

The Effects of the Palliative Medicine Consultation on the DNR Status of African Americans in a Safety-Net Hospital

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Abstract

Objective: To examine the effectiveness of palliative medicine consultation on completion of advance directives/do-not-resuscitate (DNR) orders by racial/ethnic minorities. **Method:** A sample of 1999 seriously ill African American and Hispanic inpatients was obtained from the Palliative Medicine Consultation database (n = 2972). Associations between race/ethnicity and diagnosis and documentation of DNR status on admission and discharge were examined. **Results:** Cancer was the primary diagnosis, 34.5%. Among patients with a consultation, 98% agreed to discuss advance directives; 65% of African Americans and 70% of Hispanics elected DNR status. Inpatient deaths were 46%; 74% of decedents agreed to DNR orders. Discharged patients referred to hospice were 29%. **Conclusion:** Palliative medicine consultations resulted in timely completion of DNR orders and were positively associated with DNR election and hospice enrollment.

Keywords

advanced directives, do not resuscitate, disparities, palliative medicine, consultation, hospice, barriers

Introduction

Seriously ill African Americans and Hispanics are less likely than comparable whites to complete advance directives, acknowledge terminal illness, or utilize hospice care, and more likely to elect aggressive medical interventions such as admission to the intensive care unit and advanced cardiac life support (ACLS).¹⁻⁵ These preferences are influenced by ineffective communication regarding disease process and prognosis, insufficient knowledge of treatment options and alternatives, lack of awareness of advance care planning, misunderstanding of what ACLS entails (including likelihood of survival), and fear that implementing a do-not-resuscitate (DNR) order may hasten death.^{3,6-9}

Among the socioeconomically disadvantaged, persistent health, medical, and social disparities significantly impact access to care and treatment, often resulting in many patients presenting with undiagnosed and/or untreated illness.¹⁰ Factors unique to African Americans' preference for aggressive disease-modifying therapies and lower rate of advance directive completion include barriers to access to high-quality health care, reliance on spiritual support and other cultural norms to cope with illness, and discrimination in, and mistrust of, the US health care system.^{6,11-14} Among Hispanics, fear of deportation, fear of discrimination, poor language skills, decreased health literacy, reluctance to openly discuss terminal illness, and religious and cultural beliefs interfere with identification and treatment of

disease, delays access to care, which potentially advances disease processes, and reduces advance directive completion.^{15,16}

The decision to elect or forgo ACLS support is central to advance care planning. In the absence of a DNR order, ACLS is routinely implemented for patients who suffer in-hospital cardiac arrest.^{8,16} Outcomes are poor; approximately 17% of patients undergoing resuscitation survive to hospital discharge.¹⁸⁻²⁰ Factors associated with survival include age, race, comorbid conditions, and presence or absence of a cancer diagnosis.¹⁸⁻²¹ Older age and residence in a skilled nursing facility are associated with lower survival rates; in a study of 433 895 Medicare patients undergoing in-hospital resuscitation, only 6% of those older than 85 years survived to hospital discharge.²¹ Among nursing home residents with dementia, who

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are hospitalized, survival to discharge is estimated at 3 times less likely than inpatients without dementia.²² Patients with angina pectoris and conduction system disorders have the highest rates of survival, ranging to 30% or more, while those with late-stage congestive heart failure (CHF), AIDS, cancer, renal failure, sepsis, cerebrovascular disease, cirrhosis, and late-stage lung disease show survival rates of less than 5%.²¹ In one study of patients with advanced cancer with a gradually deteriorating in-hospital course, the survival was 0%.¹⁸ African Americans, while showing higher utilization of ACLS, have lower survival rates.^{20,21,23}

Advanced cardiac life support is a stressful experience for survivors, associated with broken ribs, an ongoing requirement for ventilator support, delirium, and an increased likelihood of physical dependency and impaired cognition.²⁴ The consequences of cardiopulmonary resuscitation (CPR) are sufficiently traumatic that the families of surviving patients often implement a DNR order to prevent its repetition.^{25,26} Despite these findings, most patients rate their likelihood of survival of in-hospital cardiac arrest as high. In a 2009 study, patients' mean estimate of postarrest survival was 60.4%. However, after frank counseling about the outcomes of CPR, almost half of those initially expressing a preference for ACLS elected a DNR order after learning of their actual survival estimates.⁸

Palliative medicine consultation is one means of providing seriously ill patients and their families with the information and support they need to elect care consistent with their wishes and beliefs, including the decision to elect or forgo ACLS. Palliative medicine specialists focus on improving quality of life for patients with advanced illness and their families through pain and symptom management, communication and support for medical decisions concordant with goals of care, and assuring appropriate and safe transitions between care settings. Moreover, the consultation process provides opportunities to clarify patients' understanding of their medical condition and prognosis and to establish goals and preferences for continued care, including documenting living wills, health care proxies, and DNR orders.²⁷⁻²⁹

Our assessment of the impact of palliative medicine consultation on the completion of advance directives in seriously ill African American and Hispanic inpatients focused on DNR status for several reasons. Helping patients and families make fully informed choices regarding DNR, which is central to advance care planning, calls on essential clinical skills that appropriately and ethically engage the entire advance directives process. The poor outcomes associated with in-hospital cardiac arrest in seriously ill patients, conveyed knowledgeably, honestly, with compassion, and in the context of patient goals and preferences, would reasonably be associated with a high rate of DNR election.

Recognizing that racial and ethnic disparities often impede access to optimal health care at the end of life,²⁻⁵ and despite the significant factors promoting the election of aggressive interventions by seriously ill African Americans and Hispanics, these same factors, inherent to the palliative medicine process, should also promote higher rates of DNR election in these populations—populations for whom comparison data regarding DNR outcomes are readily available.

Methods and Analysis

The institutional review board at the Bronx Lebanon Hospital Center approved this study, which retrospectively examined DNR status among seriously ill, hospitalized African Americans and Hispanics at an urban safety-net hospital in the South/Central Bronx. In all, 90% of the hospital's catchment area is populated by African Americans and Hispanics; 10% consist of other races and ethnicities including whites.^{30,31} In all, 41% of residents live below the poverty level and 28% have not completed high school.^{30,31} We focused primarily on African Americans with advanced illness because this demographic presented to the hospital in larger numbers than other ethnicities and because the reported outcomes for DNR and other interventions in serious illness were more prevalent for African Americans in the literature. (Many studies use the terms black and Latino as well as African American and Hispanic; patients in our study were identified as African American and Hispanic).

The following data sets were used for this study: (1) the Palliative Medicine Consultation Service database, a comprehensive database that contains detailed information on all patients referred for palliative medicine consultation between September 2004 and June 2010 (N = 2872); (2) the US Census Bureau 2006 Community Profiles for the South/Central Bronx^{30,31}; and (3) the New York State Statewide Planning and Research Cooperative System Database, a comprehensive database that contains detailed information on hospital inpatient stays.³²

Sample Exclusions

Duplicate patient referrals, pain management referrals, patients with missing or nonverifiable demographic information (eg, dates of birth, dates of admission, and missing gender information), patients who presented with a signed DNR on admission, and patients designated as pediatric, maternal/child, outpatient clinic and ambulatory surgery services were excluded from the sample. Due to minimal numbers, whites (n = 32) and "other" ethnicities (n = 19) were also excluded.

Analytical Sample

Our final sample (n = 1999) consisted of 1113 African Americans and 886 Hispanics. These were inpatients with advanced disease who were admitted to the hospital over a 6-year period and referred for palliative medicine consultation. For patients with multiple admissions, data from the last recorded admission were used. Patients were classified as having declined DNR (No) or having an unknown DNR status (Unknown) on admission, and as having accepted (Yes) or declined DNR (No) at discharge. Unknown DNR status on admission indicated that patients had not previously considered DNR status or had considered but made no decision regarding DNR status. Descriptive statistics were used to summarize the clinical and demographic characteristics of the sample. The chi-square test

was used to (1) determine any association between palliative medicine consultation and DNR status at discharge and (2) determine any association between palliative medicine consultation and discharge disposition. A *P* value of less than .05 was considered significant. This information was entered into a separate database for analysis using Stata11 (StataCorp, College Station, Texas).

The Palliative Medicine Consultation Service was comprised of a physician palliative medicine specialist, an advanced practice palliative medicine nurse, and a palliative medicine trained medical social worker. The processes associated with the palliative medicine consultation were consistent with those addressed by Manfredi et al and facilitated by the following supportive interventions: (1) focused patient-/family-centered communication; (2) providing comfort and supportive interventions; (3) providing education related to the disease process, prognosis, and the meaning of advanced directives emphasizing the implications of foregoing specific treatment interventions; (4) counseling patients and families on and documenting DNR status; and (5) assuring concordance between caregiver interventions and patient and family preferences for care.²⁸ Discussions about goals of care were by definition patient and family driven, focusing on the individual and unique concerns of each situation. In adhering to goals that assured patients and families elected care based on the detailed process of informed consent, the advance directives/DNR discussion uniformly provided individualized information on the expected outcome of both forgoing and electing ACLS, as well as the expected course of alternative care options.

Results

The demographic and clinical characteristics of African American and Hispanic patients are presented in Table 1. The mean age of African Americans was 64.3 years; the mean age for Hispanics was 65.6 years. Generally, patients presenting from home comprised *n* = 1178, 60% of the study sample and those presenting from skilled nursing facilities comprised *n* = 702, 35%. The remainder was reported as either homeless or from local shelters. Among African Americans, females outnumbered males: *n* = 568, 51% versus *n* = 545, 49%. Among Hispanics, males outnumbered females: *n* = 496, 56% versus *n* = 390, 44%. Admitting diagnoses represented a broad range of disease categories: cancer *n* = 689, 34%; AIDS/HIV, *n* = 358, 19%; sepsis *n* = 175, 9%; pulmonary *n* = 157, 8%; cardiovascular/CHF, *n* = 97, 5%; and other, *n* = 523; 26%; which includes cerebrovascular disease, hepatic failure, dementia, and gastrointestinal bleed.

The DNR status was entered into the palliative medicine consultation database as (1) DNR status on admission: no and unknown, (2) DNR discussed during palliative medicine consultation: yes and no, and (3) DNR status on discharge: yes and No. Among African Americans, 20% (*n* = 218) reported DNR no status (electing ACLS or full code) on admission, and 80% (*n* = 895) had unknown DNR status. Among Hispanic patients,

Table 1. Demographic and Clinical Characteristics of the Palliative Medicine Consultation Sample (*n* = 1999).^a

Variable	African Americans	Hispanics
Age, <i>n</i> (%)	1113 (54.2)	886 (43.2)
Mean (SD)	64.3 (16.3)	65.6 (15.5)
Gender		
Male, <i>n</i> (%)	545 (49)	497 (56)
Female, <i>n</i> (%)	568 (51)	389 (44)
Diagnosis		
Cancer, <i>n</i> (%)	391 (35)	298 (34)
AIDS/HIV, <i>n</i> (%)	224 (20)	134 (15)
Cardio/CHF, <i>n</i> (%)	54 (5)	43 (5)
Pulmonary, <i>n</i> (%)	78 (7)	79 (9)
Sepsis, <i>n</i> (%)	100 (9)	75 (8)
Other, <i>n</i> (%)	266 (24)	257 (29)
Advance planning documentation (ie, advance directives, power of attorney for health care, and/or out-of-hospital DNR)		
No., <i>n</i> (%)	218 (19.6)	141 (16)
Unknown status <i>n</i> (%)	895 (80)	745 (84)
Preadmission residence ^b		
Home, <i>n</i> (%)	580 (52)	598 (68)
Nursing home, <i>n</i> (%)	450 (41)	251 (28)
Shelter, <i>n</i> (%)	60 (5)	29 (3.0)
Homeless, <i>n</i> (%)	8 (0.7)	6 (0.68)
DNR on discharge		
Yes, <i>n</i> (%)	724 (65.0)	625 (70.5)
No, <i>n</i> (%)	383 (34.5)	258 (29.1)
Discharge disposition ^b		
Hospice, <i>n</i> (%)	354 (32)	232 (26)
No hospice, <i>n</i> (%)	163 (15)	161 (18)
Expired, <i>n</i> (%)	512 (46.0)	401 (45.3)
Other ^a	68 (6.0)	74 (8)

Abbreviations: SD, standard deviation; HIV, human immunodeficiency virus; CHF, congestive heart failure; DNR, do-not-resuscitate.

^a Includes transfers to acute care for reasons other than end of life.

^b Missing data for African Americans and Hispanics <2% of the sample.

16% (*n* = 141) reported DNR No status (electing ACLS or full code) on admission, and 84% (*n* = 745) had unknown DNR status. Among patients undergoing palliative medicine consultation, advanced directives including DNR status were discussed with 99% of African American patients (*n* = 1102) and 98.5% of Hispanic patients (*n* = 878). Less than 2% of the total sample did not have an advance directive/DNR discussion. After palliative medicine consultation, 65% of African Americans (*n* = 724) and 70% of Hispanics (*n* = 625) elected DNR status. In all, 46% of patients undergoing consultation expired while hospitalized (*n* = 913), an outcome likely indicative of the overall advanced disease among patients referred for palliative medicine consultation. Among decedents, 74% agreed to a DNR order (*n* = 678), of whom 54% were African Americans (*n* = 365) and 46% were Hispanic (*n* = 313). The remaining decedents were full code status. Patients discharged alive totaled 54% (*n* = 1086). In all, 29% of patients, African Americans and Hispanics combined, were referred to hospice programs on discharge (*n* = 586). These data are presented in Table 1 and Figure 1.

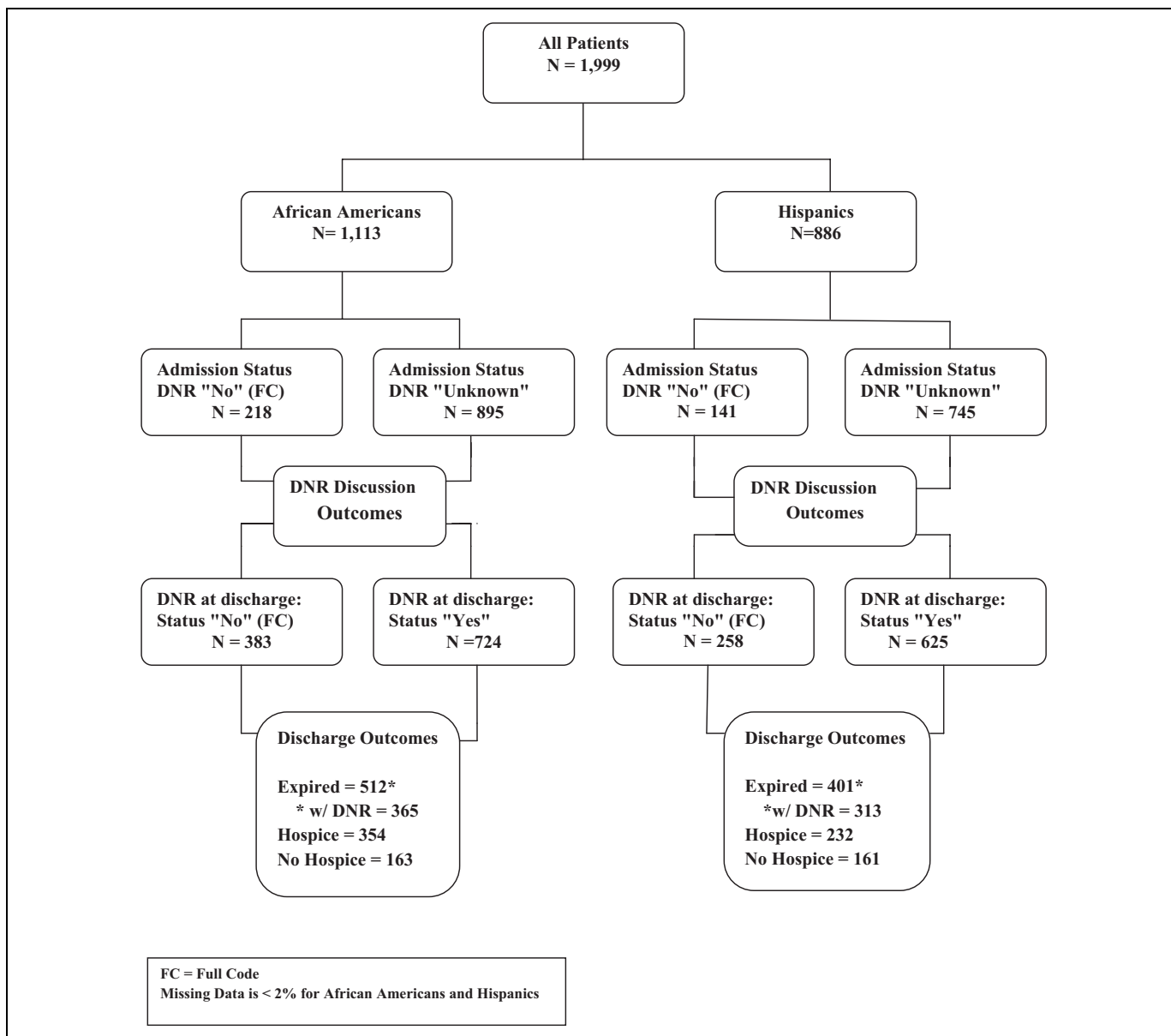


Figure 1. African American and Hispanic do-not-resuscitate (DNR) outcomes.

Discussion

This study retrospectively assessed the election of DNR status among seriously ill African Americans and Hispanics referred for palliative medicine consultation at urban safety-net hospital. We hypothesized that the education and patient/family focus of the palliative medicine consultation process, which provides clear information on treatment choices and alternatives in serious illness, including ACLS and DNR orders, would be associated with a higher rate of DNR election than demonstrated in previous studies. We found the African American and Hispanic patients in our study elected DNR status at rates of 65% and 70%, respectively.

Previous studies demonstrated poor outcomes among seriously ill inpatients who had in-hospital cardiac arrest and undergo ACLS, especially nursing home residents, the elderly

individuals, African Americans, and patients having advanced illness, late-stage cancer, and dementia.¹⁸⁻²² Survival among these patients is poor, ranging from 0% to 5%.²⁰ Among survivors, early rearrest and death, chronic ventilator dependence, delirium, fractured ribs, significant decline in functional status, and family trauma are common.²⁴⁻²⁶ Although overestimation of likelihood of survival is common, patients and families provided with clear information on the outcomes of ACLS are more likely to elect DNR and reevaluate the goals of care.⁸

Despite these findings, literature shows low rates of advance directive completion, including DNR, among African American and Hispanic populations in comparison to whites. Johnson and colleagues concluded that African Americans in a critical care unit were 1.9 times more likely to elect ACLS protocols

or full code status at the time of death, compared with whites, and were less likely to complete advance directives.³³ Shepardson and colleagues and Johnson et al showed that among hospitalized patients, African Americans have fewer DNR orders, receive more CPR than whites, have fewer advanced directives and living wills when compared with whites (35.5% vs 67.4%, respectively), and prefer more aggressive medical care for terminal illness.^{3,34} Lahn and associates addressed the absence of advance directives among 715 skilled nursing facility residents transferred to the emergency department, finding that advanced directives were significantly more prevalent among white patients (50%) than African Americans (34%) or Hispanics (39%).³⁵ Disparities in the provision of health care, including barriers to access to high-quality care, discrimination in, and mistrust of the US health care system, likely influence these preferences.^{10,36-39}

Recent research on collaborative, coordinated care, focused communication, and patient education characteristic of palliative medicine^{7,29,40} shows that informed patients and families who receive patient-centered counseling and choice may choose supportive comfort care during terminal illness over aggressive, technology intensive, life-prolonging interventions that may be of little or no benefit.^{7,8,41} While numerous ethnic, cultural, and socioeconomic factors have been associated with the election of aggressive care in seriously ill African American and Hispanic patients,^{6,10-16} our study findings suggest the patient-/family-centered interventions associated with palliative medicine consultation significantly impacts these factors, resulting in higher rates of advance directives including the election of DNR status.

Limitations

Our study had limitations. It was retrospective, conducted at a single site, and lacked a control population. However, the large database allowed us to analyze a sizable sample that was representative of the hospital's community. A controlled, prospective study, comparing seriously ill African American and Hispanic patients receiving palliative medicine consultation with those receiving only routine care would more reliably assess the impact of consultation on DNR status. Another limiting factor was a lack of data on seriously ill patients who may have received counseling on DNR status in the absence of a palliative medicine consultation. This could indicate that serious illness, rather than consultation, drove the decision to elect DNR status. This would seem less likely, however, given the findings by Shepardson and Johnson,^{3,34} showing a preference for more aggressive care among terminally ill African Americans. Lastly, the potential for selection bias exists in that patients and families willing to undergo palliative medicine consultation were those more amenable to electing DNR. However, it is notable that clinicians requesting palliative medicine consultation did so without prior notification of patients or families and without specific selection criteria. The consultation request was based largely on the perception that patients were no longer benefiting from conventional life-prolonging

treatment and the interventions offered by palliative medicine would facilitate decision making related to subsequent care.

Conclusion

Although health disparities persist in our hospital center's community, our study shows that seriously ill African Americans and Hispanics often elect DNR at higher rates when provided with palliative medicine consultation. We believe this is a result of the patient and family-centered focus of the palliative medicine consultation process, which emphasizes cultural sensitivity, choice, education, and respect. Collaborative patient-centered discussions that transpire within a goal-oriented framework foster integration of patient treatment options, provider recommendations, and patient personal goals with meaningful outcomes.

The effectiveness of palliative medicine is far reaching in its impact on clinical outcomes, patient and family satisfaction, and associated reduced end-of-life care expenditures.^{41,42} The financial burden associated with serious illness and at the end of life represents a significant percentage of overall health care costs.^{43,44} The timely introduction of palliative medicine in the care of seriously ill patients has enormous potential to promote access to care, redirect resources to more appropriate patient and family friendly uses over the long term, and reduce the economic and societal burden of rising health care costs.^{42,45}

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Declaration of Conflicting Interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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