Accounting for Apparent "Reverse" Racial Disparities in Department of Veterans Affairs (VA)–Based Medical Care: Influence of Out-of-VA Care

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Conclusions regarding racial differences in care following a newly elevated prostate-specific antigen (PSA) test at the Department of Veterans Affairs (VA) may differ depending on whether follow-up care outside the VA is considered. Consecutive Philadelphia, Pa, VA patients with newly elevated PSA tests (n = 183) were interviewed 1 year after baseline. Among exclusive VA users, Blacks had higher rates of urology referrals and prostate biopsies compared with Whites. However, these racial differences were attenuated when care obtained outside the VA also was considered. (*Am J Public Health.* 2004;94:2076–2078)

For many conditions, including prostate cancer, studies in US patient populations have found that Blacks have worse health outcomes and lower health care use than do Whites.[1–5] However, studies in the Department of Veterans Affairs (VA) have often shown that outcomes and utilization are as good, if not better, for Blacks as for Whites.[6–14]

One possible explanation for this discrepancy is that VA disparities studies typically measure treatment and outcomes only within the VA,[6–13,15] even though most patients receive some care outside the VA.[16] If Whites receive a greater proportion of care outside the VA than do Blacks, assessments of service use that examine only within-VA services may show a misleading lack of disparity or "reverse disparity."

Our study compared the magnitude of racial disparities in knowledge of an elevated prostate-specific antigen (PSA) test, urology referral, and prostate biopsy among patients with a newly elevated PSA test at the Philadelphia Veterans Affairs Medical Center, depending on whether or not care obtained outside the VA was considered.

METHODS

With approval from the Philadelphia Veterans Affairs Medical Center institutional review board, we conducted a 1-year retrospective cohort study of consecutive patients with newly elevated PSA tests ("index PSA test") (PSA>4) at the Philadelphia Veterans Affairs Medical Center from June 1, 2001, to April 11, 2002. One year after the index PSA test, we conducted telephone interviews with patients on follow-up care received and medical chart abstractions to validate self-reports (for which we found concordance in 88% cases).

Of the 343 eligible patients identified, patients were excluded if they were deceased at time of enrollment (n=4), uncontactable (n=60), too ill (n=7), or not Black or White (n=5). Of the 267 remaining patients, 183 (69%) participated.

To distinguish between patients who were likely to seek follow-up care outside rather than inside the Philadelphia Veterans Affairs Medical Center, subjects were classified as either "partial VA users" or "exclusive VA users." Partial VA users reported using the Philadelphia Veterans Affairs Medical Center for prescription medications only or reported seeing a urologist outside the Philadelphia Veterans Affairs Medical Center. All others were classified as exclusive VA users. Subjects who did not know that they had received a PSA test (n=40) were not asked about follow-up care and hence were excluded from initial analyses. Sensitivity analyses were performed by including these subjects in sequence in the exclusive VA or partial VA users' groups because appropriate group assignment was unclear. In analyses in which these subjects were included, their response to each outcome was coded as "no."

TABLE 1—Unadjusted Rates of Knowledge and Follow-Up Care Among Blacks Relative to Whites

	Exclusive VA Users, %				Partial VA Users, %				All Subjects, %			
	Blacks (n = 33)	Whites (n = 18)	Δ	OR (95% CI)	Blacks (n = 13)	Whites (n = 79)	Δ	OR (95% CI)	Blacks (n = 46)	Whites (n = 97)	Δ	OR (95% CI)
Know of elevated PSA test	55	56	1	0.96 (0.30, 3.04)	31	43	−12	0.59 (0.17, 2.07)	48	45	3	1.10 (0.56, 2.23)
Urology referral within 1 y	73	44	29	3.33 (1.00, 11.12)	50	58	−8	0.69 (0.20, 2.33)	67	55	12	1.55 (0.74, 3.25)
Biopsy within 1 y	67	28	39	5.20 (1.47, 18.30)	36	31	5	1.25 (0.33, 4.74)	59	30	29	3.28 (1.54, 7.00)
Biopsy within 1 y if had urology appointment	92 (n = 24)[a]	63 (n = 8)[a]	29	6.60 (0.86, 50.54)	80 (n = 6)[a]	58 (n = 44)[a]	22	2.86 (0.29, 28.19)	90 (n = 30)[a]	59 (n = 52)[a]	31	6.00 (1.57, 22.86)

Note. VA = Department of Veterans Affairs; OR = odds ratio; CI = confidence interval; PSA = prostate-specific antigen.
[a]Sample includes only those subjects who had a urologist appointment, a requirement for undergoing biopsy.

RESULTS

Compared with partial VA users, exclusive VA users were younger (73.5 vs 65.8 years; $P<.001$) and more likely to be Black (17% vs 65%; $P<.001$) and to earn $30 000 or less (56% vs 88%; $P<.001$). Education (13.5 vs 13.0 years; $P=.245$) and index PSA test levels (7.1 vs 6.6; $P=.622$) were similar.

In general, Blacks were more likely than Whites to know of their PSA test and to have a urology referral and biopsy among exclusive VA users and were as likely as or less likely than Whites to have these characteristics among partial VA users. The rates of each outcome among all subjects represented the combined rates of the 2 subgroups (Table 1).

For example, Blacks were significantly more likely to have a urology referral than were Whites (73% vs 44%) among exclusive VA users but as likely as Whites among partial VA users (50% vs 58%) and all subjects (67% vs 55%). Among exclusive VA users and all subjects, Blacks were more likely than Whites to have a biopsy (67% vs 28% and 59% vs 30%, respectively), but there was no difference for partial VA users (36% vs 31%).

Multivariate models adjusted for age and index PSA level, factors that affect the likelihood of prostate cancer and, therefore, the importance of a urology referral and a biopsy. In these models, the odds ratios for race reflected a pattern for each outcome similar to that in the unadjusted analyses (Table 2). In addition, we examined whether the odds ratios for race were different for exclusive VA users and partial VA users by combining the 2 groups into 1 multivariate model and examining an added term of being an exclusive VA user interacted with being Black. The statistical significance of this coefficient for urology referral ($P=.04$) suggested that the racial differences among exclusive VA users were statistically different from those among partial VA users. For the other outcomes, the racial differences between exclusive and partial VA users were not statistically different.

TABLE 2—Adjusted Racial Differences in Knowledge and Follow-Up Care in Blacks Relative to Whites

	OR (95% CI) for Adjusted Racial Difference[a]		
	Exclusive VA Users	Partial VA Users	All Subjects
Know of elevated PSA test	0.85 (0.24, 2.96)	0.52 (0.13, 2.00)	0.85 (0.40, 1.83)
Urology referral within 1 y	3.91 (1.05, 14.59)	0.61 (0.17, 2.28)	1.62 (0.73, 3.59)
Biopsy within 1 y	5.16 (1.34, 19.83)	1.13 (0.26, 4.79)	2.63 (1.18, 5.88)
Biopsy within 1 y if had urology appointment	4.97 (0.58, 42.71)	7.90 (0.11, 594.35)	4.82 (1.00, 23.34)

Note. OR = odds ratio; CI = confidence interval; VA = Department of Veterans Affairs; PSA = prostate-specific antigen.
[a]Adjusted for age 70 or younger (yes or no) and index PSA test result.

Racial differences in each of the groups were reexamined after including the 40 subjects who did not know that they had received a PSA test. The results were qualitatively similar to analyses that had excluded these subjects.

DISCUSSION

Among patients who received care exclusively within the VA, Blacks had higher rates of urology referrals and prostate biopsies than did Whites in the year following a newly elevated PSA test. However, when care obtained outside the VA was considered, the rates of these outcomes among Blacks were generally no different from rates among Whites. Therefore, including information about the care received by many VA patients outside the VA[16] markedly affects the assessment of whether racial disparities exist in the rates of urology referral and prostate biopsy.

These findings are likely the result of different rates of use of care outside the VA by Black compared with White VA patients. Because more Whites than Blacks receive care outside the VA, these White patients may receive less care within the VA. As a result, in assessments of racial differences among VA patients in care received at the VA, it appears that Blacks obtain more care than do Whites.

The results should be considered in light of certain limitations. We relied on patient self-reports of care, although these self-reports were largely validated by chart data. Some subjects' PSA tests may not have been *newly* elevated, despite efforts to exclude

these patients. However, this was more likely among partial VA users; their VA records may be less complete, which would bias against finding smaller racial differences in follow-up rates when including partial VA users.

Our results have implications for the VA studies of racial disparities in outcomes and utilization.[6–8,10–13] Exclusive examination of services received by patients within the VA system may overestimate total use by Blacks compared with Whites. Interpretation of VA studies of racial disparities should consider this potential bias. ■

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Contributors

A.D. Gurmankin initiated, developed, and implemented all aspects of the study and led the data analysis and writing of the brief. D. Polsky helped to formulate the study aims. K.G. Volpp supervised all aspects of the study, including study design and data analysis. All authors helped to conceptualize ideas, interpret the results, and review drafts of the brief.

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Human Participant Protection

This study was approved by the institutional review board of the Philadelphia Veterans Affairs Medical Center.

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