Published in final edited form as:

Nat Rev Urol. 2010 September ; 7(9): 480–481. doi:10.1038/nrurol.2010.121.

Socioeconomic status and disparities in treatment patterns

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Abstract

Disparities in prostate cancer treatment patterns have been traced to differences in socioeconomic status. These results have implications for quality of care imparted by health-care providers. Until randomized clinical trials establish standards of care, physicians must be wary of unconscious bias and strive to support, not dictate, the decision-making process.

The existence of poor overall survival among socioeconomically disadvantaged men with prostate cancer has been well established;^{1,2} however, the underlying reasons remain unclear. Certainly, men with lower socioeconomic status typically present with more-advanced disease.^{1,3} While this fact suggests a difference in screening practice patterns and perhaps in risk factors, stage-adjusted differences in treatment patterns might also exist. Such differences are particularly relevant in any country with a socialized health-care system, such as the UK, where equity of screening and treatment patterns is expected.

To address this issue, Lyratzopoulos *et al.*³ examined a large cohort of British men with recently diagnosed prostate cancer from a population-based cancer registry and studied the likelihood of active treatment according to socioeconomic status. They found that men from lower socioeconomic groups were significantly less likely than those from higher groups to be treated with radical surgery or radiotherapy, regardless of age, stage, diagnosis period, tumor type, or hospital type. Importantly, despite having a greater risk of higher-stage disease at initial diagnosis, men with lower socioeconomic status were actually more likely to receive watchful waiting than men with higher socioeconomic status. These results support other research suggesting that the substantial differences in survival between men from different socioeconomic backgrounds might be partly attributable to variation in treatment patterns and not just to variation in screening practice patterns.^{2,4,5}

“...low socioeconomic status remained an independent predictor of treatment by watchful waiting”

Of course, sorting through the multitude of factors that influence socioeconomic status is a highly complex enterprise. For one, a range of surrogates for socioeconomic status has been used in the literature,^{1,2,4–6} including income, education, and military rank, which makes defining socioeconomic status difficult and comparing studies impractical. Additionally, the

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Competing interests

The authors declare no competing interests.

effects of race and ethnicity have been difficult to distinguish from those of socioeconomic status owing to their frequent co-occurrence. For example, within the USA, black men are generally poorer and less-educated than white men, with significant disparities seen in prostate cancer treatments received.⁴ Thus, identifying whether these differences arise from race, socioeconomic status, or a combination thereof is not an easy task. Studies that have examined race and socioeconomic factors in prostate cancer survival, however, have suggested that differences in treatment patterns based on socioeconomic status are a significant contributor to the survival disadvantage seen in black men.^{1,2}

In their study, Lyratzopoulos *et al.*³ used a national index of socioeconomic status that takes into account income, employment, health, education, and crime, among other variables. As their population was nearly all white, race and ethnicity were nonfactors. Of note, the British National Health Service is essentially a single-payer, socialized healthcare system, with only a small fraction of the population covered by private health insurance. Although no screening data were given, the investigators controlled for possible screening disparities by adjusting for disease stage and found that low socioeconomic status remained an independent predictor of treatment by watchful waiting. While large randomized comparisons of active treatment versus watchful waiting are pending, one trial in Scandinavia found a survival benefit for radical prostatectomy over watchful waiting.⁷ Additionally, a large retrospective study in the USA compared watchful waiting to active treatment and found a survival advantage in elderly men who pursued active treatment for low-risk and intermediate-risk prostate cancer.⁶ Given that these studies suggest that active treatment results in a survival advantage, the key healthcare questions are why socioeconomically disadvantaged patients choose watchful waiting, and whether they are biased towards that choice by their physicians.

These questions may never be completely answered, but they underscore the importance of transparency and education in the doctor-patient relationship. One study of the treatment decision-making process found that 51% of men with localized prostate cancer ranked their physicians recommendations as the most important factor influencing their treatment decision, followed by advice from family and friends (19%) and information from books and journals (18%).⁸ As prostate cancer management should be based on clinical parameters including overall comorbidities and patient preferences rather than socioeconomic background, physicians should be mindful of their own potential biases and influence on patient treatment decision-making. Any recommendations of treatment for newly diagnosed prostate cancer should stem solely from evidence-based medicine, and ideally from randomized clinical trials when available.

Lyratzopoulos *et al.*³ do, however, have several limitations to their study, which must be taken into consideration. Serum PSA levels, biopsy Gleason grade, and comorbidities, which were not considered in their study, have proven extremely helpful in stratifying patients according to clinical risk, which can influence treatment decisions. One large study in the USA found tumor grade, ahead of socioeconomic factors such as income, education, and geographic region, to be the strongest predictor of radical surgery or radiation therapy in men diagnosed with localized or locally advanced prostate cancer.⁵ Additionally, although Lyratzopoulos and colleagues³ do address their lack of data on comorbidities, they suggest

that comorbidities would influence the selection of patients for surgery but not for radiotherapy. While it may be true (although unproven) that comorbidities influence the decision for surgery more than for radiotherapy, comorbidities and thus anticipated life expectancy are likely to have a vital role in choosing between radiotherapy versus no therapy, which have drastically different outcomes.² In the USA, furthermore, patients with prostate cancer have shown much greater preference for radical surgery over radiotherapy,⁹ which increases the importance of comorbidities in determining prostate cancer management. Lastly, and perhaps most importantly, Lyratzopoulos *et al.*³ fail to examine the impact of their findings on overall and cancer-specific survival, which would have drastically enhanced the clinical significance of their findings.

Whether physicians involuntarily discriminate against men with lower socioeconomic status remains unclear and perhaps never will be fully answered. With implications for patient survival, however, treatment prescribed by physicians must adhere to a stringent protocol based on high-quality evidence, which unfortunately is still lacking. We hope that the ongoing Prostate Cancer Intervention Versus Observation Trial (PIVOT; comparing radical prostatectomy to watchful waiting)¹⁰ will help to clarify the role of primary therapy in this disease, although stage migration over the more than 10 years since PIVOT began might limit the relevance of any findings for patients diagnosed today. Ultimately, once more data are available and the optimum treatment strategy for prostate cancer is clear, we hope that the well-documented disparities in quality of care will cease to exist.

References

1. Du XL, et al. Racial disparity and socioeconomic status in association with survival in older men with local/regional stage prostate carcinoma: findings from a large community-based cohort. *Cancer*. 2006; 106:1276–1285. [PubMed: 16475208]
2. Schwartz K, et al. Interplay of race, socioeconomic status, and treatment on survival of patients with prostate cancer. *Urology*. 2009; 74:1296–1302. [PubMed: 19962532]
3. Lyratzopoulos G, Barbiere JM, Greenberg DC, Wright KA, Neal DE. Population based time trends and socioeconomic variation in use of radiotherapy and radical surgery for prostate cancer in a UK region: continuous survey. *BMJ*. 2010; 340:c1928. [PubMed: 20413566]
4. Shavers VL, et al. Race/ethnicity and the receipt of watchful waiting for the initial management of prostate cancer. *J Gen Intern Med*. 2004; 19:146–155. [PubMed: 15009794]
5. Krupski TL, Kwan L, Afifi AA, Litwin MS. Geographic and socioeconomic variation in the treatment of prostate cancer. *J Clin Oncol*. 2005; 23:7881–7888. [PubMed: 16204005]
6. Wong YN, et al. Survival associated with treatment vs observation of localized prostate cancer in elderly men. *JAMA*. 2006; 296:2683–2693. [PubMed: 17164454]
7. Bill-Axelsson A, et al. Radical prostatectomy versus watchful waiting in early prostate cancer. *N Engl J Med*. 2005; 352:1977–1984. [PubMed: 15888698]
8. Diefenbach MA, et al. Decision-making strategies for patients with localized prostate cancer. *Semin Urol Oncol*. 2002; 20:55–62. [PubMed: 11828358]
9. Cooperberg MR, Broering JM, Carroll PR. Time trends and local variation in primary treatment of localized prostate cancer. *J Clin Oncol*. 2010; 28:1117–1123. [PubMed: 20124165]
10. Wilt TJ, et al. The Prostate Cancer intervention Versus Observation Trial: VA/NCI/AHRQ Cooperative Studies Program #407 (PiVOT): design and baseline results of a randomized controlled trial comparing radical prostatectomy to watchful waiting for men with clinically localized prostate cancer. *Contemp Clin Trials*. 2009; 30:81–87. [PubMed: 18783735]

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