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Fostering Informed Decisions: Impact of a Decision Aid Among Men Registered to Undergo Mass Screening for Prostate Cancer in a Randomized Controlled Trial

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Abstract

Objective—Screening asymptomatic men for prostate cancer is controversial and informed decision making is recommended. Within two prostate cancer screening programs, we evaluated the impact of a print-based decision aid (DA) on decision-making outcomes.

Methods—Men (N=543) were 54.9 (SD=8.1) years old and 61% were African-American. The 2 (booklet type: DA vs. usual care (UC)) × 2 (delivery mode: Home vs. Clinic) randomized controlled trial assessed decisional and screening outcomes at baseline, two-months, and 13-months.

Results—Intention-to-treat linear regression analyses using generalized estimating equations revealed that DA participants reported improved knowledge relative to UC (B=.41, p<.05). For decisional conflict, per-protocol analyses revealed a group by time interaction (B = -.69, p<.05), indicating that DA participants were less likely to report decisional conflict at two-months compared to UC participants (OR=.49, 95% CI: .26–.91, p<.05).

Conclusion—This is the first randomized trial to evaluate a DA in the context of free mass screening, a challenging setting in which to make an informed decision. The DA was highly utilized by participants, improved knowledge and reduced decisional conflict.

Practice implications—These results are valuable in understanding ways to improve the decisions of men who seek screening and can be easily implemented within many settings.

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Keywords

Decision Aid; Prostate Cancer Screening; Values Clarification Tool; Randomized Trial; Patient Reported Outcomes

Despite the worldwide disease burden of prostate cancer (PCa) [1,2], there continues to be considerable debate about the impact of screening on overall and disease-specific mortality. [3,4] This debate was heightened recently when two large PCa screening trials reported conflicting results.[5,6] Based on these and other findings, many organizations have emphasized the importance of shared and informed decision-making to help men understand the benefits and limitations of screening.[7,8] Given the mixed messages in the public domain, it is likely that the emphasis on a meaningful and impactful informed decision-making process will grow among stakeholders.

Decision aids (DAs) facilitate improved decision making outcomes and may be particularly useful for medical decisions such as prostate cancer screening (PCS), in which uncertain outcomes about benefits and risks exist.[9–11] More than 20 randomized controlled trials have assessed DAs to determine their impact on PCS knowledge, attitudes, and screening behavior.[12–32] Recent reviews of DAs [9,33] have concluded that they result in consistent improvement in knowledge and a reduction in anxiety. However, they result in inconsistent findings with regard to their impact on decisional conflict, screening behavior, screening intentions, and participation in the screening decision. Despite many well-designed trials on this topic, limitations have included: 1) lack of baseline assessments, 2) few long-term assessments, and 3) homogeneous samples. Further, the varied settings in which these studies have been conducted preclude definitive conclusions about the impact of these tools.

Central to the process of reaching an informed decision is considering personal values and preferences. Although values clarification can occur with the use of a decision tool and discussions with a provider, several DAs have included an explicit tool to help individuals systematically weigh the risks and benefits associated with each alternative.[18,34] Of the several previously tested DAs for PCS that have included a values clarification tool, most have shown increased knowledge, but they have not consistently measured more distal outcomes such as decisional conflict or screening behavior.[17–19,23,29]

African-American men have the highest incidence and mortality from PCa compared to other ethnic groups.[35] Despite their increased risk, only 6 informed decision-making randomized trials included a sizable portion of African-American men.[21,23,27–29,32] Additionally, the disproportionate rate of limited educational resources among African-American men highlights the value of designing and testing decision tools accessible to African-American individuals. To fully understand the effects of DAs on knowledge, attitudes and behaviors, there is a need for more research among racially diverse populations.

We sought to extend prior research by developing and evaluating a balanced DA that would neither encourage nor discourage screening and would provide men in free mass screening programs with the knowledge and skills to make an informed decision.[36] The rationale for conducting a decision aid intervention in this setting is the same as for other settings: to improve men's understanding of the available information about the effectiveness of PCS in order to improve informed decision making. Further, free mass screening programs are an extremely challenging setting in which to make an informed decision, particularly when men have already made a screening decision and may feel less compelled to learn new

information about PCS.[37] However, the need to assist these men is heightened as they may not fully understand the issues and controversies surrounding PCS, despite already having made the decision.[38,39] Finally, mass screening programs typically have limited resources, often without time for in-depth, doctor-patient discussions. These factors suggest that a systematic method of assisting men in this unique setting is needed.

We conducted a 2 (Booklet type) $\times$ 2 (Delivery mode) randomized trial, testing the DA's impact on short-term and long-term knowledge, decisional conflict, and decisional satisfaction. Participants were randomized to receive a print-based DA versus usual care (UC) educational materials delivered before screening (Home) versus at the screening (Clinic). We hypothesized that: 1) men randomized to the DA conditions would have increased knowledge and satisfaction and reduced decisional conflict relative to the UC conditions, and 2) men randomized to the Home conditions would have improved outcomes relative to the Clinic conditions, as they would have more time to read and process the information, and thus possibly be more willing to consider new information.[37] In exploratory analyses, we assessed the impact of the intervention on screening behavior and whether delivery mode or race moderated the intervention effects.

METHODS

Study Overview

This randomized trial was conducted at Georgetown University Medical Center and Howard University Cancer Center. Eligible participants were registered for free, annual PCS programs at Georgetown or for free monthly screenings at Howard. Study procedures were approved by the Georgetown and Howard Institutional Review Boards.

Participants

Eligible participants were aged 40–70, had pre-registered for screening at least 5 days in advance, had no history of PCa, and were English-speakers. Men's screening history was not an exclusion criterion as the primary goal was to improve decisional outcomes, not to change screening outcomes. At Georgetown, 489 men who pre-registered were eligible and willing to be contacted for study participation. Of those, 345 (71%) agreed to participate and were enrolled. At Howard, 275 men who pre-registered were eligible and willing to be contacted. Of those, 198 (71%) were enrolled (Figure 1). The protocol for both programs was that men pre-register for the screening and thus we captured the vast majority of screening participants. The few men who were walk-ins were ineligible for inclusion in the study.

Procedure

We telephoned men to assess eligibility, obtain verbal consent, complete the baseline (T0) interview, and conduct random assignment. Randomization was blocked on race (African-American/White/other) within each site. The four groups and corresponding protocols were: 1) DA–Home: DA was mailed 5–10 days before the scheduled screening date, 2) DA–Clinic: DA was distributed at the screening appointment, 3) UC–Home: UC information was mailed to participants' homes 5–10 days before screening date, and 4) UC–Clinic: UC information was distributed at the screening appointment. Following randomization, we mailed the written consent form to all participants along with the intervention materials for Home condition participants. For Clinic condition participants, research staff distributed the materials to men upon their arrival, before the screening exam. Men typically had 10–30 minutes to review the materials before the exam.

Men completed the T1 interview two months post-randomization and received a \$20 money order. The final interview (T2) was conducted 13-months post-randomization (the 13-month window allowed leeway for individuals who may not have been screened exactly at 12-months). No compensation was provided for T2 completion.

Description of Intervention Booklets

DA booklet—We adapted content from the Centers for Disease Control and Prevention's PCS educational tool [40]. The booklet requires 20 minutes to read and includes information on the leading causes of death among men, the accuracy of the prostate-specific antigen test, PCS guidelines, and PCa diagnostic procedures and treatments. The values clarification section is a 10-item adapted tool [18] in which men indicate whether the items 'sound like you.' Five items indicate leaning towards screening and five items indicate leaning away from screening. We conducted focus groups and usability testing, which included a review by a plain language specialist to ensure that the DA did not exceed an 8th grade reading level.[27,41,42] The end product was a 24-page color booklet entitled *Prostate Cancer Screening: Making an Informed Decision*.

UC booklet—The UC booklet was the National Cancer Institute's "*Questions and Answers About the Prostate Specific Antigen Test*." [43] This 3-page fact sheet requires 5 minutes to read and presented information in a Q&A format, who is recommended for testing, how to interpret results, and the limitations of testing. Given the differences in length, the UC booklet included less detail than the DA (e.g., it contained little information about the prostate, treatment options, and had no values clarification tool).

Measures

Demographic and Medical Characteristics (T0)—Demographic characteristics included age, race, education, marital status, employment, income, whether participants had a regular doctor, and type of health insurance. Medical characteristics included personal history of cancer, urinary bother, family history of PCa, and history of PCS (Table 1).

Process Evaluation of the Booklets (T1)—We assessed participants' evaluation of the two booklets with 9 items (Table 2).

Knowledge of PCa (T0,T1,T2)—Based on prior research [27,39], we developed a 16-item knowledge scale to assess men's understanding of PCa symptoms, risk factors, and natural history, the PCS controversy, and false positive/false negative results. The response format was true/false/don't know. 'Don't know' was coded as an incorrect response. Correct items were summed for the total score. Cronbach's alpha was .69.

Decisional Conflict Scale (DCS; T0,T1,T2)—The DCS [10,44] discriminates between those who are not clear about their preference versus those who have already made a decision. The 10-item version [10,44,45] has three response options (yes, no, unsure) and four subscales: feeling uncertain, feeling uninformed, personal values, and support from others. A higher score indicates greater decisional conflict. Cronbach's alpha was .71 (total score).

Satisfaction with Decision Scale (SDS;T0,T1,T2)—The SDS [46] is a well-validated 6-item measure, with items rated on a 5-point Likert scale ("strongly disagree" to "strongly agree"). Cronbach's alpha was .88. A higher score indicates greater decisional satisfaction.

Screening Outcomes (T1,T2)—Agreement between the screening records and self-reported screening at T1 was high ($Kappa=.95$). At the T2 assessment, since men may have been screened in places other than the two screening programs, we obtained only self-reported screening in the past 12-months. We assessed the date (month/year) of the most recent PCa test to insure that we only included screening that *followed* participation in the free screening program assessed at T1.

Statistical Analyses

We assessed baseline group differences on demographic and medical variables using ANOVAs and χ^2 analyses. We used χ^2 , Fisher's exact, and t-tests to assess group differences on the process evaluation variables and bivariate associations between demographics and the outcome measures. The DCS and SDS were highly positively skewed and therefore were dichotomized at the median for use in the multivariable analyses. For the DCS, the median was 'no conflict' versus 'any conflict' and for SDS, '4.5/5.0 total score' versus '4.4/5.0'. To evaluate the longitudinal impact of the intervention, we used linear and logistic regression models with generalized estimating equations (GEE) with exchangeable working correlation structure. GEE is an extension of the generalized linear model and accounts for the dependence between outcomes, such as repeated measurements. In all analyses, we controlled for the baseline score, age, having been screened in the past year, and the stratification variables of race and site. We had < 1% missing data for the baseline demographic variables (except income) and < 1% for the T1 process variables. Cases with missing data were deleted from the analyses.

Our primary analyses were intention-to-treat regression models, including booklet type, delivery mode, time, and covariates. In exploratory analyses, we evaluated three-way interactions between booklet type, delivery mode, and time. We also performed per-protocol analyses among participants who reported having read the materials before T1. Further, we conducted intention-to-treat analyses limited to African-Americans and Whites to evaluate the presence of interactions with race. Finally, we limited the analyses to those who had not been screened in the past year and found the same results as reported for the entire sample (data not shown). We used SPSS Version 19.0 to conduct all analyses.

Power Calculations—For the comparison of DA vs. UC participants (226 vs. 223) and Home vs. Clinic groups (237 vs. 212) on knowledge and decisional conflict at the T1 assessment, we had 80% power to detect small effect sizes (.13–.27; two-tailed, $p < 0.05$).

RESULTS

Demographic and Medical Characteristics

The mean age was 54.9 (SD=8.1), 60.8% were African-American, and 49.5% had a college degree or more (Table 1). Regarding prior screening, 73.8% had been screened in their lifetime, and 34.8% had been screened during the 12 months before baseline. There were four marginally significant baseline group differences, including age, having a regular doctor, having ever been screened, and having been screened in the past year (all p 's < .10; Table 1). Of these, we included age and having been screened in the past year as covariates in the multivariable analyses. The results did not change when both screening history variables were included nor when only 'ever screened' was included. We also did not include 'regular doctor' as it was highly related to race and site which were already included.

Regarding participant retention, participants were significantly older and more likely to have ever screened than non-participants (p 's<.05). Regarding site differences, the Howard site

had more African-Americans, men who were younger, less educated, lower income, less likely to have health insurance, and had lower screening rates (all p 's<.0001).

Process Evaluation

Among the 449/543 (82.7%) participants who completed the T1 assessment, 400/449 (89.1%) reported receiving the materials. However, the DA-Clinic (85.6%) and UC-Clinic (79.6%) participants were less likely to report receiving the materials relative to the Home participants (95.9% and 93.9%, respectively; $X^2(3,400)=19.84$, $p<.001$). Of those who reported receiving the materials, 96.8% ($N=387/400$) received them before undergoing screening and 90% ($N=360/400$) said they read the materials before the T1 assessment. Among these 360 men (Table 2), we found that men in the DA-Clinic arm were the least likely to have read the booklet before screening. Importantly, the DA-Home participants were most likely to understand the booklet's intended message (i.e., neutral regarding the screening recommendation ($p=.001$)).

To further explore the use of these materials, we collapsed across delivery mode to assess differences between the UC versus DA groups and then collapsed across booklet type to assess differences between the Home versus Clinic groups. DA participants (41.8%) were significantly more likely than UC participants (20.2%) to report that the overall message of the booklet was neutral regarding the screening recommendation ($p=.001$). Relative to Clinic participants, Home participants were significantly more likely to report that: 1) the overall message of the booklet was neutral regarding the screening recommendation (23.6% vs. 37.5%; $p<.01$), 2) the materials made them think of new questions for their doctor (25.3% vs. 37%; $p<.05$), 3) the materials influenced their screening decision (19.6% vs. 33.0%; $p<.01$), and 4) they preferred to receive future DAs 1–2 weeks before the screening day (82.3% vs. 96%; $p<.05$). Approximately 61% of the DA participants used the values clarification tool, of whom over 90% indicated it was a lot/somewhat helpful in understanding PCS pros and cons.

Outcome Analyses

Knowledge of PCa—The baseline mean (SD) was 8.19 (3.02) and did not differ between groups. We conducted an intention-to-treat linear regression analysis with GEE, controlling for baseline knowledge and covariates. A significant effect for booklet type indicated a longitudinal impact of the DA: the DA participants demonstrated increased knowledge relative to the UC participants at both T1 and T2 ($B=.41$, $X^2=5.40$, $p<.05$). Figure 2 presents the adjusted means at each of the follow-up assessments. There were no significant main effects for delivery mode or time, and no significant interactions.

We conducted per-protocol analyses (identical to the intention-to-treat analyses) to evaluate the impact of booklet type and delivery mode among individuals who reported having read the materials before the T1 assessment (90%; $N=360$). The impact of booklet type on knowledge was somewhat stronger than in the intention-to-treat analyses ($B=.57$, $X^2=7.84$, $p=.01$), and again indicated a greater impact of the DA relative to UC.

Decisional Conflict Scale—At baseline, 51.5% reported having any conflict (there were no group differences). We conducted an intention-to-treat logistic regression analysis with GEE, controlling for baseline DCS and covariates. There were no significant main effects for booklet type or delivery mode. However, there was a marginally significant booklet type by delivery mode interaction ($B=.61$, $X^2=3.5$, $p=.06$). To better understand this interaction, we conducted stratified (by delivery mode) point-to-point logistic regression analyses separately for T1 and T2. At T1, a marginally significant main effect for booklet type emerged in the Home condition ($OR=.58$, 95% CI: .33–1.03, $p=.065$), suggesting that DA-

Home condition participants were less likely to report decisional conflict than the UC-Home group. There were no significant findings for the Clinic condition or for any findings at T2.

The per-protocol logistic regression analysis with GEE for DCS revealed a significant booklet type by time interaction ($B = -.69$, $X^2 = 4.85$, $p < .05$), suggesting a longitudinal impact of the interventions that varied over time. The point-to-point logistic regression analyses indicated that at T1, a booklet type main effect ($OR = .49$, 95% CI: .26–.91, $p < .05$) suggested that in comparison to UC, the DA group was less likely to report decisional conflict. There were no significant findings at T2.

Satisfaction with Decision—At baseline, over 95% reported being highly satisfied with their screening decision (i.e., total score was a 4 or 5 on a 5-point scale). The multivariate analyses revealed no significant main effects or interactions.

Screening Behavior—At baseline, 34.8% self-reported having been screened in the prior year; at T1, 85% reported being screened at the free screening program, and at T2, 48.2% reported having been screened during the past 12 months, *following* the free screening event (i.e., the T2 assessment does not include the screening that occurred as part of the free screening event assessed at T1). We conducted a logistic regression analysis using GEE to test the impact of the intervention on screening behavior at T1 and T2. There was a significant main effect for time in all models, indicating an overall increase in the percentage screened from T1 to T2 (all p 's $< .001$). Intervention group was not related to screening ($p > .30$), and there were no other significant effects.

Analysis of Race as a Moderating Factor—To explore whether the intervention factors had a differential impact among African-Americans ($N = 330$) versus Whites ($N = 162$), we conducted post hoc sub-analyses. 'Other race' participants ($N = 51$) were excluded. In each analysis, we included the relevant covariates, main effects, and interaction terms. For each outcome measure, we found no significant race by booklet type or race by delivery mode interaction, suggesting a similar impact of the interventions among African-American and White men.

DISCUSSION AND CONCLUSION

Discussion

To our knowledge, this is the first study to develop and evaluate materials specifically designed to improve decision making among men who were already planning to undergo PCS. We found a significant improvement in PCS knowledge, confirming the short-term findings of prior interventions.[12,15–20,22,24–31,47] Importantly, this study also extends prior literature by demonstrating that men retained knowledge over the long-term.[26–28] However, as in other studies, we found that although the findings were statistically significant, knowledge increased only modestly. Perhaps it should not be surprising that men's knowledge was difficult to change given their substantial screening histories, concrete plans to be screened, and a high level of decisional satisfaction. Further, a confirmation bias [48,49] may also be playing a role, which suggests a greater focus on the information that corroborates, rather than challenges, one's current perceptions of PCS. Producing a larger increase in knowledge among men who have strongly held beliefs may require a highly intensive intervention for a more substantial improvement. Further, improvements in the assessment of knowledge may also help to demonstrate the impact of DAs.

Regarding decisional conflict, there were marginally significant findings in the intention-to-treat analyses, suggesting that Home participants (who were more likely to have received the materials) were less likely to have decisional conflict in the DA group compared to the UC

group. When limited to those who had read the materials, the DA resulted in a significant overall reduction in decisional conflict, as reported in prior studies.[14,17,18,27] Taken together, these results suggest that methods to increase the likelihood of exposure to decision tools may be an important focus for future research. Satisfaction with the decision was extremely high and therefore was not impacted by the DA. Similarly, decisional regret was minimal and also was not impacted by the DA (data not shown).

In contrast to several previous trials [16,17,22,28], our DA did not lead to a reduction in screening use. However, the two studies that assessed the long-term (12 months) impact of DA interventions on screening [27,28] had conflicting findings. In our previous trial [27], we did not find an association between the DA and screening, while other investigators have found that the DA resulted in less screening.[28] Screening may have been unchanged due to men's history of screening, the balanced nature of the materials, and the intervention not being intensive enough to change behavior.

The process evaluation suggested that men in the Home conditions, the DA conditions, and in particular, the DA-Home condition, were the most likely to understand that the booklet's message was neutral regarding the screening recommendation. The DA was specifically designed to assist men in understanding the uncertainty associated with PCS effectiveness, and giving men adequate time to process that information may have a positive impact.[37] In addition, Home participants were more likely to report receiving the materials, which suggests that the busy clinic setting negatively impacted men's recall and/or utilization of materials. Further, Home participants were more likely to have questions for their doctor, prefer to receive future DAs before their appointment, and indicate that the materials influenced their screening decision. Despite these favorable views, there was only one (marginally significant) effect, which suggested that DA-Home participants had reduced decisional conflict relative to DA-Clinic participants. A potential explanation for delivery mode not having a significant impact is that participants had already committed to screening, so the timing of information delivery was irrelevant. However, men's favorable response to receiving the materials before screening suggests that additional research on timing of delivery is warranted.

There were several study limitations. First, although we controlled for site in all multivariable analyses, there were differences between the two programs. Second, although we verified screening by medical record at the short-term assessment, we relied on self-report at the long-term assessment, as participants may have been screened at multiple locations. Although self-reported PCS has clear weaknesses [50], given the strong agreement between self-report and medical records at the T1 assessment, and that few studies have assessed long-term screening outcomes, these findings make a valuable contribution to the literature. Third, men who enroll in mass screening programs may differ from men in other settings (e.g., primary care or worksite settings). However, given the number of men who actively seek screening from their doctors and from mass screening programs, understanding how to improve informed decision making in this group is important. Finally, the DA was less likely than the UC materials to have been read before screening, suggesting that provision of detailed information and decision tools requires more time than is typically available in the mass screening setting.

Conclusion

The present study has extended the PCS literature in several ways. Few decision aids have included a values clarification tool, which may be an important addition to DAs for improving men's understanding of their own screening preferences. Although the independent contribution of the values clarification tool could not be assessed in the current study design, responses to the process variables indicated that this is a fruitful area of further

research. We also included short-and long-term assessments of decisional and screening outcomes, and demonstrated that the short-term impact was sustained for the knowledge outcome. The large African-American sample allowed for the exploratory assessment of race as a moderating factor, which had not previously been addressed.[21,23,27–29,32] Additionally, the study design incorporated an assessment of timing of information delivery, a potentially productive strategy to assist men in the hurried medical care environment.

Practice Implications

In sum, this intervention was the first to evaluate a DA in the context of free mass screening for PCa, a challenging setting for informed decision making. As most prior studies have been in the primary care setting, this study extended PCS research into a new and highly utilized healthcare setting in the US. The DA was utilized by the majority of participants, contained a balanced message that improved knowledge and reduced decisional conflict, and could be easily disseminated in various settings. For programs that provide materials at the screening, brief materials may be optimal, whereas more in depth materials presented before screening may be beneficial. This study has highlighted the complexities associated with making informed decisions and also serves as a model for examining other complicated choices patients are increasingly asked to make.

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Figure 1.

Study Procedure and Retention Rates

Note. CNR: Could not Reach; GUMC: Georgetown University Medical Center; HUCC: Howard University Cancer Center; DA: Decision Aid; UC: Usual Care.

Figure 2.
Knowledge Stratified by Booklet Type
Intent-to-treat analyses (N = 381)

Figure 3.
Decisional Conflict Stratified by Booklet Type
Per-protocol analyses (N = 289)

Table 1

Baseline Demographic and Medical Characteristics

Characteristics	DA Clinic (N=134) % (N)	DA Home (N=138) % (N)	UC Clinic (N=134) % (N)	UC Home (N=137) % (N)	Entire Sample (N=543) % (N)
Age#					
Mean (SD)	54.2(8.2)	55.8 (7.8)	55.8 (8.4)	53.6 (8.0)	54.9 (8.1)
Race					
White	30.6 (41)	29.7 (41)	29.9 (40)	29.2 (40)	29.8 (162)
Black	60.4 (81)	60.1 (83)	61.2 (82)	61.3 (84)	60.8 (330)
Other	9.0 (12)	10.1 (14)	9.0 (12)	9.5 (13)	9.4 (51)
Education ^					
College Degree	48.9 (65)	51.4 (71)	46.6 (62)	51.1 (70)	49.5 (268)
Married	50.7 (68)	42.8 (59)	47.8 (64)	48.2 (66)	47.3 (257)
Employment Status ^					
Full time/part time	79.9 (107)	68.1 (94)	68.4 (91)	70.1 (96)	71.6 (388)
Income ^					
\$50,000	53.7 (65)	48.4 (60)	52.5 (63)	61.2 (74)	53.9 (262)
Regular doctor#	58.2 (78)	69.6 (96)	68.7 (92)	57.7 (79)	63.5 (345)
Have insurance ^	67.2 (90)	79.7 (110)	76.1 (102)	75.7 (103)	74.7 (405)
Family history of PCa ^	25.6 (34)	15.2 (21)	17.9 (24)	23.4 (32)	20.5 (111)
Personal Cancer history	3.7 (5)	5.1 (7)	3.7 (5)	4.4 (6)	4.2 (23)
Ever screened#	70.9 (95)	81.9 (113)	74.6 (100)	67.9 (93)	73.8 (401)
Screened in the past year#	28.4 (38)	43.5 (60)	35.1 (47)	32.1 (44)	34.8 (189)

Characteristics	DA Clinic (N=134) % (N)	DA Home (N=138) % (N)	UC Clinic (N=134) % (N)	UC Home (N=137) % (N)	Entire Sample (N=543) % (N)
Ever had a discussion with health professional about PCS	30.6 (41)	36.2 (50)	36.6 (49)	35.8 (49)	34.8 (189)
Urinary bother					
No problem	60.4 (81)	63.0 (87)	57.5 (77)	56.2 (77)	59.3 (322)
Site					
GUMC	63.7 (86)	63.0 (87)	63.4 (85)	63.5 (87)	63.4 (345)
HUCC	36.3 (49)	37.0 (51)	36.6 (49)	36.5 (50)	36.6 (199)

# p < 0.10

^ N does not equal 543 due to missing data

Table 2
Process Evaluation at the 2-Month Assessment Among Those Who Reported Reading the Booklet

Process Variables	DA Clinic N = 80 % (N)	DA Home N = 105 % (N)	UC Clinic N = 79 % (N)	UC Home N = 96 % (N)	Entire Sample N = 360 % (N)
Read prior to undergoing PCS ^{***a}	77.5 (62)	94.3 (99)	92.3 (72)	87.2 (82)	88.2 (315)
Helpful in understanding pros/cons of PCS ^a					
Extremely	27.5 (22)	27.6 (29)	21.8 (17)	22.1 (21)	24.9 (89)
Very	50.0 (40)	53.3 (56)	57.7 (45)	51.6 (49)	53.1 (190)
Somewhat/Not at all	22.5 (18)	19.0 (20)	20.5 (16)	26.3 (25)	22.1 (79)
Discuss concerns about PCS with anyone after reading ^a					
% Yes	48.1 (38)	52.4 (55)	38.5 (30)	46.3 (44)	46.8 (167)
Overall message suggests ^{***ab^a}					
That men should get screened	67.1 (53)	51.0 (53)	85.9 (67)	74.5 (70)	68.5 (243)
Didn't suggest one decision over another	32.9 (26)	49.0 (51)	14.1 (11)	25.5 (24)	31.5 (112)
That men should not get screened ⁺	(0)	(1)	(0)	(1)	(2)
Did the booklet make you think of new questions for your doctor ^{#b^a}					
% Yes	30.0 (24)	39.0 (41)	20.5 (16)	34.7 (33)	31.8 (114)
Booklet influenced decision about PCS ^{*b^a}					
Very Much/Somewhat/A little	25.0 (20)	31.4 (33)	14.1 (11)	34.7 (33)	27.1 (97)
Not at all	75.0 (60)	68.6 (72)	85.9 (67)	65.3 (62)	72.9 (261)
In the future, would you prefer to receive a booklet like this: ^{***ab^a}					
1 -2 weeks prior to PCS	75.0 (60)	95.2 (99)	89.7 (70)	96.8 (92)	89.9 (321)
Day of PCS /After PCS	25.0 (20)	4.8 (5)	10.3 (8)	3.2 (3)	10.1 (36)
Used the VCT ^a	DA Clinic N = 80	DA Home N = 105	UC Clinic N/A	UC Home N/A	Entire Sample N = 185

Process Variables	DA Clinic N = 80 % (N)	DA Home N = 105 % (N)	UC Clinic N = 79 % (N)	UC Home N = 96 % (N)	Entire Sample N = 360 % (N)
% Yes	63.8 (51)	58.7 (61)	N/A	N/A	60.9 (112)
% No	36.3 (29)	41.3 (43)	N/A	N/A	39.1 (72)
Among those who use it, VCT was helpful in understanding pros/cons of PCS ^{#b}					
A lot	66.7 (34)	70.5 (43)	N/A	N/A	68.8 (77)
Somewhat	21.6 (11)	27.9 (17)			25.0 (28)
A little/Not at all helpful	11.8 (6)	1.6 (1)			6.3 (7)

Notes.

[#] p < 0.10;

^{*} p < 0.05;

^{**} p < 0.01;

^{***} p 0.001;

^a p < 0.05 by booklet type;

^b p < 0.05 by delivery mode;

[^] N does not equal 360 due to missing data;

⁺ This category was excluded from χ^2 analyses due to small cell sizes.