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# Racial Differences in Trust and Regular Source of Patient Care, and Implications for Prostate Cancer Screening Utilization

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## Abstract

**Background**—Nonmedical factors may modify biological risk of prostate cancer and contribute to differential use of early detection, curative care, and ultimately greater racial disparities in prostate cancer (CaP) mortality. This study examines patients' usual source of care, continuity of care, and mistrust of physicians and their association with racial differences in CaP screening.

**Methods**—Study nurses conducted in-home interviews of 1,031 African American and Caucasian American men age 50 and over in North Carolina and Louisiana within weeks of their CaP diagnosis. Medical records were abstracted. Bivariate and multivariate analyses were conducted.

**Results**—Compared with African Americans, Caucasian Americans exhibited higher physician trust scores and a greater likelihood of reporting a physician office as their usual source of care, seeing the same physician at regular medical encounters, and historically utilizing any CaP screening. Seeing the same physician for regular care was associated with greater trust and screening utilization. Men who reported their usual source of care as a physician office, hospital clinic, or Veteran's Affairs facility were more likely to report prior CaP screening than other men. In multivariate regression, seeing the same provider remained associated with prior screening use while both race and trust lost their association with prior screening.

**Conclusions**—Systems factors – including those that differ among different sources of care and those associated with care continuity – may provide tangible targets to address disparities in the use of CaP early detection, attenuate racial differences in CaP screening utilization, and contribute to reduced racial disparities in CaP mortality.

## Introduction

Prostate cancer (CaP) presents one of the greatest cancer burdens for men, with the highest incidence and second highest number of deaths from cancer among men in the United States[1]. The CaP incidence rate among African Americans (AAs) is 55% greater than among Caucasian Americans (CAs), and the AA mortality rate is an astounding two and a half times that of CAs [1]. Genetic and dietary factors have been identified that explain a portion of the excess burden experienced by AAs [2-5], yet risk factors that are both of substantial magnitude and amenable to preventive intervention have not yet been identified [6].

In addition to biological risk factors, a variety of other factors including mistrust of physicians, lack of a usual source of care, and lack of continuity of care have been associated with reduced use of preventive and curative services, delayed care, and disparities in cancer and other health outcomes [7-12]. AA patients report lower levels of trust in healthcare providers than CA patients, and both personal health care experiences and past discrimination have been implicated [13-16]. Racial discrimination has been shown to reduce continuity of care and increase mistrust of providers [14, 15, 17-19], which may reduce AAs' use of recommended treatments, hinder the provision or acceptance of physician advice to undergo screening, or reduce discussion of the risks and benefits of CaP screening and early detection[20-24]. AAs' lower trust, lower likelihood of having any regular source of care or using private physician offices for regular care, and lower likelihood of having an ongoing relationship with the same provider may contribute to delayed diagnosis and greater disease severity among AAs [25-32]. While CaP screening remains controversial, these three factors – mistrust, regular source of care, and continuity of care – are potential points of intervention, and therefore merit examination to enhance our understanding of racial differences in prostate cancer screening and outcomes.

Grounded in a framework described by the IOM[7], this study examined the association between mistrust of physicians, patients' usual source of care, continuity of care and differential use of CaP screening in a large cohort of CA and AA men with recently diagnosed prostate cancer. Previous work proposed that AAs without a regular source of care may be less likely to know their providers well enough to develop trust, thus reducing the likelihood of discussing and subsequently receiving CaP screening [33]. This work broadens the examination to include systems and process factors that may be associated with both CaP screening and trust, to inform our understanding of contributors to racial disparities in CaP outcomes, and improve public health and policy interventions to reduce them.

## Methods

### Patient Population and Sample

Methodology of the North Carolina-Louisiana Prostate Cancer Project (PCaP) was described in detail previously [33]. Briefly, PCaP is a population-based study of individuals identified shortly after CaP diagnosis. Study enrollment began in both states in September 2004. The original intent was to contemporaneously enroll equally from each state; however, study enrollment was stopped in Louisiana due to Hurricane Katrina (it resumed 2 years later). Hurricane Katrina substantially disrupted the health care systems, practices of providers that

interfaced with the prospective study population, as well as the local population itself, causing substantial differences between the pre- and post-Katrina populations. As such, Post-Katrina Louisiana participants were not included in this analysis. The extent and implications of this disruption are under ongoing examination, and individuals enrolled after Katrina will be carefully included in future analyses.

Eligible individuals were identified in North Carolina through the Rapid Case Ascertainment Core Facility, a collaborative program of the UNC-Lineberger Comprehensive Cancer Registry and the North Carolina Central Cancer Registry, and in Louisiana through the Louisiana Tumor Registry in the Louisiana State University Health Science Center School of Public Health. Both programs allow case ascertainment and enrollment that is much faster and more complete than most traditional registries. Prospective participants were typically identified within weeks of their diagnosis, and following randomization, physician notification, and study participants were enrolled. An appointment was scheduled with a study nurse (in-home or at a location of their choosing) to collect obtain consent and biospecimens, and conduct a 749 question structured survey. The visits averaged slightly more than three hours, including two breaks.

Since organizations offering screening recommendations generally recommend screening begin at age 5034, the analytic sample was limited to men ages 50 and older (maximum age was 79). Our analytic sample size was 1,031 men (503 AA, 528 CA), including those from North Carolinia (NC) for whom enrollment, interviews, and primary data collection were complete through May 2007, and those from Louisiana (LA) who enrolled prior to Hurricane Katrina (August 29, 2005).

## Analytic Framework

The IOM provides a framework for examining contributors to health disparities. In addition to patient-level factors, the IOM describes healthcare systems factors, process factors, and the dynamic interplay of patient and provider attitudes and behaviors [7, 8, 35]. Systems factors include availability of health care facilities, the services offered at those facilities, the systems in place to trigger appropriate utilization of those services, and clinician time pressures or encounter characteristics that may impede their ability to fully address patient needs [7]. Process factors include provider bias, erroneous stereotypes, or lack of understanding of minorities, all of which can contribute to decision-making based on incomplete or inaccurate information. All of these factors may influence patient trust, health behaviors, and receptivity toward seeking or utilizing particular health care services[7], including CaP screening.

## Measures

Two outcome variables – trust, and pre-diagnostic CaP screening utilization – were examined using sequential analytic models. Trust is a 100-point index measure of patient-physician trust based on a 12-item patient survey instrument adapted from the Safran[36] and LaVeist[17] instruments. Factor analysis of the Trust instrument demonstrated good internal consistency (0.77) and loaded on two factors, one characterized as "concern with doctors hiding mistakes and bias in care delivery," and the other with "a theme of candor, disclosure, and personal concern." Pre-diagnostic CaP screening is a binary measure that summarizes patient reported pre-diagnosis Prostate-Specific Antigen (PSA) and digital rectal exam (DRE) screening. Men reporting use of either pre-diagnostic PSA, DRE, or both prior to the interaction that led to the diagnosis of CaP were coded as having had CaP screening. This "either-or-both" measure was used for two reasons: (1) PSA and DRE are both prescribed by the groups that offer guidelines regarding prostate cancer screening and early detection, and (2) excluding either PSA or DRE may bias associations of interest

because use of PSA and DRE for screening/early detection differs by race. Trust is examined as the dependent variable in model 1, and as an independent variable in model 2.

Two independent variables capture systems factors. *Seeing the same care provider at each visit*, a measure of pre-diagnosis care patterns and continuity of care, was based on the survey question, "Did you see a particular doctor, nurse or other medical person [at your usual source of care], or did you see a different person at each visit?" Similarly, *patient's usual source of care* was examined based on the eight response-item interview question, "Before you were diagnosed with prostate cancer, what kind of place did you usually go to when you had a medical problem?"

Several patient health, social, and economic characteristics that have been associated previously with care-seeking behaviors, support for care-seeking, and access to care were examined (Table 1). The Charlson Index of historical health issues was constructed from a comorbidity questionnaire[37, 38]. Using the SF-12 Health Survey, version 2 [39], current physical and mental health and well-being were characterized that may influence current perceptions and survey response. The REALM questionnaire was used to assess health literacy [40, 41]. Patient-physician communication was assessed using a five-item instrument and, along with the trust measure, describe process and patient-provider interaction characteristics. A binary measure of state of residence (NC or LA) was included to control for systematic differences by state.

## Analysis

T-tests, Fisher's Exact tests, and Chi-squared tests were used to test differences in mean values and categorical distributions of multi-category binary variables, as appropriate. The primary analysis consisted of three stages. First, linear regression was used to analyze the association between covariates and the dependent variable trust. Second, logistic regression was used to analyze the association between covariates, including trust, and the dependent variable, CaP screening use. White tests indicating the presence of heteroskedasticity prompted the use of robust standard errors (Huber/White/sandwich estimator of variance) in both models [42]. Finally, differences in a history of prior screening in association with continuity of care and usual source of care (caresite) were examined independently through binomial linear regression models with and without adjustment or stratification by race.

Proper functional form of variables in the analytic models was examined, and continuous variables with non-normal distributions or non-linear association with the dependent variables were reshaped into multi-category binary variables or were coupled with their quadratic term. Results of Wooldridge tests[43] of functional form of the trust variable indicated that deviating from the natural form was not perceived to add value; accordingly, the variable was used in its natural form. Multi-category response measures (e.g., income, education, health literacy, marital status, type of health insurance) were examined with regard to explanatory power, magnitude, and direction of covariate associations, and subsequently collapsed into fewer categories to preserve degrees of freedom and statistical power in the analytic models. Health insurance was examined independently and in combination with age to assess differences among different types of insurance and structural differences between those younger than age 65 and those 65 and over who may be eligible for Medicare. Deviating from a binary measure (any insurance vs. no insurance) did not improve overall model fit.

## Results

CAs had higher physician trust scores than AAs (62.7 vs. 58.5) and greater past use of CaP screening of any kind (93.9% vs. 81.4%) (Table 1). Most participants saw the same provider

at each medical encounter, though CAs did so more often than AAs (89.4% vs. 78.5%) and CAs were more likely than AAs to report a physician office or group practice as their usual source of care (88.5 % vs. 65.9%). At diagnosis, CAs were older, wealthier, more likely to have ever been married, and more likely to have health insurance. Respondents were well educated, with most having completed or gone beyond high school, though CAs had received more formal education, had higher REALM health literacy scores, and reported better physician communication than AAs. AAs had lower current physical, mental health and global well-being scores than CAs, but the measured differences were small, and comorbidity and family history of CaP were similar. Stage at diagnosis was similar between races, but mean Gleason scores were slightly higher for AAs than CAs. The link between screening and tumor characteristics was not extensively examined; however, men reporting a prior history of screening were more likely than other men to be diagnosed with local or regional stage CaP (98.5% vs. 94.3% stage I or II, p<.01), and lower grade CaP (88.3% vs. 81.6% with Gleason score less than 8, p<.05). Participants were similar between states, with moderate differences among a few measures. In bivariate analysis, North Carolina participants reported higher income and were more likely to have insurance (88.6% vs. 82.1%), more formal education (56.8% vs. 39.1% education level greater than high school graduate), and a history of CaP screening (89.7% vs. 80.9%). At the same time, North Carolina participants had slightly, though statistically significantly, lower scores than did Louisiana participants for communication (86.9 vs 89.6), health literacy (.71 vs. 1.0), and trust (60.2 vs. 62.9).

In regression analysis, overall, mean levels of trust varied in association with patient characteristics; however, differences in mean scores were small. Relative to other covariates, differences in trust by race were larger, with AAs expressing lower trust than CAs (Table 2). Communication and greater self-reported mental health and well-being had a positive association with trust (an 2.3 unit increase in trust with every 10 unit increase in communication), while men who were high school graduates or beyond expressed lower trust than less educated men (−1.90), as did men from North Carolina relative to men from Louisiana (−2.53).

Results of the logistic regression of prior CaP screening on trust and covariates (Table 2) suggest that trust was not directly associated with CaP screening; however, seeing the same provider (OR 2.40, 95% CI 1.47–3.92), having ever been married (OR 2.49, 95% CI 1.14–5.46), and having any form of health insurance (OR 1.97, 95% CI 1.17–3.34) were all associated with prior CaP screening. Low income (vs. high income, OR 0.24, 95% CI 0.12–0.47) was negatively associated with screening, while men with a high school or higher level of education were more than twice as likely to report screening as less educated men (OR 2.26, 95% CI 1.25–4.11), as were men with a health literacy score above sixth grade (relative to men with lower health literacy scores, OR 2.12, 95% CI 1.26–3.55).

When examining trust, consistency of provider, and usual source of care (Table 3), mean trust was slightly greater in men who saw the same provider at each visit relative to men who did not (mean trust score of 61.04 vs. 58.75). In both circumstances, CAs had slightly higher mean trust scores than AAs (saw same provider: 60.96 vs. 57.58; did not see same provider: 62.94 vs. 58.72 for CAs and AAs, respectively). Mean trust scores were lower for men who reported an ER, UCC, or "none" as their regular care site (57.90), and for men who used the VA (58.87), than for men whose usual care site was a physician practice (60.91), hospital clinic (62.17), or a public health / community clinic (61.90). Differences in mean trust scores according to the source of usual care were comparable between CAs and AAs.

Men who usually saw the same provider reported greater use of CaP screening compared with men who did not usually see the same provider, both overall (91.0% vs. 71.0%, prevalence difference (PD) −20.0, 95% CI −27.3, −12.8), and by race (PD −19.1, CI −30.3, −7.9 among CAs; PD −17.2, CI −26.7, −7.6 among AAs), with no statistically significant difference in the association between seeing the same provider and CaP screening according to race (Table 4). Prior CaP screening use was more likely among men whose regular source of care was one of 3 sites – a physician office, hospital clinic, or the VA health system (90.9%, CI 89.0, 92.7) – compared with men who received care at Public Health or Community Clinics, an Emergency Room or urgent care center, or reported no usual source of care (51.9%, CI 40.8, 63.1). Among CAs, 95% of men at the 3 sites reported having had CaP screening, compared with 63% at the other sites, a relative difference of 34% (PR 0.66, CI 0.48, 0.89). The relative difference was somewhat larger among AA men, with 86% reporting having had CaP screening at the 3 sites, compared with 47% at the other sites, a relative difference of 45% (PR 0.55, CI 0.41, 0.73). The difference between 34% for CAs and 45% for AAs was not statistically significant for this study population (MH chi2 p-value 0.41).

## Discussion

To better understand racial disparities in CaP mortality, we examined relationships between CaP patients' trust in their physicians, continuity of health care, regular source of health care, and their utilization of CaP screening. In our study population of newly-diagnosed prostate cancer patients, AAs were less likely than CAs to report CaP screening prior to diagnosis, and men without a prior history of screening were more likely to be diagnosed with advanced stage or high grade CaP than men who reported a history of CaP screening. While the efficacy of PSA screening remains controversial[34], these findings support the hypothesis that addressing differences in screening use may reduce racial disparities in CaP extent of disease and aggressiveness at diagnosis, and, by extension, that addressing differences in screening may reduce disparities in CaP mortality [44]. Adjusting for patient-provider interaction, health systems, and processes sharply attenuated the association between race and CaP screening history in multivariate analysis. Previously, we reported an association between having a consistent care provider and trust in health care providers [45]; in this study of CaP patients, seeing a regular provider was more closely associated with prior utilization of CaP screening, while trust showed no association with screening in multivariable analysis.

This analysis examined men already diagnosed with CaP, whose prerequisite access to the health care system may have required some baseline level of trust in their physicians and the health care community. This study found that, upon passing this threshold, however, other system variables including setting and continuity of care predict use of screening. Study results thus reframe the question: To what degree are lower trust and lesser use of screening a function of individual patient and physician characteristics versus systems factors that may hinder trust and relationship development?

Physician biases or practical constraints may inhibit their ability to inquire beyond the primary clinical issue at hand to secondary problems, preventive and health maintenance issues, or other more complex medical decisions. An ongoing patient-provider relationship may enable the relationship to grow past the tipping point of sufficient strength to discuss these issues and overcome barriers to screening use such as fear of the exam itself, prospective diagnosis, or potential treatment side-effects [8]. On a more practical level, such a relationship may simply expedite provider-patient interaction, allowing additional time and resources to address more complex issues over time, including decisions regarding use of preventive care such as cancer screening or, as described by other studies, vaccinations [24].

Discussions about screening and early detection also may be promoted by office and support systems. For example, patient records may provide reminders of prior visits, other clinical conditions, and include prompts for patient-appropriate services. Differences in use of CaP screening have been reported by regular source of care. For example, prior research has demonstrated the weaknesses of emergency departments and urgent care centers for provision of preventive care [27–30]. Simultaneous analysis of regular source of care and seeing the same provider suggests that seeing the same provider may partially overcome observed differences between public and community health clinics, private practice, hospital clinics, and VA facilities to foster use of preventive care. Men who reported not seeing the same provider also reported less CaP screening use; however, data limitations impeded a precise demonstration of the relationships among the caresites.

These findings suggest the need for additional research examining the roles of provider continuity and the systems in place at the usual source of care, possibly directed toward an intervention targeting health care organizations. The limitations of this study suggest additional avenues as well. Having health insurance improves utilization of both early detection and treatment-oriented health services [35]. Characterizing pre-diagnosis insurance beyond our indicators "any insurance" and "no insurance" may clarify the expected association between having insurance and use of PSA/DRE prior to diagnosis found in this study. Differences in insurance between NC and LA and changes in men's insurance after diagnosis also merit examination. Insurance coverage is relevant for several reasons, including that it may influence the reporting of DRE compared with PSA, which may be directly related to the type, timing, and duration of insurance coverage. The reported use of PSA (which is separately billable) may be low compared to DRE (which is included in comprehensive physical examinations) because PSA is less commonly used in the absence of consistent financial resources. PSA use may also be underreported because a PSA test can be added to a panel of other blood tests without the patient knowing it, whereas DRE rarely goes unnoticed, though it could conceivably be confused with examinations for other conditions. For researchers examining CaP screening, insurance claims and medical records may be used to augment these self-reported data, but insurance claims only capture PSA testing for the insured, comprehensive gathering of medical records is expensive, and documentation of non-billable procedures like DRE is often spotty.

Like our measures of insurance status, our measure of trust could be enhanced. Trust was assessed at a single point in time (post-diagnosis) and analyzed in the context of antecedent health behavior (pre-diagnostic screening use). Trust measured at this point may be different and less relevant than trust before diagnosis, or earlier, when men's health care behaviors may have formed. These findings generally support the conclusions of previous research showing that patients who have familiarity, better communication, and longer relationships or more visits with their physicians report comparatively greater trust [15, 46–50]. Moreover, the data encourage more nuanced characterization of both race and trust than as monolithic, homogeneous, and invariant. Instead, AA men, like CAs, are both socially vulnerable and heterogeneous, and the trust they exhibit is a dynamic function of multiple characteristics that may vary over time and by context.

The attenuation of racial differences in screening use seen in the multivariable model suggests that approaching the problem from multiple angles holds merit; however, the persistence of disparities in all strata of trust and structure of usual care reinforces the complexity of the problem. Adapting systems to assure provider continuity may facilitate patient-provider interactions that extend beyond the primary problem at hand. Adoption of additional systems to prompt and facilitate preventive care may provide additional benefit, especially among public health and community clinics, and even ERs and UCCs that acknowledge and accept that they are some people's primary care providers [51, 52]. The

means of enhancing trust among the broader population remains unclear, although this study suggests that addressing systems issues may be an important route of intervention to improve trust among those who access health care services. Doing so may contribute to trust and attenuate racial differences in the short term, which may in turn feed back into the community and contribute to a resolution of differences in trust, access, and outcomes in the long term for the broader population.

## Acknowledgments

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Table 1

Characteristics of Study Sample Population Overall, and by Race

| | Overall | | By Race | | | |
| | | | Caucasian American | | African American | | P Value |
| | x̄; n | (SD; %) | x̄; n | (SD; %) | x̄; n | (SD; %) | |
|---|---|---|---|---|---|---|---|
| **Overall Sample Size** | 1,031 | | 528 | 51.2% | 503 | 48.8% | |
| **Pre-Diagnosis CaP Screening History** | | | | | | | |
| PSA Screening | 694 | (68.4%) | 425 | (81.2%) | 269 | (54.7%) | <0.001 |
| DRE Screening | 856 | (83.7%) | 469 | (89.2%) | 387 | (77.9%) | <0.001 |
| Either Screening | 894 | (87.8%) | 491 | (93.9%) | 403 | (81.4%) | <0.001 |
| **Trust Score** | 60.67 | (11.85) | 62.73 | (11.27) | 58.48 | (12.06) | <0.001 |
| **See Same Person Each Time** | 867 | (84.1%) | 472 | (89.4%) | 395 | (78.5%) | <0.001 |
| **Usual Source of Care** | | | | | | | |
| MD Office | 798 | (77.5%) | 467 | (88.5%) | 331 | (65.9%) | <0.001 |
| Hospital Clinic | 59 | (5.7%) | 17 | (3.2%) | 42 | (8.4%) | |
| VA | 93 | (9.0%) | 20 | (3.8%) | 73 | (14.5%) | |
| Public Health / Community Hlth Ctr | 29 | (2.8%) | 7 | (1.3%) | 22 | (4.4%) | |
| ER / Urgent Care / None | 51 | (5.0%) | 17 | (3.2%) | 34 | (6.8%) | |
| **Age** | 63.65 | (7.48) | 64.89 | (7.48) | 62.35 | (7.27) | <0.001 |
| **Income** | | | | | | | |
| <$30,000 | 344 | (33.4%) | 112 | (21.2%) | 232 | (46.1%) | <0.001 |
| $30–$59,000 | 298 | (28.9%) | 149 | (28.2%) | 149 | (29.6%) | |
| >$59,000 | 326 | (31.6%) | 239 | (45.3%) | 87 | (17.3%) | |
| Missing | 63 | (6.1%) | 28 | (5.3%) | 35 | (7.0%) | |
| **Number with Health Insurance** | 899 | (87.2%) | 502 | (95.1%) | 397 | (78.9%) | <0.001 |
| **Education Level** | | | | | | | |
| >High School | 550 | (53.4%) | 362 | (68.6%) | 188 | (37.4%) | <0.001 |
| High School | 259 | (25.1%) | 111 | (21.0%) | 148 | (29.4%) | |
| <High School | 222 | (21.5%) | 55 | (10.4%) | 167 | (33.2%) | |
| **REALM Health Literacy** | | | | | | | |
| >= High School | 611 | (59.3%) | 430 | (81.4%) | 181 | (36.0%) | <0.001 |

| | Overall $\bar{x}$; n | Overall (SD; %) | Caucasian American $\bar{x}$; n | Caucasian American (SD; %) | African American $\bar{x}$; n | African American (SD; %) | P Value |
|---|---|---|---|---|---|---|---|
| 7th–8th Grade | 160 | (15.5%) | 53 | (10.0%) | 107 | (21.3%) | |
| 4th–6th Grade | 146 | (14.2%) | 30 | (5.7%) | 116 | (23.1%) | |
| =<3rd Grade | 114 | (11.1%) | 15 | (2.8%) | 99 | (19.7%) | |
| **Communication Score** | 87.29 | (15.19) | 88.65 | (15.08) | 85.81 | (15.18) | 0.001 |
| **Marital Status** | | | | | | | |
| Married / Living as | 769 | (74.6%) | 433 | (82.0%) | 336 | (66.8%) | <0.001 |
| Separated / Divorced | 142 | (13.8%) | 47 | (8.9%) | 95 | (18.9%) | |
| Widowed | 66 | (6.4%) | 31 | (5.9%) | 35 | (7.0%) | |
| Never Married | 54 | (5.2%) | 17 | (3.2%) | 37 | (7.4%) | |
| **Number with Family History of CaP** | 232 | (22.5%) | 110 | (20.8%) | 122 | (24.3%) | 0.189 |
| **SF-12** | | | | | | | |
| Physical | 44.13 | (11.28) | 44.95 | (11.05) | 43.27 | (11.46) | 0.009 |
| Mental | 52.11 | (10.94) | 52.95 | (9.87) | 51.22 | (11.90) | 0.006 |
| **Charlson Comorbidity** | | | | | | | |
| Charlson Score | 0.90 | (1.22) | 0.83 | (1.10) | 0.98 | (1.32) | 0.018 |
| Charlson=0 | 516 | (50.1%) | 274 | (51.9%) | 242 | (48.1%) | 0.379 |
| Charlson=1 | 274 | (26.6%) | 139 | (26.3%) | 135 | (26.8%) | |
| Charlson=2 or more | 241 | (23.4%) | 115 | (21.8%) | 126 | (25.1%) | |
| **Gleason Score** | 6.51 | (0.98) | 6.46 | (0.93) | 6.57 | (1.02) | 0.044 |
| **Stage at Diagnosis** | | | | | | | |
| I | 536 | (58.0%) | 264 | (56.5%) | 272 | (59.4%) | 0.240 |
| II | 370 | (40.0%) | 197 | (42.2%) | 173 | (37.8%) | |
| III | 12 | (1.3%) | 4 | (0.9%) | 8 | (1.8%) | |
| IV | 7 | (0.8%) | 2 | (0.4%) | 5 | (1.1%) | |
| **State of Residence** | | | | | | | |
| North Carolina | 822 | (79.7%) | 436 | (82.6%) | 386 | (76.7%) | 0.020 |
| Louisiana | 209 | (20.3%) | 92 | (17.4%) | 117 | (23.3%) | |

**Table 2**

Linear Regression (Model 1): Association of Covariates with Patient-Reported Trust of Physician; and Logistic Regression (Model 2): Association of Covariates with Pre-Diagnostic CaP Screening Use.

| | Model 1: Regression, Trust on Covariates | | Model 2: Logit, PCa Screening on Trust and Covariates | |
|---|---|---|---|---|
| | Coef. | *P* Value | OR | [95% CI] |
| Trust | (Dependent variable this model) | | 1.000 | [0.979 – 1.021] |
| Sees Same Clinician | 1.738 | 0.100 | 2.397 | [1.468 – 3.916] |
| African American Race | −3.540 | <0.001 | 1.011 | [0.579 – 1.766] |
| Communication | 0.229 | <0.001 | 1.011 | [0.997 – 1.025] |
| Ever Married | 0.521 | 0.705 | 2.494 | [1.140 – 5.459] |
| Age | 0.028 | 0.613 | 1.015 | [0.977 – 1.056] |
| Income: <$29k | −0.221 | 0.834 | 0.238 | [0.122 – 0.465] |
| Income: $30 - $59k | −1.508 | 0.093 | 0.972 | [0.411 – 2.295] |
| Income: $60k+ | *(Reference)* | | *(Reference)* | |
| Insurance | 0.664 | 0.582 | 1.972 | [1.165 – 3.338] |
| Fam History of Pca | 0.055 | 0.949 | 1.330 | [0.736 – 2.404] |
| Education > HS Grad | −1.902 | 0.021 | 2.264 | [1.249 – 4.105] |
| Health Literacy: > 6th Grade | −0.139 | 0.890 | 2.116 | [1.263 – 3.545] |
| SF-12: Physical | 0.053 | 0.112 | 0.998 | [0.977 – 1.018] |
| SF-12: Mental | 0.107 | 0.003 | 1.012 | [0.991 – 1.033] |
| Charlson=0 | 0.262 | 0.772 | 0.617 | [0.338 – 1.128] |
| Charlson=1 | 0.407 | 0.695 | 0.606 | [0.309 – 1.189] |
| Charlson>1 | *(Reference)* | | *(Reference)* | |
| State of Residence is NC | −2.525 | 0.005 | 1.389 | [0.829 – 2.328] |
| _cons | 33.645 | <0.001 | - | - - |

| | | |
|---|---|---|
| Number of observations | 979 | 967 |
| F(16,962) / WaldChi2(18) | 10.80 | 126.42 |
| Prob > F / Prob > Chi-squared | 0.0000 | 0.0000 |
| R-squared / Pseudo R-Squared | 0.1509 | 0.2633 |
| Root MSE / Log-pseudolikelikhood | 10.996 | −250.89 |

***
*p*<.01

**
*p*<.05

*
*p*<.10

**Table 3**

Trust, by Consistency of Same Provider and Usual Source of Care

**Participant Trust of Physcian, by Consistency of Seeing Same Provider**

| See Same Person Each Visit? | Overall | | | Caucasian | | | African American | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | Std. Dev. | n | Mean | Std. Dev. | n | Mean | Std. Dev. | n | |
| No | 58.75 | (12.39) | 162 | 60.96 | (11.67) | 56 | 57.58 | (12.66) | 106 | ** |
| Yes | 61.04 | (11.71) | 856 | 62.94 | (11.21) | 469 | 58.72 | (11.90) | 387 | *** |
| **Overall** | 60.67 | (11.85) | 1018 | 62.73 | (11.27) | 525 | 58.48 | (12.06) | 493 | *** |

**Participant Trust of Physcian, by Usual Source of Care**

| Usual Source of Care | Overall | | | Caucasian | | | African American | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | Std. Dev. | n | Mean | Std. Dev. | n | Mean | Std. Dev. | n | |
| MD Office | 60.91 | (11.68) | 789 | 62.70 | (11.24) | 464 | 58.36 | (11.84) | 325 | *** |
| Hospital Clinic | 62.17 | (11.99) | 59 | 67.79 | (12.38) | 17 | 59.89 | (11.18) | 42 | *** |
| VA | 58.87 | (13.20) | 92 | 60.73 | (10.90) | 20 | 58.35 | (13.80) | 72 | |
| Public Health / Community Hlth Ctr | 61.90 | (11.47) | 27 | 59.17 | (11.66) | 7 | 62.85 | (11.54) | 20 | |
| ER/Urgent Care/None | 57.90 | (11.65) | 50 | 62.30 | (10.89) | 17 | 55.64 | (11.53) | 33 | ** |
| **Overall** | 60.68 | (11.85) | 1017 | 62.73 | (11.27) | 525 | 58.49 | (12.07) | 492 | *** |

*t*-test, difference in trust between races:

*
$p < .10$

***
$p < .01$

**
$p < .05$

**Table 4**

History of Prior CaP Screening by Consistency of Provider Seen and Usual Source of Care.

**A. History of CaP Screening, by Consistency of Provider Seen**

| Sees same provider each visit | Overall | | | | Caucasian Americans | | | | African Americans | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number Screened | Total | Percent Screened | 95% CI | Number Screened | Total | Percent Screened | 95% CI | Number Screened | Total | Percent Screened | 95% CI |
| Yes | 779 | 856 | 91.0% | [89.1, 92.9] | 448 | 467 | 95.9% | [94.1, 97.7] | 331 | 389 | 85.1% | [81.6, 88.6] |
| No | 115 | 162 | 71.0% | [64.0, 78.0] | 43 | 56 | 76.8% | [65.7, 87.8] | 72 | 106 | 67.9% | [59.0, 76.8] |
| Total | 894 | 1018 | | | 491 | 523 | | | 403 | 495 | | |
| Prevalence Difference [PD], Crude: | −20.0% | | [−27.3, −12.8] | | −19.1% | | [−30.2, −7.9] | | −17.2% | | [−26.7, −7.6] | |
| PD, Controlling for Race: | −18.0% | | [−25.2, −10.8] | | | | | | | | | |

**B. History of CaP Screening, by Usual Source of Care**

| Usual Source of Care | Overall | | | | | |
|---|---|---|---|---|---|---|
| | Number Screened | Total | Percent Screened | 95% CI | PD | 95% CI |
| MD office | 723 | 790 | 91.5% | [89.6, 93.5] | 0 | |
| Hospital Clinic | 49 | 58 | 84.5% | [75.2, 93.8] | −7.0% | [−16.6, 2.5] |
| VA | 82 | 92 | 89.1% | [82.8, 95.5] | −2.4% | [−9.0, 4.3] |
| Public Health / Community | 16 | 28 | 57.1% | [38.8, 75.5] | −34.4% | [−52.8, −15.9] |
| ER / urgent care / none | 24 | 49 | 49.0% | [35.0, 63.0] | −42.5% | [−56.7, −28.4] |
| Total | 894 | 1017 | 87.9% | | | |

| Usual Source of Care | Overall | | | | Caucasian Americans | | | | African Americans | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Number Screened | Total | Percent Screened | 95% CI | Number Screened | Total | Percent Screened | 95% CI | Number Screened | Total | Percent Screened | 95% CI |
| MD/Hospital/VA | 854 | 940 | 90.9% | [89.0, 92.7] | 476 | 499 | 95.4% | [93.6, 97.2] | 378 | 441 | 85.7% | [82.4, 89.0] |
| Other | 40 | 77 | 51.9% | [40.8, 63.1] | 15 | 24 | 62.5% | [43.1, 81.9] | 25 | 53 | 47.2% | [33.7, 60.6] |
| Prevalence Difference [PD], Crude: | −38.9% | | [−50.2, −27.6] | | −32.9% | | [−52.3, −13.4] | | −38.5% | | [−52.4, −24.7] | |
| PD, controlling for Race: | −36.7% | | [−48.1, −25.3] | | | | | | | | | |

p value for a difference in the association between no regular provide and screening by race = 0.79

p value for a difference in the association between no regular provider and screening by race = 0.64