



RESEARCH BRIEF: An Examination of the Social and Clinical Influences in Prostate Cancer Treatment in African American and White Men

## Journal of Health Disparities Research and Practice

Volume 2 | Issue 2

Article 8

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2008

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Keith Elder , *University of Alabama at Birmingham*

Bettina F. Drake , *Harvard School of Public Health*

Sara Wagner , *University of South Carolina*

*See next page for additional authors*

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#### Recommended Citation

Elder, Keith; Drake, Bettina F.; Wagner, Sara; and Hebert, James (2008) "RESEARCH BRIEF: An Examination of the Social and Clinical Influences in Prostate Cancer Treatment in African American and White Men,"

*Journal of Health Disparities Research and Practice*: Vol. 2: Iss. 2, Article 8.

Available at: <https://digitalscholarship.unlv.edu/jhdrp/vol2/iss2/8>

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### Abstract

**BACKGROUND:** The death rate for prostate cancer (PrCA), the most commonly diagnosed cancer in African-American (AA) men, is twice the rate of European-American (EA) men. AA men in South Carolina have the highest age-adjusted death rate in the nation. Studies have shown that treatment offered to AA men with PrCA is systematically different from that offered to EA men. **METHODS:** Surveys were mailed to 1,866 men in South Carolina with a diagnosis of PrCA. South Carolina men diagnosed with PrCA between 1996 and 2002 were eligible to participate. We performed a descriptive assessment of the factors that influenced PrCA treatment decisions. **RESULTS:** The treatment choices of AA men were significantly more likely to be influenced by pain and significantly less likely to be influenced by potential for cure compared to EA men. **CONCLUSIONS:** Providers must be cognizant of the factors that influence treatment, particularly in AA men. Despite the national undertaking to eliminate health disparities, the United States is far from implementing a comprehensive focus on the health of AA men, despite their elevated PrCA morbidity and mortality rates.

### Keywords

African American men; Avoidance; Cure; Diagnosis; Discrimination in medical care; Fatalism; Fate and fatalism; Impotence; Incontinence; Morbidity; Pain; Prostate – Cancer; Prostate – Cancer – Diagnosis; Prostate – Cancer – Treatment; South Carolina; Tumors – Classification; Tumor grade; Tumor stage; Urinary incontinence

### Authors

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Keith Elder, University of Alabama at Birmingham

Bettina F. Drake, Harvard School of Public Health

Sara Wagner, University of South Carolina

James Hebert, University of South Carolina; South Carolina Statewide  
Cancer Prevention & Control Program

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**Key Words:** tumor grade, tumor stage, diagnosis, pain, cure, impotence, incontinence, fatalism, avoidance, morbidity

### **Introduction**

Studies have shown that treatment offered to African-American (AA) men with prostate cancer (PrCA) is systematically different from that offered to European-American (EA) men. At a comparable disease stage, AA men were less likely to receive aggressive treatment for PrCA compared to EA men.<sup>1-5</sup> More recent studies have found that AA men with PrCA are more likely than

EA men to receive conservative management or watchful waiting, after adjusting for stage, age, life expectancy, and co-morbidity. They are also more likely than EA men to receive no treatment for PrCA.<sup>1,4,6</sup>

There are a variety of treatment options for patients with the same set of clinical factors; therefore, the implemented treatment must be influenced by non-clinical factors. These other factors may contribute to the differences in observed treatments received by AA vs. EA PrCA patients. The aim of this study is to describe and compare racial differences in social and clinical factors that may influence PrCA treatment decisions. In order to assess racial differences in factors that influence treatment decisions we utilized data from South Carolina, a state in which AA men have among the highest incidence and mortality rates in the country and world.<sup>7-9,10</sup>

## Methods and Materials

PrCA cases from an eight-county area in the Midlands (area around Columbia) South Carolina were identified through the South Carolina Central Cancer Registry (SCCCR). All men diagnosed between 1996 and 2002 were eligible to participate. Due to the time lapse between 2002 and 2006, many men were deceased or had health conditions that prevented physicians from providing consent for the patient to be contacted. A total of 1,866 patients were able to participate in the study. A total of 541 responses were received, yielding a 29% response rate.

The variables under investigation were framed by Holmboe et al.,<sup>11</sup> who developed a taxonomy that organized aspects of treatment into four Axes: External Information, Intrinsic Characteristics of Treatment, Personal Impressions, and Economic Concerns. This taxonomy provides the groundwork for understanding patients' preferences and how they connect to all aspects of decision-making and treatment satisfaction. The variables collected from this survey include: age when first screened for PrCA, number of doctor visits, initial treatment and date, subsequent treatments and dates, person who most influenced treatment decision, clinical factors that influenced treatment decision, PSA level change, type of insurance, number of people in household, and accessibility to doctor visits.

Descriptive analyses were performed using SAS (version 9.1). Responders were compared to non-responders in order to determine the representativeness of the study sample. Frequency distributions by race were used to evaluate the treatment and diagnostic variables across racial groups. Bivariate analyses were conducted using the t-test or chi-square test, as appropriate, to assess the associations between race/ethnicity and all variables, and differences between racial groups.

## Results

Comparison of responders to non-responders revealed significant differences ( $p < .0001$ ) in both race and marital status between the groups, with the non-responder sample being approximately 48% EA (as opposed to 80% in the responder sample) and 75% of the men in this group (vs. 86% of the responders) being married. Other characteristics of the non-responder sample were similar to those of responders, (e.g., having a mean ages of 66 and 71 years, 81% of the men in both groups had localized disease, and 76% of non-responders had moderately well-differentiated disease (vs. 71% of responders). Table I. shows the percentages for the variables used in this analysis by race/ethnicity. The sample was 80% EA and 20% AA. Over 78% of the men were 65 years and older and 85.8% were married. The majority of the sample had localized (81%) and moderately well-differentiated (72%) disease. AA men were more likely to be screened at an earlier age (58 vs 61.3 years), single, and living alone compared to EA men. PSA changes were significantly less likely to occur since last treatment in AA men (55%) than in their EA counterparts (66%).

Some clinical factors differed significantly between the groups; however, no social factors were significant. AA men were significantly ( $p < .05$ ) less likely to report cure and significantly more likely to report pain as reason for treatment compared to EA men (Table II). The most commonly reported social influence was the doctor. However, this reason did not vary significantly by race.

## Discussion

We observed evidence of differences in clinical factors by race that may influence PrCA treatment decisions. Compared to EA men, AA men were less likely to report that cure and more likely to report that pain influenced their treatment decision. Several plausible reasons could explain the differences between AA and EA men on factors associated with treatment decisions. Cancer fatalism, the belief that death is inevitable when cancer is present, has been identified as a barrier to participation in cancer screening, detection, and treatment.<sup>12</sup> Race also is associated with cancer fatalism.<sup>12-17</sup> Powe found elderly African Americans had higher mean fatalism scores compared to elderly EAs.<sup>17</sup> Fatalism and the belief that treating cancer was useless emerged as a major theme in a qualitative study of AAs by Greiner et al.<sup>18</sup> Another reasonable explanation for lower percentages of AA men reporting cure as a reason for treatment might be their belief that God is the only one able to heal or cure cancer. The dependency on God to heal has been reported in several studies.<sup>19-22</sup> Investigators at Emory University School of Medicine found some AAs believed that prayer and faith in God was the only cure for

**Table 1. Participant Characteristics**

Characteristics	African American (n = 110) N (%)	European American (n = 431) N (%)	X <sup>2</sup> (p-value)
Age (mean)** t-test	68 (sd-8)	72 (sd-8)	-4.30 (<.0001)
<b>Marital Status*</b>			16.94 (.0002)
Unmarried (sep, divorce, widow)	24 (22)	35 (8)	
Married	83 (75)	381 (88)	
Unknown	3 (3)	15 (3)	
<b>Treatment Type</b>			
Watchful Waiting	6 (5)	20 (5)	.13 (.7216)
Surgery	58 (53)	224 (52)	.02 (.8875)
Radiation	43 (39)	176 (41)	.11 (.7394)
Hormone Therapy	10 (9)	59 (14)	1.67 (.1969)
Other (chemo, other)	3 (3)	7 (2)	.59 (.4433)
Unknown* (including missing)	2 (2)	0 (0)	7.87 (.0050)
<b>Treatment Aggressiveness†</b>			.9916 (.3193)
Aggressive	90 (86)	350 (82)	
Conservative	15 (14)	79 (18)	
Unknown (missing)	5 (5)	2 (.5)	
<b>Tumor grade</b>			3.34 (.5025)
Well differentiated	5 (5)	37 (9)	
Moderately differentiated	80 (73)	307 (71)	
Poorly differentiated	17 (15)	65 (15)	
Undifferentiated	1 (1)	1 (.2)	
Not determined	7 (6)	21 (5)	
<b>Tumor stage</b>			1.63 (.8035)
Localized	88 (80)	348 (81)	
Regional	17 (15)	61 (14)	
Distant Metastasized	1 (1)	2 (.5)	
Unstaged	4 (4)	20 (5)	
<b>Lives with wife or partner*</b>			9.06 (.0026)
Yes	84 (79)	379 (89)	
No	23 (22)	45 (11)	
Missing	3 (3)	7 (2)	
<b>Number of other people in the household*</b>			18.21 (.0004)
0	18 (16)	49 (11)	
1	62 (56)	327 (76)	
> 1	24 (22)	45 (10)	
Missing	6 (5)	10 (2)	
<b>Difficulty attending doctor visits*</b>			12.10 (.0005)
Yes	8 (7)	6 (1)	
No	101 (93)	423 (99)	
Missing	1 (1)	2 (.5)	

\* - Significant chi-square (p-value .05) † - Aggressive treatment includes surgery, chemotherapy, and radiation treatment; conservative treatment includes hormone therapy and watchful waiting.

**Table II. Social and Clinical Influences of Treatment**

Influences	African American (n = 110) N (%)	European American (n = 432) N (%)	X <sup>2</sup> (p-value)
<b>Social ‡</b>			
Doctor	60 (55)	248 (57)	.29 (.5885)
Family	27 (25)	93 (22)	.46 (.4962)
Friend	4 (4)	10 (2)	.61 (.4353)
Yourself	36 (33)	163 (38)	.94 (.3310)
Other	1 (1)	6 (1)	.16 (.6907)
<b>Clinical</b>			
Cure*	72 (65)	362 (84)	18.98 (<.0001)
Impotence	30 (27)	96 (22)	1.23 (.2682)
Incontinence	25 (23)	88 (20)	.30 (.5948)
Pain*	13 (12)	15 (3)	12.41 (.0004)
Other	4 (4)	39 (9)	3.51 (.0610)
None*	14 (13)	18 (4)	11.51 (.0007)

\* - Significant chi-square (p-value .05)

‡ - Some observations had multiple social influence choices.

cancer.<sup>19</sup> Lastly, because PrCA tends to spread to bone, bone pain is a major source of morbidity in patients with advanced disease. A study of older (> 60 years) cancer survivors found pain was the most reported symptom of cancer treatment and being AA was associated with more cancer symptoms. Because of this, pain avoidance may be a higher priority for AA men.<sup>23</sup>

There are some study limitations. Though high in comparison to mail surveys, our response rate was only about one-third. The accuracy of the reporting on treatment influences may have been compromised by recall-bias that, in turn, might be influenced by the presence of symptoms, including those resulting from treatment. However, we were most interested in the main social and clinical influences associated with treatment, and these are most likely to be remembered after a diagnosis and treatment of a major disease. Additional research is needed to understand the relative importance of factors influencing the treatment decisions and their impact on the health status and life span of AA men.

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**Keith Elder**, PhD, MPH, MPA, University of Alabama at Birmingham, School of Health Professions, Health Services Administration

**Bettina F. Drake**, PhD, Harvard School of Public Health, Dana Farber Cancer Institute

**Sara Wagner**, MSPH, Department of Epidemiology and Biostatistics, Arnold School of Public Health, University of South Carolina

**James Hebert**, ScD, Department of Epidemiology and Biostatistics, Arnold School of Public Health, University of South Carolina; South Carolina Statewide Cancer Prevention & Control Program