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Second opinions from urologists for prostate cancer: who gets them, why, and their link to treatment

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Abstract

Background—Cancer patients are encouraged to obtain second opinions prior to starting treatment. Little is known about men with localized prostate cancer who seek second opinions, the reasons why, and the association with treatment and quality of care.

Methods—We surveyed men diagnosed with localized prostate cancer in the greater Philadelphia area in 2012-2014. Men were asked if they obtained a second opinion from a urologist, and the reasons why. We used multivariable logistic regression models to evaluate the relationship between second opinions and definitive prostate cancer treatment and perceived quality of prostate cancer care.

Results—2386 men responded to the survey (adjusted response rate 51.1%). 40% of men obtained second opinions, commonly because they wanted more information about their cancer (50.8%), and wanted to be seen by the best doctor (46.3%). Overall, obtaining second opinions was not associated with definitive treatment or perceived quality of cancer care. Men who sought second opinions because they were dissatisfied with their initial urologist were less likely to receive definitive treatment (OR 0.49; 95% CI 0.32-0.73) and men who wanted more information about treatment were less likely to report excellent quality of cancer care (OR 0.70; 95% CI 0.49-0.99) compared to men who did not receive a second opinion.

Conclusions—While a large proportion of men with localized prostate cancer obtained second opinions, they were not associated with treatment choice or perceived quality of cancer care. Future work is needed to determine when second opinions contribute to increasing the value of cancer care.

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Keywords

prostate cancer; second opinion; specialists; treatment; quality of healthcare

INTRODUCTION

The National Cancer Institute and the American Cancer Society encourage patients with cancer to obtain second opinions prior to starting treatment.¹ With increasing options for cancer treatment, patients need to weigh risks and benefits and consider how each choice aligns with their personal preferences. Second opinions may be helpful by enabling patients to gather more information about their cancer diagnosis, hear about potential management plans, and better understand their disease.²⁻⁴ However, relatively little is known about who seeks second opinions, the reasons why, and their impact on treatment choices and experiences of care.

In a recent systematic review, Ruetters et al. identified thirteen studies examining second opinions among cancer patients. Many of the published studies focused on women with breast cancer, had small sample sizes, frequently lacked racial, ethnic and socioeconomic diversity, and often, represented only single institutions.⁵ In the reviewed studies, 6.5% to 36% of cancer patients obtained a second opinion. The most common reasons for obtaining second opinions included dissatisfaction with their initial physician, a desire for more information prior to making a treatment decision, and seeking confirmatory advice about their diagnosis and treatment recommendation.⁵ Prior studies show that second opinions may be linked with patient experience with cancer care; patients report higher level of satisfaction with physician communication during the second opinion visit, however, there is no association with perceived quality of care.^{3,6,7}

Second opinions in the setting of prostate cancer may be uniquely important for several reasons. First, prostate cancer is common and a large public health burden with an estimated 180,890 men diagnosed in 2016.⁸ Second, treatment options for localized prostate cancer vary widely from surgery and radiation therapy to active surveillance programs with differing benefits and costs.⁹⁻¹¹ Second opinions could provide patients with more information about their treatment options.⁵ Third, research using claims data suggests that nearly forty percent of men have different diagnosing and treating urologists for their prostate cancer.¹² While this may suggest that men frequently obtain second opinions, studies examining the prevalence of second opinions among this population are limited. Lastly, urologists providing a second opinion are more likely to recommend radical prostatectomy, potentially increasing the influence of second opinions on treatment.¹³

In this study, we assess the frequency and reasons for second opinions for localized prostate cancer and the characteristics of those that seek them. We also evaluate whether second opinions are associated with treatment choice and perceived quality of prostate cancer care. Based on prior studies, we hypothesized that men who obtained a second opinion would be more likely to receive definitive treatment but report similar quality of care compared to men that did not.

METHODS

Data for this analysis were obtained from the Philadelphia Area Prostate Cancer Access Study (P² Access), a cohort study of black and white men with newly diagnosed localized prostate cancer from the Greater Philadelphia Area. The University of Pennsylvania and Johns Hopkins University Institutional Review Boards approved this study.

Patient population and recruitment

Men were identified from the Pennsylvania Cancer Registry (PCR) and were eligible to participate if they were diagnosed with localized prostate cancer between January 1, 2012 and December 31, 2014, and were a resident of the greater Philadelphia region (defined as Berks, Bucks, Chester, Delaware, Lancaster, Lehigh, Montgomery, and Philadelphia counties). Men were excluded if they had military insurance or received chemotherapy for treatment. For our analytic cohort, we also excluded men if they did not see a urologist for an initial consultation given this paper focuses on men who obtain second opinions from urologists (99% of men reported having an initial visit with a urologist).

Patients were mailed surveys between February 2014 and August 2015 (Supplement 1). An unconditional \$2 incentive was provided with the first mailing. Non-responders were also sent an additional mailing of the survey and received follow up phone calls. Patients received \$15 upon completion of the survey.

Measures

Second opinions—to determine if men obtained second opinions from another urologist, we asked: “Did you get an opinion from more than one urologist about your prostate cancer? In other words, did you get a second opinion?” If they answered yes, they were further asked to choose one or more of the following reasons for obtaining second opinions: (1) wanted more information about cancer; (2) dissatisfaction with initial doctor; (3) wanted the best doctor; (4) wanted information about treatment options not offered by initial doctor; (5) encouraged by family and friends; and (6) other. These reasons were selected based on previous studies and additionally were pilot tested within a similar cohort of men newly diagnosed with localized prostate cancer.^{1,3,6}

Outcome measures—we determined whether a patient had received definitive treatment defined as either radical prostatectomy or radiation therapy (external beam radiation therapy or seed brachytherapy) from the PCR. We measured perceived quality of prostate cancer care in the survey by asking men, “Overall, how would you rate the quality of health care for your prostate cancer?” with responses on a five point scale (dichotomized as excellent or not in our analyses).

Patient and tumor characteristics—additional patient characteristics measured in the survey included: age, race/ethnicity, education, and marital status. Insurance status at the time of diagnosis was obtained from the PCR. These factors have previously been shown to influence prostate cancer treatment.^{14,15} We calculated life expectancy using a validated mortality index using factors measured in the survey including: age, sex, body mass index,

comorbidities, and functional limitations.¹⁶ We obtained tumor characteristics (tumor stage and Gleason score) from the PCR. Men were also asked if they had seen a radiation oncologist in the course of choosing their treatment for prostate cancer as specialist referral has been shown to influence treatment choice.^{17,18}

Statistical analysis

We summarized the characteristics of respondents along with their reasons for obtaining a second opinion. Using a chi-squared test, we compared the sociodemographic factors (age, race/ethnicity, education, insurance, and marital status), clinical characteristics (Gleason score, clinical tumor stage, life expectancy) and consultation with another specialist (consultation with a radiation oncologist) of men who did and did not obtain a second opinion from a urologist. Using multivariable logistic regression, we investigated patient and tumor characteristics independently associated with obtaining a second opinion. We then modeled the association of obtaining a second opinion with three outcomes using multivariable logistic regression: a) receipt of definitive treatment; b) receipt of surgery among men who received definitive treatment; and c) perceived quality of prostate cancer care. As a secondary analysis, we examined the characteristics of men that sought second opinions for specific reasons (e.g., wanted more information about cancer) and the association of those second opinions with treatment choice and perceived quality of prostate cancer care. Separate models were run for each reason for obtaining a second opinion. Lastly, we examined the association between second opinions and receipt of definitive treatment and receipt of surgery among men who received definitive treatment among men with low risk prostate cancer (based on National Comprehensive Cancer Network classification).

To account for missing data in our model covariates, we used multiple imputation methods. Using multiple chained equations and performing five imputations, we imputed all covariates except for our primary independent variable (obtaining a second opinion) and our outcome variables (receipt of definitive treatment, type of treatment, and perceived quality of prostate cancer care).¹⁹ All analyses were performed using Stata 13.0 (College Station, TX).

RESULTS

Of the 4,672 eligible men, 2,386 responded to the survey for an adjusted response rate of 51.1%. After applying exclusion criteria, the final analytic cohort included 2,365 respondents. Responders were more likely to be white (77.5% vs. 61.5%), have private insurance (54.9% vs. 50.9%), and receive definitive treatment (79.5% vs. 70.9%) as compared to non-responders (Supplement Table 1). The average age of men who responded was 65.4 years (SD=8.4) (Table 1). The majority were white (78.5%), educated (62.2% with some college education or higher), and privately insured (55.3%). Most men had lower risk tumors with Gleason scores ≤ 7 (79.6%) and clinical tumor stage I disease (71.4%).

Frequency and Reasons for Second Opinions

A large proportion of men (40.2%) obtained a second opinion from a urologist and of these, over half (51.2%) reported more than one reason. The most common reasons cited for

obtaining second opinions from urologists included wanting more information about their cancer (50.8%) and wanting to be seen by the best doctor (46.3%) (Figure 1). Thirty one percent indicated they were encouraged by a family member or friend to get a second opinion and 25% noted they wanted to find out about treatment not offered by their first doctor. Dissatisfaction with their initial urologist was the least frequently reported reason to seek a second opinion (15.5%).

Association between Patient Characteristics and Second Opinions

In unadjusted analyses, younger men (49.4% for men <60 years vs. 23.6% for men ≥75 years), men with college-level education (44.6% of college graduates and 49.2% beyond college education vs. 30.3% for those with less than high school), and privately insured men (45.5% compared to men with Medicaid (37.1%) and Medicare (32.7%)) were more likely to obtain second opinions (Table 2). In adjusted analyses, however, only age and education were significantly associated with obtaining second opinions from urologists. Compared to younger men, men 70-74 years old (OR 0.47; 95% CI 0.32-0.70) and men ≥75 years (OR 0.30; 95% CI 0.19-0.47) were less likely to obtain a second opinion whereas men with college graduate level education (OR 1.57; 95% CI 1.02-2.41) or beyond (OR 1.96; 95% CI 1.31-2.92) were more likely compared to men with less than high school level education. Younger men (age <60) were more likely to cite wanting more information about their cancer and to see the best doctor as the reason to seek a second opinion (Supplement Table 2). However, older men ≥75 years were the least likely to report obtaining a second opinion due to dissatisfaction with their initial urologist. Men with a college education or beyond also were more likely to cite wanting more information about their cancer as a motivation for a second opinion (Supplement Table 2).

Association of Second Opinions with Treatment and Perceived Quality of Care

Overall, nearly 80% of men received definitive treatment; 76.5% of men who obtained a second opinion from a urologist received definitive treatment compared to 81.6% who did not ($p=0.04$). In adjusted models, obtaining a second opinion was not associated with receipt of definitive treatment (OR 0.95; 95% CI 0.84-1.08, Table 3). Similarly, among those who received definitive treatment, second opinions were not associated with receiving surgery. Further, among men with low risk disease, we did not observe a significant association between second opinions and receipt of definitive treatment or surgery. Receiving a second opinion was not associated with perceived quality of prostate cancer care.

Though they constituted a modest fraction of the sample, men who obtained a second opinion because they were dissatisfied with their initial doctor were less likely to receive definitive treatment compared to men who did not receive a second opinion (OR 0.49; 95% CI 0.32-0.73). Among men who received definitive treatment, those who obtained second opinions because they wanted more information about their cancer (OR 1.70; 95% CI 1.24-2.34), the best doctor (OR 2.46; 95% CI 1.72-3.51) or were encouraged by friends/family (OR 2.25; 95% CI 1.49-3.39) were more likely to receive surgery compared to men who did not receive a second opinion. Men who sought second opinions because they wanted information about treatment not offered by their initial urologist were less likely to report excellent quality of prostate cancer care (OR 0.70; 95% CI 0.49-0.99).

DISCUSSION

In a large cohort of men with localized prostate cancer, 40% reported obtaining second opinions from urologists, most commonly because they wanted more information about their cancer and wanted to be seen by the best doctor. However, obtaining a second opinion was not associated with definitive treatment choice. National organizations in fact encourage patients to seek second opinions to promote preference-sensitive treatment decisions – a uniquely important concern for localized prostate cancer where there is concern for overtreatment. It is noteworthy that certain motivations for seeking second opinions – wanting more information, the best doctor, or from encouragement by friends/family – were actually associated with higher rates of surgery. Our results suggest that second opinions may be common in prostate cancer, however, the extent to which they promote delivery of high-value care remains less clear.

The proportion of men in our study that obtained a second opinion was similar to that described by DuGoff and colleagues in a study of men with prostate cancer but higher than rates have been reported in other types of cancer.^{6,12,20} The high rate of seeking second opinions for localized prostate cancer may reflect the complexity of decision-making for treatment with multiple different treatment modalities with varying risks and benefits. It may also reflect the less urgent nature of beginning treatment compared to other types of cancer.^{21,22} In contrast to other cancers, time to definitive treatment in localized prostate cancer has not been linked to better cancer control, potentially allowing men more time to seek out second opinions.^{23,24} Though other studies involving cancer patients have found that patients commonly seek second opinions due to dissatisfaction with their physician, this was the least likely reason in our study.⁵ These findings suggest that across different types of cancer, the motivations and context for seeking second opinions differ.

Earlier work by Tatterstall and colleagues found that 42% of cancer patients (mostly women with breast cancer) who saw a medical oncologist for a second opinion changed treatment.⁶ Our study extends this by examining the impact of second opinions from urologists on prostate cancer treatment choices. Though we did not observe an overall association of second opinions with treatment choice, the sub-group of men who pursued a second opinion because they wanted more information, were seeking the best doctor, or were encouraged by friends or family were more likely to receive surgical treatment. It is possible that these men obtained second opinions because they wanted or were encouraged to have surgery and wanted the best doctor to perform it. In this context, second opinions may sometimes function as a way to carry out a planned treatment rather than as a way to explore treatment options. We further did not observe an association between second opinions and treatment among men with low risk disease which may suggest that second opinions, in and of themselves, may be insufficient to reduce overtreatment among this group.

Even without altering treatment patterns at a cohort-level, it is possible that second opinions remain important for aligning patient preferences with treatment choices. Similar to previous studies, we found that men with lower education were less likely to receive a second opinion.^{6,13,25} Seeking second opinions can be considered to reflect active engagement by the patient in their healthcare. Prior literature has shown that black men and men with lower

education tend to participate less in shared medical decision-making related to their treatment, and black men in particular are notably under treated for their prostate cancer.^{4,20,26} This difference by socioeconomic status raises important considerations about the equitable distribution of cancer care, and future studies aimed at better understanding medical information seeking behaviors and targeting unmet needs amongst men with lower levels of education should be considered.

Our study has several limitations. First, our measure of second opinions was based on self-report, which may be subject to recall and social desirability bias. However, in contrast to claims-based data which may only assess patterns of care, our study allows patients to directly state whether they sought a second opinion and to indicate the underlying reasons why. Second, we do not have information on the content of the discussions during a second opinion visit. To better understand how second opinions may or may not influence treatment choice, examining the content of physician-patient discussions is important for future work. Third, white men and those that received definitive treatment were more likely to respond to our survey. Fourth, our perceived measure of quality is not specific to particular providers. Finally, although the survey respondents were recruited from a cancer registry of a large and diverse geographic area with nearly 5.3 millions residents from urban and suburban locales, the findings may not be generalizable to other areas.

In accordance with recommendations from national cancer organizations, our results suggest that a large proportion of men with prostate cancer are obtaining an opinion from a second urologist regarding their treatment. The high rate of second opinions underscores their potential importance in cancer care delivery. At the same time, we did not observe an overall association between second opinions and either the receipt of definitive treatment or perceived quality. Additional research is needed to better understand the content of these second opinion visits in order to assess their value in cancer care.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Figure 1. Reasons for obtaining a second opinion from urologists. Note respondents were able to choose more than one reason.

Table 1

Characteristics of survey respondents

Characteristic	N (%)
Age (years)	
<60	583 (24.7)
60-64	478 (20.1)
65-69	582 (24.6)
70-74	371 (15.7)
75	335 (14.2)
Missing	18 (0.8)
Race/ethnicity	
Non-Hispanic White	1857 (78.5)
Non-Hispanic Black	362 (15.3)
Hispanic	41 (1.7)
Non-Hispanic Other	27 (1.1)
Missing	78 (3.3)
Education	
Less than high school	165 (7.0)
High school graduate	542 (22.9)
Some college	475 (20.1)
College graduate	359 (15.2)
More than college	636 (26.9)
Missing	188 (8.0)
Insurance	
Private	1307 (55.3)
Medicaid	70 (3.0)
Medicare	952 (40.3)
None	10 (0.4)
Missing	26 (1.1)
Marital status	
Single	439 (18.6)
Married	1892 (80.0)
Missing	34 (1.4)
10-year risk of mortality	
<25% mortality	644 (27.2)
25-50% mortality	769 (32.5)
50-75% mortality	564 (23.9)
75% mortality	237 (10.0)
Missing	151 (6.4)

Characteristic	N (%)
Gleason score	6.8 (SD 0.9)
<7	938 (39.7)
7	943 (39.9)
>7	410 (17.3)
Missing	74 (3.1)
Clinical tumor stage	
Stage 1	1688 (71.4)
Stage 2	571 (24.1)
Stage 3	58 (2.4)
Missing	48 (2.0)
Definitive treatment	
Yes	1882 (79.6)
No	394 (16.7)
Missing	89 (3.8)

Table 2

Bivariate and multivariable analyses of characteristics of men who do and do not obtain second opinions from urologists

	Obtained second opinion from an urologist			Adjusted model where outcome is receipt of second opinion **	
	No (N,%)	Yes (N,%)	p-value *	Odds ratio (95% CI)	p-value
Total	1399 (59.2)	950 (40.2)			
Age			<0.001		
Age <60	290 (49.7)	288 (49.4)		Ref	
Age 60-64	273 (57.4)	202 (42.4)		0.65 (0.50-0.84)	0.001
Age 65-69	322 (55.3)	254 (43.6)		0.68 (0.51-1.00)	0.03
Age 70-74	246 (66.3)	122 (32.9)		0.47 (0.32-0.70)	<0.001
Age 75	256 (76.4)	79 (23.6)		0.30 (0.19-0.47)	<0.001
Race/Ethnicity			0.35		
Non-Hispanic White	1096 (59.0)	750 (40.4)		Ref	
Non-Hispanic Black	217 (59.9)	143 (39.5)		1.11 (0.85-1.44)	0.44
Hispanic	26 (63.4)	15(36.6)		0.83 (0.41-1.68)	0.60
Non-Hispanic Other	16 (59.3)	10 (37.0)		1.43 (0.63-3.24)	0.39
Education			<0.001		
Less than high school	114 (69.1)	50 (30.3)		Ref	
High school graduate	359 (66.2)	180 (33.2)		0.95 (0.64-1.41)	0.79
Some college	295 (62.1)	177 (37.3)		1.14 (0.76-1.70)	0.53
College graduate	196 (54.6)	160 (44.6)		1.57 (1.02-2.41)	0.04
More than college	319 (50.2)	313 (49.2)		1.96 (1.31-2.92)	0.001
Insurance			<0.001		
Private	705 (53.9)	595 (45.5)		Ref	
Medicaid	44 (62.9)	26 (37.1)		0.75 (0.44-1.29)	0.31
Medicare	632 (66.4)	311 (32.7)		0.83 (0.65-1.05)	0.13
None	4 (40.0)	6 (60.0)		2.54 (0.68-9.44)	0.17
Marital Status			<0.001		
Single	280 (63.8)	155 (35.3)		Ref	
Married	1096 (57.9)	787 (41.6)		1.23 (0.97-1.55)	0.08
10-year mortality risk			<0.001		
<25% mortality	334 (51.9)	308 (47.8)		Ref	
25-50% mortality	427 (55.5)	338 (43.9)		1.21 (0.90-1.65)	0.21
50-75% mortality	377 (66.8)	183 (32.5)		1.08 (0.77-1.53)	0.65
75% mortality	166 (70.0)	71 (30.0)		1.21 (0.79-1.86)	0.39
Gleason Score			0.36		

	Obtained second opinion from an urologist			Adjusted model where outcome is receipt of second opinion ^{**}	
	No (N,%)	Yes (N,%)	p-value [*]	Odds ratio (95% CI)	p-value
Gleason <6	536 (57.1)	394 (42.0)		Ref	
Gleason=7	557 (59.1)	380 (40.3)		1.03 (0.84-1.25)	0.80
Gleason >7	260 (63.4)	149 (36.3)		0.97 (0.74-1.26)	0.80
Clinical tumor stage			0.04		
Clinical stage I	971 (57.5)	709 (42.0)		Ref	
Clinical stage II	363 (63.6)	201 (35.2)		0.83 (0.68-1.02)	0.09
Clinical stage III	36 (62.1)	22 (37.9)		0.80 (0.46-1.42)	0.45
Saw radiation oncologist			0.71		
No	536 (58.6)	372 (40.7)		Ref	
Yes	820 (59.1)	557 (40.2)		1.21 (1.00-1.47)	0.05

* using non-imputed data, analyzed with chi-squared tests

** adjusted for sociodemographic factors (age, race/ethnicity, education, insurance, marital status), clinical factors (10-year mortality risk, clinical tumor stage, Gleason score), and visit to radiation oncologist

Table 3

Adjusted odds ratio of receipt of definitive treatment, surgery, and perceived quality of health care for men who obtained a second opinion compared to men who did not obtain a second opinion, overall and by the specific reason for obtaining a second opinion

	Outcomes (Odds Ratio; 95% Confidence Interval) *		
	Receipt of definitive treatment	Receipt of surgery among men who received definitive treatment	Perceived quality of prostate cancer care
Obtained second opinion			
No	Ref	Ref	Ref
Yes	0.95 (0.84-1.08)	1.11 (0.94-1.30)	1.04 (0.90-1.19)
<i>Reason for obtaining second opinion (with not obtaining second opinion as the reference group) **</i>			
Wanted more information about my cancer	0.89 (0.68-1.19)	1.70 (1.24-2.34)	0.83 (0.64-1.08)
Wanted the best doctor	0.91 (0.67-1.22)	2.46 (1.72-3.51)	1.00 (0.76-1.33)
Encouraged by family/friends	0.64 (0.46-0.89)	2.25 (1.49-3.39)	0.75 (0.55-1.03)
Wanted information about treatment not offered by initial doctor	0.94 (0.64-1.36)	1.33 (0.91-1.96)	0.70 (0.49-0.99)
Dissatisfaction with initial doctor	0.49 (0.32-0.73)	1.51 (0.84-2.72)	0.84 (0.55-1.28)
Other	0.79 (0.55-1.13)	1.11 (0.71-1.75)	1.16 (0.79-1.69)

Bold indicates statistical significance at $p < 0.05$

* Separate models were constructed for obtaining second opinions overall, and for each specific reason for obtaining a second opinion with not obtaining a second opinion as the reference group. All models were adjusted for sociodemographic factors (age, race/ethnicity, education, insurance, marital status), clinical factors (10-year mortality risk, clinical tumor stage, Gleason score), and visit to radiation oncologist

** Respondents were able to select more than one reason