influence voting outcomes, such as member expertise and media coverage.

Jing Xu, PhD, MA
Olubunmi Emenanjo, JD, MS
Michael Ortwerth, PhD
Peter Lurie, MD, MPH

Author Affiliations: Office of Public Health Strategy and Analysis, Office of the Commissioner, US Food and Drug Administration, Silver Spring, Maryland (Xu, Lurie); Office of Special Medical Programs, Office of the Commissioner, US Food and Drug Administration, Silver Spring, Maryland (Emenanjo, Ortwerth).

Corresponding Author: Jing Xu, PhD, MA, Office of the Commissioner, US Food and Drug Administration, 10903 New Hampshire Ave, Silver Spring, MD 20993 (jing.xu@fda.hhs.gov).

Accepted for Publication: April 3, 2017.

Published Online: May 2, 2017. doi:10.1001/jamainternmed.2017.1917

Author Contributions: Dr Lurie had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.
Concept and design: All authors.
Acquisition, analysis, or interpretation of data: Xu, Lurie, Ortwerth.
Drafting of the manuscript: Xu, Emenanjo.
Critical revision of the manuscript for important intellectual content: Lurie, Ortwerth, Emenanjo.
Statistical analysis: Xu.
Administrative, technical, or material support: Lurie, Ortwerth, Emenanjo.
Supervision: Lurie.

Conflict of Interest Disclosures: None reported.

Disclaimer: The findings and conclusions of this study are those of the authors and do not necessarily represent the views of the Food and Drug Administration.

Additional Contributions: We thank Charles Rommel, a summer research fellow at the FDA, for his valuable contributions to this manuscript. He was not compensated for his contributions.

1. US Code. Acts affecting a personal financial interest. 18 USC §208.

2. US Code. Personal and business relationships. 5 CFR §2635.502.

3. US Food and Drug Administration. Guidance for the public, FDA advisory committee members and FDA staff on procedures for determining conflict of interest and eligibility for participation in FDA advisory committees. https://www.fda.gov/downloads/RegulatoryInformation/Guidances/UCM125646.pdf. Accessed December 22, 2016.

4. US Food and Drug Administration. Procedures for evaluating appearance issues and granting authorizations for participation in FDA advisory committees. https://www.fda.gov/downloads/RegulatoryInformation/Guidances/UCM508852.pdf. Accessed March 9, 2017.

5. US Food and Drug Administration. FDA advisory committee members and 'appearance issues'. https://blogs.fda.gov/fdavoice/?s=ortwerth. Accessed December 22, 2016.

Recent Patterns of Prostate-Specific Antigen Testing for Prostate Cancer Screening in the United States

Recommendations for prostate-specific antigen (PSA)-based prostate cancer screening have changed considerably in recent years. In 2008, the US Preventive Services Task Force (USPSTF) recommended against PSA-based prostate cancer screening among men 75 years or older, and in 2012, they recommended against PSA testing for men of all ages.[1] Other organizations emphasize shared-decision making for men 50 years or older with a long life expectancy.[2] As a result of shifting recommendations, PSA screening rates declined from 37.8% in 2010 to 30.8% in 2013 among men 50 years or older, resulting in substantial declines in prostate cancer incidence.[3] However, it is not known if PSA testing has continued to decline. The objective of the present study was to examine PSA testing patterns using recently released 2015 National Health Interview Survey (NHIS) data.

Methods | Data on 19 690 male respondents 50 years or older were selected from the 2010, 2013, and 2015 NHIS, an in-person household survey of noninstitutionalized people with respective response rates of 60.8%, 61.2%, and 55.2%.[4] The primary outcome was self-reported PSA testing in the past year for routine reasons. Men who reported a history of or were missing data on prostate cancer diagnosis (n = 1115) or PSA testing (n = 1574) or who had PSA testing for nonscreening reasons (n = 805) were excluded, resulting in an analytic population of 16 196 men. The χ^2 test (α = .05) was used to examine differences in PSA screening rates (SRs). Adjusted screening rate ratios (SRRs) and corresponding 99% confidence intervals (CIs) were estimated using logistic regression models with predicted marginal probabilities and controlled for sociodemographic factors, insurance, and health care characteristics. All analyses were conducted using SAS-callable SUDAAN software, version 9.4, and accounted for the complex survey design.

Results | Of the 16 196 men included in our analyses, more than half were aged 50 to 64 years, and three-quarters had visited their primary care physician in the past year, proportions that were similar across survey years. Among men 50 years or older, unadjusted SRs of PSA testing for routine reasons in the past year decreased from 38.3% in 2010 to 31.5% in 2013 (P < .001) and remained stable at 32.1% through 2015 (P = .62) (**Table 1**). Adjusted analyses were similar where the PSA testing in the past year was significantly lower in 2013 than in 2010 (SRR, 0.83; 99% CI, 0.77-0.89) but not significantly different in 2015 and 2013 (SRR, 0.99; 95% CI, 0.91-1.08). The pattern of declining PSA testing between 2010 and 2013, but not between 2013 and 2015, was similar across age groups (50-64, 65-74, and ≥75 years) (Table 1 and **Table 2**).

Discussion | In this nationally representative study, we found that previously reported declines in PSA testing have not continued in recent years, and approximately a third of men 50 years or older still receive routine PSA testing. Physicians interested in deadopting PSA testing may have done so, closely following the USPSTF recommendation and the media attention that came with it. In addition, other public health organizations still support PSA testing,[2] albeit with shared decision making, and physicians may have chosen to continue to offer PSA testing based on their beliefs about screening and interpretation of clinical trial results. We relied on self-reported PSA testing, which is subject to recall bias, and some men may not have been informed of testing, which is a limitation of the study.[5] However, this study provides data on contemporary nationwide PSA testing patterns.

Table 1. Unadjusted PSA Testing in the Past Year for Routine Reasons Among Male NHIS Respondents by Survey Year

Characteristic	Respondents, No. (%) [99% CI] (N = 16 196)			*P* Value	
	2010	2013	2015	2010 vs 2013	2015 vs 2013
Overall	4106 (38.3) [35.9-40.8]	6065 (31.5) [29.6-33.5]	6025 (32.1) [29.9-34.4]	<.001	.62
Age category, y					
50-64	2535 (32.9) [29.9-36.0]	3624 (25.2) [23.0-27.5]	3384 (27.6) [25.0-30.4]	<.001	.08
65-74	975 (51.1) [45.9-56.2]	1526 (45.9) [41.4-50.4]	1661 (42.1) [37.7-46.6]	.046	.10
>75	596 (44.8) [38.7-51.1]	915 (37.8) [32.4-43.5]	980 (35.1) [30.0-40.6]	.04	.36
Race/ethnicity					
Hispanic	518 (21.5) [16.6-27.5]	667 (19.7) [14.6-26.2]	650 (21.3) [16.2-27.6]	.57	.58
Non-Hispanic white	2719 (41.5) [38.7-44.4]	4210 (34.0) [31.8-36.3]	4299 (35.4) [32.8-38.1]	<.001	.29
Non-Hispanic black	630 (32.0) [26.2-38.3]	856 (28.9) [23.9-34.4]	731 (27.4) [22.6-32.8]	.33	.61
Other	239 (30.4) [20.3-42.8]	332 (22.0) [14.8-31.5]	345 (16.3) [10.4-24.5]	.12	.13
Educational attainment[a]					
<HS diploma	784 (24.5) [20.0-29.6]	1073 (21.6) [17.1-26.8]	905 (18.1) [13.9-23.3]	.26	.18
HS or GED	1121 (31.4) [27.1-36.1]	1634 (26.2) [22.5-30.2]	1637 (28.2) [24.3-32.5]	.02	.36
Some college	1013 (39.1) [34.5-43.9]	1630 (32.3) [28.5-36.3]	1663 (31.8) [27.6-36.3]	.003	.84
College graduate	1171 (50.4) [46.0-54.9]	1707 (39.7) [35.9-43.6]	1792 (41.4) [37.0-45.9]	<.001	.42
Insurance category					
Private	1623 (37.9) [34.3-41.7]	2206 (30.1) [27.1-33.3]	2277 (31.3) [28.0-34.9]	<.001	.50
Medicaid/state plan	146 (19.5) [11.2-32.0]	261 (12.4) [7.0-21.3]	314 (14.2) [8.5-22.7]	.15	.64
Medicare	1455 (45.4) [41.3-49.5]	2284 (39.1) [35.7-42.6]	2362 (38.2) [34.6-41.9]	.002	.60
Military	190 (48.1) [36.9-59.5]	223 (33.5) [23.7-44.9]	214 (33.1) [21.7-46.8]	.02	.95
Uninsured	459 (12.8) [8.6-18.7]	676 (10.1) [6.7-15.0]	394 (8.8) [4.5-16.4]	.26	.62
Other	233 (47.8) [38.7-57.0]	415 (48.4) [39.4-57.4]	464 (39.1) [31.3-47.5]	.91	.047
Has a usual source of primary care[b]					
Yes	3630 (41.9) [39.3-44.5]	5379 (34.4) [32.4-36.6]	5423 (34.5) [32.1-37.0]	<.001	.98
No	474 (8.3) [5.1-13.2]	686 (4.8) [2.8-8.1]	601 (7.4) [4.0-13.3]	.06	.18
Visited a PCP in the past 12 months[c]					
Yes	3101 (45.5) [42.7-48.3]	4514 (37.8) [35.5-40.1]	4600 (37.8) [35.3-40.5]	<.001	.94
No	1005 (13.6) [10.4-17.7]	1545 (11.9) [9.0-15.6]	1421 (12.0) [9.2-15.6]	.37	.94
US born					
Yes	3408 (40.1) [37.5-42.8]	5145 (32.6) [30.6-34.8]	5119 (33.8) [31.4-36.2]	<.001	.34
No	698 (26.5) [21.3-32.5]	916 (25.5) [20.9-30.7]	903 (23.2) [18.4-28.7]	.72	.39
Geographic region					
Northeast	703 (38.4) [32.5-44.7]	1061 (33.3) [29.1-37.6]	1054 (32.6) [27.3-38.4]	.07	.79
Midwest	941 (40.5) [35.5-45.6]	1233 (31.5) [27.4-36.0]	1273 (31.8) [27.4-36.6]	<.001	.91
South	1522 (38.7) [34.7-42.7]	2255 (34.2) [30.8-37.7]	1997 (36.1) [32.4-39.9]	.02	.28
West	940 (35.1) [30.3-40.1]	1516 (25.6) [22.3-29.2]	1701 (25.5) [21.3-30.1]	<.001	.94

Abbreviations: GED, graduate equivalent degree; HS, high school; NHIS, National Health Interview Survey; PCP, primary care physician; PSA, prostate-specific antigen.

[a] Data on educational attainment were missing for 66 respondents.

[b] Data on having a usual source of care were missing for 2 respondents.

[c] Data on visiting a physician in the past year were missing for 10 respondents.

Conclusions | In conclusion, previous declines in routine PSA testing between 2010 and 2013 did not continue in the most recent time period (between 2013 and 2015). A recent study reported a modest short-term (from 2011-2013) increase in the incidence of metastatic prostate cancer among men 75 years or older.[6] However, continued evaluation on how testing patterns influence prostate cancer outcomes over the long term are needed.

Stacey A. Fedewa, PhD
Elizabeth M. Ward, PhD
Otis Brawley, MD
Ahmedin Jemal, DVM, PhD

Author Affiliations: Surveillance and Health Services Research, American Cancer Society, Atlanta, Georgia (Fedewa, Ward, Jemal); Office of the Chief Medical Officer, American Cancer Society, Atlanta, Georgia (Brawley).

Table 2. Adjusted PSA Testing in the Past Year for Routine Reasons Among Male NHIS Respondents by Survey Year

Characteristic	SRR (99% CI)
Model 1[a]	
Year	
2013 vs 2010	0.83 (0.77-0.89)
2015 vs 2013	0.99 (0.91-1.08)
Age category, y	
50-64	1 [Reference]
65-74	1.49 (1.31-1.69)
>75	1.29 (1.12-1.48)
Race/ethnicity	
Non-Hispanic white	1 [Reference]
Hispanic	0.82 (0.68-0.98)
Non-Hispanic black	0.94 (0.85-1.04)
Other	0.62 (0.48-0.78)
Educational attainment	
<HS diploma	0.58 (0.50-0.67)
HS or GED	0.70 (0.63-0.77)
Some college	0.82 (0.75-0.89)
College graduate	1 [Reference]
Insurance category	
Private	1 [Reference]
Medicaid/state plan	0.67 (0.52-0.88)
Medicare	0.92 (0.80-1.04)
Military	1.09 (0.92-1.29)
Uninsured	0.68 (0.56-0.84)
Other	1.02 (0.87-1.20)
Has a usual source of primary care	
Yes	1 [Reference]
No	0.45 (0.33-0.61)
Visited a primary care physician in the past year	
Yes	1 [Reference]
No	0.45 (0.39-0.53)
Place of birth	
United States	1 [Reference]
Outside the United States	1.02 (0.91-1.14)
US Geographic region	
Northeast	1 [Reference]
Midwest	1.02 (0.91-1.14)
South	1.11 (1.00-1.23)
West	0.90 (0.80-1.02)
Model 2[b]: Age and Year Interaction	
2013 vs 2010 among men	
50-64 y	0.80 (0.71-0.90)
65-74 y	0.89 (0.71-1.02)
>75 y	0.82 (0.68-0.99)
2015 vs 2013 among men	
50-64 y	1.06 (0.94-1.19)
65-74 y	0.92 (0.81-1.04)
>75 y	0.95 (0.79-1.15)

Abbreviations: GED, graduate equivalent degree; HS, high school; NHIS, National Health Interview Survey; PSA, prostate-specific antigen; SRR, screening rate ratio.

[a] Model 1 adjusts for race/ethnicity, educational attainment, having a usual source of care, visiting a primary care physician in the past year, insurance type, and US geographic region. Only men with complete data on these factors were included in the model. There were 16 112 men included in the adjusted analysis (2010, n = 4087; 2013, n = 6036; and 2015, n = 5989).

[b] Model 2 includes an interaction term for survey year and age and adjusts for race/ethnicity, educational attainment, having a usual source of care, visiting a primary care physician in the past year, insurance type, and US geographic region. Only men with complete data on these factors were included in the model. There were 16 112 men included in the adjusted analysis (2010, n = 4087; 2013, n = 6036; 2015, n = 5989).

Corresponding Author: Stacey A. Fedewa, PhD, Surveillance and Health Services Research, American Cancer Society, 250 Williams St NW, Atlanta, GA 30303 (stacey.fedewa@cancer.org).

Published Online: April 24, 2017. doi:10.1001/jamainternmed.2017.0340

Author Contributions: Dr Fedewa had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.
Study concept and design: All authors.
Acquisition, analysis, or interpretation of data: Fedewa, Brawley, Jemal.
Drafting of the manuscript: Fedewa, Brawley.
Critical revision of the manuscript for important intellectual content: All authors.
Statistical analysis: Fedewa, Brawley.
Administrative, technical, or material support: Fedewa.
Supervision: Fedewa, Jemal.

Conflict of Interest Disclosures: None reported.

Funding/Support: This study was supported by the American Cancer Society.

Role of the Funder/Sponsor: Staff members of the Surveillance and Health Services Research Program of the American Cancer Society played a role in the design and conduct of the study; and collection, management, analysis, and interpretation of the data. No staff members at the American Cancer Society, other than the study authors, played any role in the preparation, review, or approval of the manuscript; and decision to submit the manuscript for publication.

1. Moyer VA; U.S. Preventive Services Task Force. Screening for prostate cancer: U.S. Preventive Services Task Force recommendation statement. *Ann Intern Med*. 2012;157(2):120-134.

2. Wolf AM, Wender RC, Etzioni RB, et al; American Cancer Society Prostate Cancer Advisory Committee. American Cancer Society guideline for the early detection of prostate cancer: update 2010. *CA Cancer J Clin*. 2010;60(2):70-98.

3. Jemal A, Fedewa SA, Ma J, et al. Prostate cancer incidence and PSA testing patterns in relation to USPSTF screening recommendations. *JAMA*. 2015;314(19):2054-2061.

4. US Department of Health and Human Services. *National Health Interview Survey: Survey Description*. Hyattsville, MD: National Center for Health Statistics; 2016.

5. Rauscher GH, Johnson TP, Cho YI, Walk JA. Accuracy of self-reported cancer-screening histories: a meta-analysis. *Cancer Epidemiol Biomarkers Prev*. 2008;17(4):748-757.

6. Hu JC, Nguyen P, Mao J, et al. Increase in prostate cancer distant metastases at diagnosis in the United States [published online December 29, 2016]. *JAMA Oncol*. doi:10.1001/jamaoncol.2016.5465

Clinical Quality and the Patient-Centered Medical Home

Despite widespread adoption of the patient-centered medical home (PCMH) model, it is unknown which components are most related to clinical quality.[1,2] We sought to assess the association between elements of the PCMH model and clinical quality in the Veterans Health Administration's (VHA's) national PCMH initiative, the Patient Aligned Care Team (PACT) program.

Methods | In a patient-level observational study, we included veterans who received primary care from fiscal year 2012 to 2014 and had their medical records abstracted by an independent, external contractor for the External Peer Review Program (n = 422 125).[3] We used External Peer Review Program data for 48 clinical quality measures for chronic disease management and disease prevention that are comparable to Healthcare Effectiveness Data and Information Set measures. We gauged clinic-level PCMH implementation in 2012 for 909 clinics using the PACT implementation Progress Index (Pi^2), which includes 8 core components (access, continuity, care coordination, comprehensiveness, self-management support, patient-centered care and communication, shared decision making, and team-based care).[4] We modeled the association