



## Original article

# Racial differences in prostate-specific antigen–based prostate cancer screening: State-by-state and region-by-region analyses

Tarun Jindal, MD<sup>a,1</sup>, Naveen Kachroo, MD<sup>a,1</sup>, Jesse Sammon, DO<sup>a,b</sup>, Deepansh Dalela, MD<sup>a</sup>, Akshay Sood, MD<sup>a</sup>, Malte W. Vetterlein, MD<sup>a,c,d</sup>, Patrick Karabon, MSc<sup>a,e</sup>, Wooju Jeong, MD<sup>a</sup>, Mani Menon, MD<sup>a</sup>, Quoc-Dien Trinh, MD<sup>c</sup>, Firas Abdollah, MD<sup>a,\*</sup>

<sup>a</sup> Vattikuti Urology Institute, Vattikuti Urology Institute (VUI) Center for Outcomes Research Analytics and Evaluation, Henry Ford Hospital, Detroit, MI

<sup>b</sup> Division of Urology, Center for Outcomes Research and Evaluation, Maine Medical Center, Portland, ME

<sup>c</sup> Division of Urological Surgery, Center for Surgery and Public Health, Brigham and Women's Hospital, Harvard Medical School, Boston, MA

<sup>d</sup> Department of Urology, University Medical Center Hamburg-Eppendorf, Hamburg, Germany

<sup>e</sup> Department of Public Health Sciences, Henry Ford Hospital, Detroit, MI

Received 19 November 2016; received in revised form 23 January 2017; accepted 30 January 2017

## Abstract

**Objective:** Black men are more prone to harbor prostate cancer. They are more likely to succumb to this tumor than their White counterparts and may benefit from early detection and treatment. In this study, we assess the nationwide and regional disparity in prostate-specific antigen (PSA) screening for prostate cancer between Black men and non-Hispanic Whites (NHWs).

**Methods:** A total of 247,079 (weighted 55,185,102) men, aged 40 to 99 years, who responded to the 2012 and 2014 behavioral risk factor surveillance system surveys were used for our analysis. End points consisted of self-reported PSA screening and self-reported nonrecommended PSA screening within 12 months of the interview. The latter was defined as screening in men with < 10-year life expectancy. Available sociodemographic variables were used to predict these end points. The independent predictors from multivariate models were used to calculate the adjusted prevalence of PSA screening and nonrecommended PSA screening on a nationwide and regional level. These numbers were calculated for Blacks and NHWs separately and were compared between the 2 groups.

**Results:** Prevalence of PSA screening was 30.7% in NHWs vs. 28.1% in Blacks ( $P < 0.001$ ). On a region-based analysis, New England, Middle Atlantic, South Atlantic, East North Central, East South Central, West South Central, and Mountain showed a significantly higher rate of PSA screening in NHWs as compared to Blacks (all  $P < 0.001$ ). Middle Atlantic had a significantly higher prevalence of nonrecommended screening in NHWs as compared to Blacks, whereas South Atlantic, West South Central, and Pacific had a significantly higher prevalence of nonrecommended screening in Blacks as compared to NHWs (all  $P < 0.001$ ). Overall, 43 states performed screening more frequently to NHWs, whereas only 8 states performed it more frequently to Black men. The nonrecommended screening was performed more frequently to NHWs in 19 states, whereas 24 states performed it more frequently to Black men.

**Conclusion:** Our study demonstrates that on a regional-level (and state-level), there are significant racial differences in overall and nonrecommended PSA screening across the United States. Further research is necessary to identify the reasons for the differences and help overcoming it. © 2017 Elsevier Inc. All rights reserved.

**Keywords:** Prostate cancer; Screening; Prostate-specific antigen; Race; The United States

## 1. Introduction

Prostate cancer (PCa) is the most frequently diagnosed cancer and the second most common cause of cancer-related mortality in Black men [1,2]. The American Cancer Society estimated that 29,530 new cases of PCa will be diagnosed, and 4450 PCa deaths will occur among Black

Firas Abdollah is a consultant/advisor of GenomeDx Biosciences.

<sup>1</sup>Both the authors contributed equally.

\* Corresponding author. Tel.: +1-313-916-9923.

E-mail addresses: [firm.abdollah@gmail.com](mailto:firm.abdollah@gmail.com), [fabdoll1@hfhs.org](mailto:fabdoll1@hfhs.org) (F. Abdollah).

Table 1

Descriptive characteristics of 247,079 (weighted 55,185,102) men aged between 40 years and 99 years who were interviewed by the behavioral risk factor surveillance system (BRFSS) surveys of 2012 and 2014

	Overall		Non-Hispanic White		Black	
	Unweighted	Weighted	Unweighted	Weighted	Unweighted	Weighted
Overall	247.1	55,185.1	228.9	47,997.8	18.2	7187.3
PSA screening						
Screened	82.7 (33.5)	16,750.7 (30.3)	77.1 (33.7)	14,728.9 (30.7)	5.6 (30.7)	2022.0 (28.1)
Survey year						
2012	122.3 (49.5)	27,249.7 (49.4)	113.0 (49.4)	23,787.6 (49.6)	9.3 (51.2)	3462.1 (48.2)
2014	124.8 (50.5)	27,935.4 (50.6)	115.9 (50.6)	24,210.2 (50.4)	8.9 (48.8)	3725.2 (51.8)
Age group						
< 50	45.2 (18.3)	15,014.3 (27.2)	40.9 (17.9)	12,584.6 (26.2)	4.2 (23.2)	2429.7 (33.8)
50–54	31.8 (12.9)	9282.9 (16.8)	29.0 (12.7)	7930.5 (16.5)	2.9 (15.6)	1352.3 (18.8)
55–59	36.1 (14.6)	7706.3 (14.0)	33.1 (14.5)	6672.5 (13.9)	2.9 (16.1)	1033.8 (14.4)
60–64	37.4 (15.1)	7387.6 (13.4)	34.7 (15.2)	6485.4 (13.5)	2.7 (15.0)	902.2 (12.6)
65–69	33.6 (13.6)	5578.6 (10.1)	31.5 (13.7)	4957.8 (10.3)	2.2 (11.8)	620.7 (8.6)
70–74	24.5 (9.9)	3997.5 (7.2)	23.1 (10.0)	3626.8 (7.6)	1.4 (7.8)	370.8 (5.2)
75+	38.5 (15.6)	6217.9 (11.3)	36.6 (16.0)	5740.2 (12.0)	1.9 (10.5)	477.8 (6.6)
Education level						
Less than high school	16.8 (6.8)	6112.9 (11.1)	13.8 (6.0)	4690.4 (9.8)	3.0 (16.2)	1422.5 (19.8)
High school graduate	70.5 (28.5)	16,635.1 (30.1)	64.3 (28.1)	14,312.3 (29.8)	6.2 (34.3)	2322.8 (32.3)
Some college	60.6 (24.5)	15,895.8 (28.8)	56.1 (24.5)	13,795.7 (28.7)	4.6 (25.0)	2100.0 (29.2)
College graduate	98.0 (39.7)	16,241.4 (2.94)	93.7 (40.9)	14,963.6 (31.2)	4.3 (23.7)	1277.8 (17.8)
Refused/not asked/missing	1.2 (0.5)	299.9 (0.6)	1.0 (0.5)	235.8 (0.5)	0.1 (0.8)	64.2 (0.9)
Marital status						
Married	158.2 (64.0)	36,102.6 (65.4)	149.9 (65.5)	32,641.8 (68.0)	8.3 (45.3)	3460.7 (48.2)
Never married	27.9 (11.3)	7123.2 (12.9)	24.2 (10.6)	5490.3 (11.4)	3.6 (20.0)	1632.9 (22.7)
Divorced, widowed, and separated	61.0 (24.7)	11,959.3 (21.7)	54.8 (23.9)	9865.7 (20.6)	6.3 (34.7)	2093.7 (29.1)
Income category (in USD)						
< \$15,000	17.4 (7.0)	4170.6 (7.6)	14.4 (6.3)	3010.9 (6.3)	3.0 (16.6)	1159.6 (16.1)
\$15,000–\$25,000	30.6 (12.4)	6671.1 (12.1)	26.8 (11.7)	5281.1 (11.0)	3.8 (20.6)	1390.0 (19.3)
\$25,000–\$35,000	22.6 (9.1)	4682.5 (8.5)	20.7 (9.0)	3945.9 (8.2)	1.9 (10.6)	736.6 (10.3)
\$35,000–\$50,000	33.2 (13.4)	7112.2 (12.9)	31.0 (13.5)	6255.7 (13.0)	2.2 (11.8)	856.5 (11.9)
\$50,000+	116.7 (47.3)	26,776.6 (48.5)	111.6 (48.8)	24,502.2 (51.1)	5.1 (28.0)	2274.4 (31.7)
Refused/not asked/missing	26.6 (10.8)	5772.1 (10.4)	24.4 (10.7)	5002.0 (10.4)	2.2 (12.4)	770.2 (10.7)
Health insurance						
Not insured	18.4 (7.5)	5460.3 (9.9)	15.9 (6.9)	4191.0 (8.7)	2.5 (13.9)	1269.3 (17.7)
Insured	228.1 (92.3)	49,587.6 (89.9)	212.4 (92.8)	43,690.3 (91.0)	15.6 (85.8)	5897.3 (82.0)
Unknown	0.6 (0.2)	137.2 (0.2)	0.6 (0.3)	116.5 (0.3)	0.1 (0.3)	20.7 (0.3)
Self-reported health status						
Excellent/very good	120.6 (48.8)	26,700.2 (48.4)	114.2 (49.9)	23,943.8 (49.9)	6.4 (34.9)	2756.4 (38.4)
Good	77.3 (31.3)	17,284.3 (31.3)	70.8 (30.9)	14,813.1 (30.9)	6.5 (35.4)	2471.2 (34.4)
Fair	33.2 (13.4)	7571.1 (13.7)	29.4 (12.9)	6211.2 (12.9)	3.7 (20.6)	1359.9 (18.9)
Poor	15.1 (6.1)	3417.9 (6.2)	13.6 (5.9)	2850.3 (5.9)	1.5 (8.6)	567.7 (7.9)
Unknown	0.9 (0.4)	211.6 (0.4)	0.9 (0.4)	179.4 (0.4)	0.1 (0.5)	32.1 (0.4)
Smoking status						
Current	37.0 (15.0)	9865.5 (17.9)	33.0 (14.4)	8178.9 (17.0)	4.1 (22.5)	1686.6 (23.5)
Former	94.1 (38.1)	19,762.4 (35.8)	88.9 (38.9)	17,933.4 (37.4)	5.2 (28.6)	1829.0 (25.4)
Never	108.4 (43.8)	23,792.5 (43.1)	100.3 (43.8)	20,463.3 (42.6)	8.0 (44.0)	3329.2 (46.3)
Refused	7.6 (3.1)	1764.7 (3.2)	6.7 (2.9)	1422.2 (3.0)	0.9 (4.9)	342.5 (4.8)
Doctor visit in past year						
No doctor visit in past year	65.1 (26.4)	15,197.8 (27.5)	61.7 (27.0)	13,617.7 (28.4)	3.4 (18.8)	1580.0 (22.0)
Doctor visit in past year	182.0 (73.6)	39,987.3 (72.5)	167.2 (73.0)	34,380.0 (71.6)	14.8 (81.2)	5607.3 (78.0)

Note: All numbers are displayed in thousands.

men in 2016 [1]. It has been reported that as compared to White men, Black men have a higher incidence (1.6-folds) and mortality (2.4-folds) [2].

Currently, there are opposing recommendations regarding the use of prostate-specific antigen (PSA) for PCa screening. Specifically, in 2012, the United States Preventive Services

Task Force (USPSTF) recommended against PSA screening for PCa in all men, regardless of their age, race, or other demographic features [3]. On the contrary, the American Cancer Society recommends PSA screening in high-risk patients (including Black men) aged 45 and above [4]. The American Urological Association recommends “shared-decision” making

Download English Version:

<https://daneshyari.com/en/article/5702566>

Download Persian Version:

<https://daneshyari.com/article/5702566>

[Daneshyari.com](https://daneshyari.com)