

# The Relationship Between Education and Prostate-specific Antigen Testing Among Urban Black Medicare Beneficiaries

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## Abstract

**Background:** Prostate specific antigen (PSA) testing is frequently used for the early detection of prostate cancer. With both racial and socioeconomic disparities in prostate cancer incidence and outcomes, the relationship between race and socioeconomic status with respect to prostate cancer screening is often complex. We describe the relationship between socioeconomic status and PSA testing in a large, urban, African American population and examine factors that may mediate this relationship. **Methods:** We examined baseline questionnaire data collected from the Cancer Prevention and Treatment Demonstration, a community-based randomized, controlled trial in Baltimore, MD. The study population consisted of 511 African-American men without a history of prostate cancer, aged 65-75 years, enrolled in Medicare Parts A and B. Our main outcome was PSA testing within the past year. Sequential multivariate logistic regression models were performed to study factors that may mediate the relationship between socioeconomic status and PSA screening. **Results:** Eighty percent of participants reported having had at least one PSA test in their lifetime, and approximately 50% reported having one within the past year. About half of the sample population reported a household income of less than \$30,000 a year and one-third have continued education past high school, but only 14% hold a bachelors degree or higher. In bivariate analyses both higher income and higher levels of education were significantly associated with screening in the past year (Odds Ratio [OR] for having an income of \$30,000 versus less than \$10,000 was 3.14, 95% Confidence Interval [CI] 1.79-5.52, and OR for having a Bachelor's degree compared to less than high school was 3.19, 95% CI 1.72-5.71). In the baseline multivariable regression model, which controlled for marital status, family history, and self-reported health status, income was no longer a significantly associated with PSA testing while the association between educational attainment and PSA testing was reduced (OR 2.13, 95% CI 1.07-4.22). The addition of increased healthcare access and patient-provider relationship measures did not alter the relationship between educational attainment and screening, whereas the inclusion of cancer knowledge and belief measures further reduced the association between education and PSA testing (OR 1.84, 95% CI 0.90-3.75). **Conclusions:** In this urban,

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African American Medicare population, socioeconomic status was associated with PSA testing and the relationship was partially mediated by demographic factors and cancer knowledge and beliefs. Culturally-tailored interventions designed to increase knowledge of cancer disease, causes, and prevention is an important tool in decreasing socioeconomic disparities within this high risk population.

65

