = 61–145)	101.9 (14.64)
Death avoidance (1 = least avoidant, 6 = most avoidant)	3.15 (1.16)
Physician should control medical decisions (1 = “strongly disagree,” 5 = “strongly agree”)	2.43 (.96)
Conscientiousness (1 = least conscientious, 6 = most conscientious)	4.79 (.682)

Note: Proportions are shown for categorical variables, and means (and standard deviations) are shown for continuous measures.

**Table 2.** Binary Logistic Regression Models Predicting the Odds of Four Types of End-of-Life Planning, Wisconsin Longitudinal Study, 1957 to 2004 ( $n = 4,971$ )

Variable	Living Will	DPAHC	Discussions	Will
<b>Socioeconomic status</b>				
13–15 years of education	1.23*	1.17	1.25*	1.08
16 years of education	1.18	1.12	.966	1.35*
≥17 years of education	1.21	1.18	1.13	1.41*
No or negative assets (2004)	.428***	.576***	.496***	.359***
Assets: 0 to 25th percentile	.405***	.467***	.580***	.344***
Assets: 25th to 50th percentile	.535***	.505***	.695***	.594***
Assets: 50th to 75th percentile	.703***	.658***	.784*	.827
Owns home	1.21	1.23	1.06	1.75***
Upper white-collar worker, main lifetime job	1.01	.984	1.16	.842
Upper blue-collar worker	.864	.798†	1.22	.584***
Lower blue-collar or farm worker	.877	.856	.818*	.837
Never worked	.974	1.02	.862	1.11
<b>Demographic and family characteristics</b>				
Female	.990	1.16*	1.60***	1.24**
Currently married	1.08	.975	2.36***	1.42
Separated or divorced	.870	.839	1.52	.844
Widowed	1.37	1.31	2.11**	1.46
No children	.716	.852	.846	.697
1 child	.933	1.09	.890	1.12
≥3 children	1.16*	1.14	1.12	1.35***
<b>Health characteristics</b>				
Self-rated health: fair/poor (2004)	1.05	1.08	1.27*	.928
Spent night in hospital, past year (2004)	1.63***	1.79***	1.49***	1.34*
Has regular source of medical care (2004)	1.87***	1.79***	1.73**	1.59**
<b>Death experience characteristics</b>				
Spouse or parent died in past decade, death was painful	1.34**	1.29*	1.27	1.32*
Spouse or parent died in past decade, death was not painful	1.13	1.10	1.13	.980
<b>Psychological characteristics</b>				
IQ	.995*	1.001	1.001	1.01*
Death avoidance	.851***	.865***	.785***	.925*
Physician should control medical decisions	.960	1.01	.887**	.972
Conscientiousness	1.23***	1.18***	1.17**	1.31***
% ( $n$ )	54.5 (2,710)	52.1 (2,591)	73.4 (3,651)	75.2 (3,739)
$\chi^2$ ( $df$ )	316.24 (28)	264.98 (28)	323.56 (28)	436.58 (28)
Pseudo- $R^2$ (Nagelkerke)	.093	.078	.104	.142

Notes: DPAHC = durable power of attorney for health care. Odds ratios (exponentiated  $\beta$  values) are presented. The omitted dependent variable category includes persons who have not engaged in each type of planning. Will refers to a signed and witnessed will. Reference categories for the multicategory independent variables are 12 years of education, 75th to 100th percentile of assets, lower white-collar occupation, never married, has two children, and did not experience spouse or parental death in the past decade.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

the odds of completing a will, relative to high school graduates, although college education is not associated with the three health-related preparations. Homeowners are 1.75 times as likely as nonhomeowners to have a will, although home ownership does not predict health-related preparations.

Blue-collar workers are less likely to plan than their white-collar peers, although effects are weak and inconsistent across outcomes.

Several health and psychosocial factors are consistent predictors of all four outcomes. Persons who spent a night in the hospital in the past year



**Table 3.** Binary Logistic Regression Models Predicting Odds of Health-Related End-of-Life Planning, by Asset Level, Wisconsin Longitudinal Study, 1957 to 2004 (n = 4,971)

Variable	Living Will			DPAHC			Discussions		
	Model 1	Model 2	% Δ	Model 1	Model 2	% Δ	Model 1	Model 2	% Δ
No or negative assets (2004)	.428***	.553***	29	.576***	.746	29	.496***	.574**	15.7
Assets: 0 to 25th percentile	.405***	.525***	29	.467***	.594***	27	.580***	.680***	16
Assets: 25th to 50th percentile	.535***	.576***	7	.505***	.537***	6.3	.695***	.740**	6.5
Assets: 50th to 75th percentile	.703***	.708***	<1	.658***	.661***	<1	.784*	.794*	<1
Owns home	1.21	.945		1.23	1.00		1.06	.933	
Has signed and witnessed will		7.78***			5.43***			2.45***	
$\chi^2$ (df)	316.24 (28)	933.64 (29)		264.98 (28)	700.5 (29)		323.56 (28)	441.52 (29)	
Pseudo-R <sup>2</sup> (Nagelkerke)	.093	.256		.078	.196		.104	.14	

Notes: DPAHC = durable power of attorney for health care. Odds ratios are presented. The omitted dependent variable category includes persons who have not engaged in each type of end of life planning. The omitted assets category is 75th to 100th percentile. Model 1 is adjusted for all demographic, health, socioeconomic status, and psychological variables. Model 2 further adjusts for whether one has a signed and witnessed will. Percentage Δ refers to the change in the odds ratios between models 1 and 2. For example, a decline in the odds ratio from .428 to .553 is a 29 percent change in the odds ratio, where .29 = [(553 - .428)/.428]. \*p < .05. \*\*p < .01. \*\*\*p < .001.

and who have a regular source of medical care have significantly higher odds of engaging in all four types of preparations, with the largest effects evidenced for the two formal or legal forms of health-related planning, providing suggestive evidence for the effectiveness of the PSDA (1990). Persons who witnessed a family member’s painful death are more likely than nonbereaved persons to make legal preparations for the end of life but are no more likely to have had discussions. Conscientiousness is positively associated and death avoidance is inversely associated with each outcome.

Demographic and family characteristics are not associated with end-of-life planning in a consistent or patterned way. Women are more likely to engage in three of the four types of planning but do not differ from men with respect to living wills. Widowed and married persons are more likely than never married persons to discuss their preferences, whereas persons with three or more children are more likely than those with two children to formally state their health care and inheritance wishes via the use of legal documents. Overall, persons with greater net worth are significantly more likely to engage in all forms of planning. However, given that living wills and DPAHC appointments may be completed in a “bundle” of documents when one completes a will, I next examine whether the effects of assets on health-related planning operate via will completion.

### Is the SES Gradient in Health-Related Planning Explained by Financial Planning?

The three sets of logistic regression models presented in Table 3 show that the effects of low net worth on health-related preparations attenuate considerably after adjusting for whether one has a will, and the model fit improves substantially. However, these patterns are most pronounced for the two legal aspects of health planning; the amount of variance explained for the living will and DPAHC outcomes nearly triples, increasing from .093 to .26 and from .078 to .20, respectively. By contrast, the model fit improvement is modest (.10 to .14) for informal discussions, evidenced by the Nagelkerke pseudo-R<sup>2</sup>.

The attenuation in effects is pronounced for the lowest net worth categories, yet trivial for the 25th to 75th percentiles. For living wills and DPAHC, the gap between the lowest two and the highest (75th to 100th percentiles) assets categories declines by nearly 30 percent after controlling for whether one has a will. However, the declines are more modest for the higher net worth categories and in the model predicting discussions. Having completed a will has large and significant effects on the two legal aspects of planning (odds ratio = 7.78 for a living will, and odds ratio = 5.43 for DPAHC) but a more modest effect on informal discussions (odds ratio = 2.45), which do not require legal assistance. The results suggest one

plausible explanation for why persons with no or low net worth are less likely than wealthier persons to make formal health-related preparations: They are less motivated to complete a will and thus less likely to complete the health-related legal documents in tandem.

### *Do Socioeconomic Resources Predict Planning Profiles?*

Finally, I evaluate whether distinctive socioeconomic, demographic, and psychological profiles emerge for four types of planners: health only, financial only, both, and neither. The multinomial logistic regression model in Table 4 shows that different factors facilitate distinctive planning profiles. First, persons engaging in health-related planning only are distinguished by two characteristics; hospitalization in the past year and higher levels of conscientiousness. Not one SES indicator was a statistically significant predictor, however.

In contrast, not one health characteristic or distressing experiences with a significant other's death predicted financial preparations only. However, economic disadvantage was a significant predictor; persons with no or negative assets and those in the bottom assets quartile are half as likely as those in the top quartile to have a will, although those in the second and third quartiles do not differ significantly from the wealthiest category. Upper blue-collar workers are about half as likely as lower white-collar workers to have a will, whereas homeowners are about 1.5 times as likely as renters to have a will. Women, persons with higher IQs, and highly conscientious persons also are more likely to have a will only, compared with persons in the "no planning" group. In sum, financial concerns are the primary motivator for having a will, whereas contact with the health care system is the primary motivator of health planning.

Finally, the comprehensive strategy of both health- and financial-related preparations is adopted by the most socioeconomically advantaged. College educated persons and homeowners have significantly higher odds of engaging in comprehensive planning. Net worth is associated with two-pronged planning in a graded fashion; odds ratios increase steeply, from .28 for the bottom quartile, to .46 for the third quartile, to .72 for the second quartile. Persons with no or negative assets are about a third

as likely as the wealthiest quartile to have both wills and advance directives. Childless persons are less likely whereas those with three or more children are more likely than persons with two children to use the two-pronged approach; these legal strategies may be used to protect children from stressful medical decision making or estate settlements.

Access to health care, in terms of both spending a night in a hospital and having a regular provider, increase the odds of two-pronged planning. Those who witnessed the painful death of a significant other are 1.5 times as likely as the nonbereaved to engage in such planning. Conscientiousness is positively associated and death avoidance inversely associated with the outcome. Overall, persons with assets to protect, who have regular encounters with the health care system, a conscientious personality, advanced education, low levels of death anxiety, and large families, have the greatest odds of engaging in both financial and health-related preparations, considered the most effective way to prepare for death.

## DISCUSSION

ACP is endorsed by practitioners and policy makers as an essential step toward conveying one's preferences for end-of-life care (Field and Cassel 1997). Having a living will or DPAHC is associated with higher quality, lower cost end-of-life care, and less distress for dying patients and their families (Nicholas et al. 2011; Teno et al. 2007; Zhang et al. 2009). However, little is known about the socioeconomic characteristics of those who engage in planning; if ACP is done only by persons with the richest economic and social resources, then such individuals might experience a "good death" even in the absence of such preparations. Identifying potential obstacles to ACP may inform policies and practices to ensure that all older adults have access to such tools, should they choose to use them.

Three major findings emerged from the study. First, wealth—though neither education nor occupational group—is a consistent predictor of end-of-life preparations. However, the effect of wealth on legal health-related preparations is largely accounted for by the fact that poorer persons are less likely to do estate planning. Second, distinctive economic, social, and psychological factors predict the four specific planning profiles. Third,

**Table 4.** Multinomial Logistic Regression Predicting Overall End-of-Life Planning Strategy, Wisconsin Longitudinal Study, 1957 to 2004 ( $n = 4,971$ )

Variable	Both Financial and Health	Health Only	Financial Only
<b>Socioeconomic status</b>			
13–15 years of education	1.19	1.02	.873
16 years of education	1.39*	.898	1.17
≥17 years of education	1.50*	1.02	1.26
No or negative assets (2004)	.305***	.898	.501**
Assets: 0 to 25th percentile	.284***	.980	.553***
Assets: 25th to 50th percentile	.464***	.683	.813
Assets: 50th to 75th percentile	.723**	.867	1.06
Owens home	1.71***	.794	1.47*
Upper white-collar worker, main lifetime job	.898	1.19	.852
Upper blue-collar worker	.595**	.942	.531***
Lower blue-collar or farm worker	.825	1.02	.881
Never worked	1.03	.537	.856
<b>Demographic and family characteristics</b>			
Female	1.18	.948	1.34**
Currently married	1.34	1.13	1.82
Separated or divorced	.795	.966	.949
Widowed	1.61	1.23	1.38
No children	.650*	.815	.687
1 child	1.09	.850	1.04
≥3 children	1.34**	.871	1.23
<b>Health characteristics</b>			
Self-rated health: fair/poor (2004)	.972	1.5	.952
Spent night in hospital, past year (2004)	1.84***	1.82**	1.14
Has regular source of medical care (2004)	2.06***	1.29	1.18
<b>Death experience characteristics</b>			
Spouse or parent died in past decade, death was painful	1.47*	1.20	1.20
Spouse or parent died in past decade, death was not painful	1.01	.871	.815
<b>Psychological characteristics</b>			
IQ	1.001	.991	1.01**
Death avoidance	.864***	.933	1.02
Physician should control medical decisions	.986	1.02	.959
Conscientiousness	1.43***	1.25*	1.29***
% ( $n$ )	53.7 (2,668)	6.5 (324)	21.5 (1,071)
$\chi^2$ ( $df$ )		595.13 (84)	
Pseudo- $R^2$ (Nagelkerke)		.141	

Notes: Odds ratios are presented. The omitted category includes persons who have done neither type of planning. Health planning refers to having a living will and/or a durable power of attorney for health care appointment. Financial planning refers to having a signed and witnessed will.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

potentially modifiable psychological characteristics, including death anxiety, conscientiousness, and acquiescence to doctor opinion, are significant predictors of each type of planning.

### *Social Inequalities in ACP*

Financially disadvantaged older adults are less likely than their more advantaged counterparts to use living wills, DPAHC, discussions, and wills.

Logistic regression models reveal a strong graded association between assets and preparations, and effects remain large and significant even after demographic, psychosocial, health, and experiential factors are controlled.

The large negative effects of low and negative net worth on health-related planning are partly accounted for by the fact that poorer persons are less likely to have wills. One third of the effect of low or no assets on legal health planning (i.e., DPAHC and living wills) is explained by whether one had a will. By contrast, a will explained less than 7 percent of the gap in health-related planning between the top two assets quartile and for the outcome of discussions. Discussions, unlike living wills and DPAHC, do not require professional assistance. Persons with assets to protect or bequeath may seek out a legal professional to write or revise a will, and then are encouraged to do in health care planning in tandem (Soled 2002). The results suggest that persons with no or few assets to protect are not motivated to have a will, and thus may lack the opportunity, knowledge, or professional support that facilitates health-related planning.

These results are troubling, from a practice perspective. Financially disadvantaged individuals are less likely to formally convey their treatment preferences and consequently are at greater risk of receiving treatments they do not want or being spared of those treatments they desire (Silveira et al. 2010). This class-based disparity in ACP may contribute, in part, to the poorer quality end-of-life care reported by economically disadvantaged patients (McCarthy et al. 2003) and the disproportionately high costs of end-of-life care for ethnic minority and poor patients (Hanchate et al. 2009; Kelley et al. 2011; Nicholas et al. 2011).

Yet these results suggest another important disparity: Economically disadvantaged individuals who do not make formal end-of-life preparations may not know what treatments they want at the end of life, because they have not been prompted to think about such matters. Supplementary analyses bear out this speculation; WLS participants with no or negative or low (bottom quartile) assets are significantly more likely than their wealthier counterparts to say they “don’t know” what medical treatments they would want when presented with two hypothetical end-of-life decision scenarios.

Persons who do not know their preferences cannot articulate their views to care providers or to their surrogate decision makers. Thus, the study results suggest that financial obstacles to end-of-life planning may also create obstacles to meaningful information exchanges that could enable ill older adults to make informed treatment decisions.

### *Planning Is Not a One-Size-Fits-All Strategy*

A second goal of this analysis was to ascertain whether different personal factors are associated with distinctive types of planning; these findings may point to different sites of intervention for increasing rates of specific types of life planning. Different types of people do engage in each type of planning. The two-pronged approach that encompasses both health and financial preparations is undertaken by those with the richest resources: higher education, more wealth, a regular source of medical care, low levels of death avoidance, and high levels of conscientiousness.

The one-pronged approaches to planning—medical only and financial only—are predicted by entirely different sets of characteristics. Not one SES indicator was a significant predictor of health-related planning only; the most powerful predictor was having spent a night in the hospital over the past year. By contrast, not one health characteristic was a significant predictor of financial planning only, yet assets and home ownership were. Furthermore, the association between wealth and financial planning evidenced a “ceiling effect” (House et al. 1994) rather than a gradient; those with the greatest economic disadvantage (no or negative or bottom 25th percentile of assets) were half as likely as the wealthiest quartile to have done financial planning, yet persons in the middle two quartiles did not differ significantly from those in the top quartile.

These findings carry implications for policy. The robust effect of recent hospitalizations on health-related planning alone offers indirect evidence of the efficacy of the PSDA (1990), which requires that health care facilities offer patients the opportunity to complete an advance directive. Health-related planning alone was the only study outcome for which low SES was not an obstacle, evidenced by the lack of statistical association between assets and this outcome. This finding is

consistent with a core assumption of fundamental cause theory; in situations in which the resources of higher SES persons are of no use (e.g., health care settings in which information on ACP must be conveyed to all patients), high SES “should confer no advantage” and the “usually robust [effect] . . . of SES should be greatly reduced” (Phelan et al. 2010:S31). Practically, these results suggest that if economically disadvantaged persons would like to make preparations for end-of-life medical care, the physician’s office or hospital is more likely (and attorney’s or financial planner’s office less likely) to be the site of such actions.

One way to promote equal access to ACP tools is to revitalize the original Patient Protection and Affordable Care Act proposal to include one voluntary ACP session as an option included in the annual wellness visit for Medicare beneficiaries. This benefit would give older patients, regardless of financial status, the opportunity to discuss their treatment preferences with a health care provider. However, political uproar regarding (unsubstantiated) fear of “death panels” contributed to President Barack Obama’s deletion of the proposed benefit from the legislation in January 2011 (Pear 2011). This simple and relatively low cost aspect of the proposed health care reform may be one step toward ensuring a better quality death for financially disadvantaged older adults.

### *Psychological Obstacles to End-of-Life Planning*

End-of-life preparations are not solely a response to economic factors. Conscientious people tend to prepare for the end of life, whereas those who fear death do not. Both characteristics are potentially modifiable; targeted interventions, informational programs, or cognitive therapy may help assuage patients’ fear of death and foster a greater sense of efficacy over their health-related decisions.

Formal end-of-life planning also is triggered by observations of significant others’ painful deaths. Recalling these distressing experiences may help practitioners and patients to develop strategies so that similar experiences do not befall the patient. Rather than discussing abstract or hypothetical end-of-life scenarios, doctors may instead talk to patients about their personal experiences with a

loved one’s death. These concrete experiences may help crystallize preferences and motivate preparations for one’s own end-of-life experience.

### *Limitations*

This study has several limitations. First, the WLS did not obtain data on the timing of one’s end-of-life planning, so I cannot definitively conclude that financial planning “causes” health-related planning. However, this assumption of causal ordering is plausible given that persons who execute wills typically do so earlier in the life course, when they have children (Soled 2002), whereas health-related planning is typically done in midlife or later, often in response to a health threat or changes in one’s will (Kahana et al. 2004). Second, the WLS represents a single cohort of white, high school–educated adults, 68 percent of whom reside in Wisconsin.<sup>7</sup> As such, participants have a considerably higher rate of ACP than evidenced in more diverse samples (Hopp 2000). This positive educational bias may also account for why education did not consistently predict end-of-life preparations. Future studies should investigate how socioeconomic resources affect end-of-life preparations across other cohorts, regions, and ethnic groups, perhaps drawing on more diverse population-based samples as data become available. For example, members of the baby boom cohort may be more agentic and seek greater control over their health care than their predecessors.

Finally, the analysis focused on simple indicators of whether one engaged in planning. I did not explore the processes through which one learned about or initiated such practices. Qualitative research approaches may be particularly effective for revealing the ways that adults learn about ACP, from whom they learn, and the extent to which others’ experiences shape one’s own practices and preferences. Of particular value would be identifying the ways that persons of a range of social class strata learn about and initiate (or avoid) end-of-life planning.

Despite these limitations, this analysis documents the social stratification of ACP and shows that those with the fewest assets are least motivated to make financial (and consequently health-related)

end-of-life preparations. These findings suggest that ACP, like nearly all health outcomes and health behaviors, follows a socioeconomic gradient (Phelan et al. 2010). Public policies that provide all individuals, regardless of economic resources, the opportunity to discuss and engage in well-thought-out ACP practices may help to eradicate disparities in the quality of end-of-life care in the United States.

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## NOTES

1. The 2012 waves of the American Changing Lives, Health and Retirement Study, and National Health and Aging Trends Survey are slated to include modules on ACP.
2. Income, especially among older adults or persons in poor health, is unstable and may not accurately represent one's SES. The association between income and health is endogenous among retirement age adults (Gjonca, Tabassum, and Breeze 2009). I found a weak and inconsistent relationship between total household income and ACP, so I do not focus on income as a predictor.
3. I also evaluated a continuous measure of the natural log of assets. Model fit was superior when quartile categories were used, yet trends were generally similar. The categorical approach also revealed important patterns that would be concealed with the use of a continuous measure.
4. WLS participants were aged 65 years in 2004 and reported nearly universal insurance coverage; more than 95 percent have at least one source of health insurance. Health insurance status did not significantly predict ACP, so it is not included in the analyses.

5. I evaluated other potential confounds and pathways, including depressive symptoms, anxiety, religious denomination, and perceived life expectancy; each was weakly associated with the study outcomes, and their inclusion did not alter the magnitude of the SES effects.
6. Zero-order correlations among SES variables are modest ( $r < .30$ ). For example, the correlation between home ownership and having no or negative assets was just  $-.18$ .
7. I also evaluated whether Wisconsin residents differed from residents of other states with respect to ACP, reflecting possible differences in state-level policies. I found no statistically significant differences.

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## Bio

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