Improving Knowledge of the Prostate Cancer Screening Dilemma Among African American Men: An Academic-Community Partnership in Washington, DC

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SYNOPSIS

Objective. Studies have shown that African American men are at greater risk than other men for prostate cancer in terms of both incidence and mortality. At the same time, the utility of screening asymptomatic men for prostate cancer remains controversial. The combination of high incidence and high mortality with the uncertain benefits of screening poses a difficult problem for African American men. This study was part of an ongoing project that sought to develop and evaluate health education materials designed to help African American men make an informed decision about prostate cancer screening. The project represented a collaboration between the Most Worshipful Prince Hall Grand Lodge of the District of Columbia and the Lombardi Cancer Center of Georgetown University.

Methods. The authors conducted eight focus groups with 44 members of the Prince Hall Masons. The focus groups covered men's understanding of prostate cancer screening and their preferences for methods of health education.

Results. Participants demonstrated a high level of awareness of the availability of prostate cancer screening, a low awareness of the screening controversy, and a desire for detailed epidemiologic information and information about the benefits and limitations of screening. The preferred forms of educational materials were video and print-based materials, which the research team has recently developed.

Conclusions. These findings demonstrate the feasibility of developing an academic-community collaboration with the goal of improving a health-related problem in the African American community. A randomized trial is underway to evaluate the impact of the video and print education materials.

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It is expected that prostate cancer will be diagnosed in 198,100 men and will be responsible for 31,500 deaths in the United States in 2001.[1] Despite the significant disease burden presented by prostate cancer, the utility of screening asymptomatic men remains controversial, as it has not yet been demonstrated by a randomized trial that early diagnosis and treatment of prostate cancer reduces disease-related mortality.[2] Results of an ongoing randomized trial of the effectiveness of prostate cancer screening[3] will not be available for approximately 10 years, compelling men and their health care providers to sift through conflicting information and come to their own conclusions about being screened.

African American men are at elevated risk for prostate cancer.[4,5] In 1973–1995, the incidence rate of the disease was about 60% higher in African American men than in white men, and the mortality rate was about twice as high.[2] Five-year survival rates in 1988–1993 were also lower for African American men, with 81% of African Americans and 95% of white men surviving.[2] Relative to white men, African American men are somewhat more likely to be diagnosed with poorly differentiated and unknown tumor grade and less likely to be diagnosed with a well-differentiated or moderately differentiated tumor grade.[2]

The combination of the disparities in incidence, mortality, and five-year survival rates with the uncertain benefits associated with screening poses a difficult decision for African American men. Moreover, the limited quantity and quality of health education materials specifically designed to help African American men in the decision-making process makes development of such materials essential.

Finding effective and inexpensive methods of education capable of reaching large numbers of African American men is of critical importance. Substantial literature documents the use and effectiveness of some forms of educational materials, e.g., printed matter and videos.[6,7] However, educational materials on the benefits and limitations of prostate cancer screening have not been developed for African American men.

Because the utility of prostate cancer screening among asymptomatic men has not been demonstrated (even for those at elevated risk), the goal of this research program was neither to encourage nor discourage prostate cancer screening. Rather, the project was designed to develop and evaluate effective educational methods to help African American men make informed decisions that are consistent with their own values and preferences.

The prostate cancer screening controversy

The incidence of prostate cancer has increased dramatically within the past decade, primarily due to the use of the serum prostate-specific antigen (PSA) assay as a screening test.[8] Although data suggest that prostate cancer is being diagnosed at earlier stages, there is not yet evidence of a reduction in disease-specific mortality, the primary measure of screening effectiveness.[9] Some researchers argue that the shift to earlier-stage diagnosis is evidence that screening is effective. Others argue that diagnosing prostate cancer early may not necessarily lead to fewer deaths (lead-time bias) or that PSA may simply be detecting more indolent cancers (length bias).[9] Additionally, the positive predictive value of the digital rectal exam and PSA can be as low as 32% to 71%, even when the tests are combined,[10–12] resulting in a false positive rate of 29% to 68%. Thus, in addition to their uncertain efficacy, these tests may lead a sizable portion of men without cancer to undergo biopsies.

Because of these problems, recommendations for prostate cancer screening by professional and governmental organizations vary considerably. The National Cancer Institute does not recommend prostate cancer screening, while the American Cancer Society recommends annual screening beginning at age 50 for all men and at age 45 for African American men, although it emphasizes that information about the benefits and limitations of testing should be provided.[13]

Increased publicity has magnified public concern about prostate cancer as a disease that causes death in a substantial number of men each year. However, increased awareness has not led to a corresponding increase in knowledge,[14–18] and men are deciding to attend free screening programs on their own, without a physician's recommendation.[19] This situation is due partly to the uncertainty in the medical community about exactly what should be communicated to the public.

In uncertain medical decisions, patient knowledge and preferences become central to the decision-making process [20] and to informed consent.[21] To play a meaningful role in the screening decision, patients must have access to relevant information. Providing such information about prostate cancer screening may enable men to make informed decisions based on their own values and preferences.

Knowledge, attitudes, and beliefs about prostate cancer screening

There is a large literature on the prediction of cancer screening behaviors using several theoretical

orientations, including the Transtheoretical Model[27,28] and the Health Belief Model.[29,30] Much of this research concerns mammography and breast self-examination, although a few studies have focused on prostate cancer screening. For example, a person's history of prostate screening is related to knowledge regarding prostate cancer, and both knowledge and screening history are positively related to intent to undergo screening in the future.[15,31] Education, income, and urban residence have been positively associated with prior screening[32,33] and willingness to undergo screening in the future.[34]

Several studies have demonstrated the low level of knowledge about prostate cancer, particularly among African American men.[18,31,33,35,36] Studies of patient education efforts designed to increase knowledge and rates of screening among African American men show that brief, print-based interventions increase knowledge of symptoms and risk factors[37] as well as rates of screening.[38]

Developing an academic-community collaboration

The project described here is a collaborative effort between investigators from the Cancer Control Program at the Lombardi Cancer Center (LCC) and the Most Worshipful Prince Hall Grand Lodge of the District of Columbia (MWPHGL), a Masonic organization. Over the past three years, the two organizations have developed a productive and committed partnership, with the common mission of developing and evaluating educational materials for African American men and the ultimate goal of disseminating the materials.

Academic institutions and community organizations make strange but essential bedfellows in the pursuit of improved health outcomes for underserved populations. It is common for academicians to live and work far from the communities they desire to study. Community organizations may therefore view invitations to form partnerships with suspicion.[39] This project brought together partners with a common interest in African American men and prostate cancer screening.

Richards describes several distinct features of academic medical centers and communities that pose challenges to partnerships.[40] Academic institutions and faculty have traditionally acquired power through their control of a "magic circle of scientific knowledge," to which only the few are privileged to enter.[41] In addition, their unspoken mission is to gain increased control of resources for the attainment of scientific knowledge. In contrast, communities and their leaders are motivated by their own unique experiences and beliefs, rather than by what others (including academicians) believe. Moreover, within communities power is shared and negotiated depending on issues and needs.[40]

The investigators at LCC and the leadership of the MWPHGL were introduced by a person familiar with the work, interests, and missions of both parties. This person served as a bridge between the two institutions. His lack of formal affiliation with either group allowed him to encourage the Masons to partner with the Lombardi Center.

While an intermediary helped gain entry to the community, this approach to partnership development was not without challenges. During the developmental phases of the partnership, a divergence of beliefs regarding the value of prostate cancer screening for African American men, negotiation for the exchange of resources, and positioning for control challenged the project in ways that are consistent with most newly formed or developing partnerships. The focus on and importance of the topic, however, served to establish the collaboration, which continues to be mutually beneficial and respectful of the roles of both partners.

MWPHGL. The Prince Hall Masons are a fraternal organization established on the principles of charity, benevolence, and "brotherly love." Their mission is to "assist fellow men in times of trouble and reinforce their essential moral and spiritual values by encouraging each member to do his duty first to God through his faith and practice, and then without detriment to his family or those dependent on him, and to his neighbor through charity and service."

The Grand Lodge's origins can be traced back more than 200 years to the establishment of the first Lodge of black Masons, in Boston. That Lodge was founded by Prince Hall, who petitioned the Grand Lodge of England for a warrant to establish a Lodge of Free Negroes. The African Grand Lodge was established in 1791. The origin of the MWPHGL of the District of Columbia dates back to 1848. It was the first Lodge of black Masons to be organized below the Mason-Dixon Line.

Facilitating successful collaboration. Several factors have been central to the success of the project. The involvement of Masonic leadership has been crucial in developing and maintaining members' interest in and commitment to the project. Two critical variables that fuel continued participation of the membership have been the Masonic leaders' emphasis on the responsibility of the MWPHGL to African Americans and the historic opportunity for this particular Grand Lodge to collaborate on a project of this kind. A challenge has been that a new leader is elected every two years,

which has required transitions and adjustment to the individual leadership styles of each administration.

Despite the interest the membership has expressed in the project, recruiting participants was the most difficult task encountered by the project team. We attribute this to a need to educate the Masonic membership about the research process. It was important to provide detailed information to all members to reduce misperceptions and negative reactions that could have arisen. We also needed to clarify the differences between this research project and health fairs that the Grand Lodge had held in the past. This sort of education must continue during all project phases to maintain interest in and understanding about the project. Although monetary incentives are offered to participants, such incentives do not encourage participation in the absence of intense educational efforts.

Educating members about the research process also included a discussion of the reasons why project participation does not necessarily result in an immediate reward to individuals, the Masonic organization, or to African American men. We emphasized the need for data collection and its importance in a research project. We also stressed that the benefits of the research could extend beyond this particular project. The dissemination of information that results from this project could have a strong impact on future individual and Masonic participation in research.

Significant numbers of potential participants expressed concerns about past abuses of African American men in biomedical research—abuses such as the Tuskegee syphilis study. The project team assigned the highest priority to addressing these concerns. These efforts established trust and reduced participants' apprehension about the project. In addition, potential participants were assured that their information would be kept completely confidential. Only the Masonic investigators maintain the database that includes participant addresses and other confidential information.

The Masonic investigators acquainted the LCC investigators with Masonic procedures, attitudes, and traditions, including identifying specific African American male cultural attitudes and sensitivities that were critical to working with participants. Areas of concern included the challenge of presenting a message that was contrary to what men had been told by their physicians, men's reluctance to openly discuss body anatomy and function in a group setting, and general resistance to change.

Project overview

Phase I of the project consisted of formative research designed to collect qualitative data regarding African American men's informational needs and concerns about prostate cancer screening and to determine the content to include in the educational materials. These data were collected through 10 focus groups, eight conducted with African American members of the Prince Hall Masons organization and two conducted with internists, family practitioners, and urologists. (Due to space limitations, we do not present information in this article on the physician focus groups.) Based on information gained from the focus groups and from the literature, we developed a video and a print brochure.

Phase II of the project is an ongoing randomized trial assessing the impact of the two educational interventions on knowledge acquisition, decisional satisfaction, screening intentions, and screening behavior. Participants were randomly assigned to one of three conditions: video, brochure, or a wait list control group. Telephone interviews are conducted at baseline, one-month, and one-year post-intervention. We hypothesized that knowledge and decisional satisfaction would be higher among men exposed to the video and print materials than among men in the control group. We do not have specific hypotheses regarding differences between the video and print groups or regarding the impact of the interventions on screening intentions and behavior.

METHODS

Participants in the lay focus groups included 44 African American members of the Prince Hall Grand Lodge ages 40 to 70 years. Men who had been diagnosed with prostate cancer or who were physicians or nurses were excluded from participation in the lay focus groups to reduce the possibility that other participants would agree with an "expert" and be less likely to voice their own opinions.

The project was promoted within the Lodge by mailing letters to members. The Mason investigators also described the project at Lodge meetings. Interested men were scheduled to participate in a focus group and were paid $25 for their participation. The meetings were held at the Masonic temple and moderated by an African American man who was not a Mason. Each group included three to seven participants. Participants provided informed consent and completed a brief questionnaire regarding demographic information, screening history, and screening intentions.

Part of a video about prostate cancer screening[42] was shown to give men information about the controversy over screening and to generate a discussion about it.

Seven of the eight groups were audiotaped and transcribed; one group was not taped due to equipment failure. The transcripts do not identify individual speakers, making it impossible to determine the number of people who endorsed similar ideas. For this reason, we do not present frequencies for any of the opinions presented in the groups.

Two investigators developed themes based on mutual agreement and then determined the presence of the themes in each of the transcripts. Interrater reliability was not assessed. The themes from the first four groups were (*a*) knowledge about prostate cancer screening and the controversy over screening, (*b*) preferences for information content that should be included in educational materials, (*c*) usual sources of health information, and (*d*) preferences for methods of receiving prostate screening information (standard brochure, tailored brochure, video, telephone counseling).

The second four groups provided feedback on the content and format of existing print and video health education materials as well as on the planned research methods for the randomized trial. For the print materials, we presented four different samples of cancer-related brochures and magazines. These materials varied in terms of layout, font size, amount of information presented, use of photographs vs. drawings, and use of colors. For the video materials, we presented several brief clips from three videos about prostate cancer. These clips included man on the street interviews, comments by doctors, and discussions with family members, and featured both African American and white people. We obtained participants' feedback on our planned use of telephone interviews to gather pre- and post-intervention information in the randomized trial as well as our planned methods of subject accrual.

RESULTS

The average age of participants was 56.7 (standard deviation [SD] = 7.1). Educational level varied, with 38.6% having completed only high school, 29.5% having completed some college, and 31.8% having a college degree or more. Participants had been members of the Masons for an average of 19.3 years (SD = 10.3). Almost all of the participants (95%) had been previously screened for prostate cancer, and all planned to be screened in the future.

In the first four groups, there was a high level of awareness about screening methods, but almost none of the participants was aware of the controversy surrounding prostate cancer screening. Becoming aware of the controversy generated an unease about the medical community, and concern about how individual men should decide about screening given that doctors cannot agree on what is best. Learning of the controversy did not change men's intention to be screened in the future, however.

Men in these groups stated that the content of the educational information should include details about screening, its effectiveness, racial differences in screening rates and in disease-related incidence and mortality, and the benefits and limitations of screening. They described their sources of health information as including talk radio, television, doctors, newspapers, brochures, other African American men, and their wives. Inclusion of African Americans in health-related educational materials was considered very important, and there was a preference for video and general printed materials over telephone counseling or tailored brochures. Negative feelings about telephone counseling stemmed from the fact that it sounded too much like telemarketing.

In the second four groups, participants had very favorable opinions about the magazine format, recommending that it be relatively short (10–15 pages) and emphasized the importance of capturing the reader in the first 4–5 pages. To do this, men recommended a large font, headings, and a glossary to help readers quickly find what interested them. Photographs were preferred to drawings of people. There were differing opinions about the choice of a spokesperson: a lay person was valued because of the ease of relating to him, but it was suggested that a celebrity would be more likely to capture people who were not already aware of prostate screening. There were also different recommendations regarding using only African Americans vs. African American and white people in the materials. Some participants believed that having both African American and white men would convey the fact that prostate cancer is a problem all men face, not a disease limited to African American men. Others believed that using only African American men would make the materials more appealing, as it would suggest that the information was targeted specifically to their community and therefore increase the likelihood that the materials would get African American men's attention. The importance of including family members in the materials was repeatedly emphasized, as the screening decision and the disease affects the entire family.

Several men were hesitant or negative about par-

ticipating in the telephone interviews planned for the intervention trial, but most men thought that Masons would participate as long as there was an appointment made for the interview and cold calls were not made. In terms of obtaining an adequate number of participants for the intervention trial, several men noted the importance of the Grand Master publicly supporting the project and recommended promoting the project within the Grand Lodge using posters and brochures.

DEVELOPMENT OF THE VIDEOTAPE AND BROCHURE

The most valuable aspect of the materials development process was the involvement of our target audience, African American members of the MWPHGL. Through observations, informal conversations, and focus group analyses, the perspectives of African American men in general, and Prince Hall Masons in particular, were incorporated into the design of the materials. Materials were designed using normative group processing; we obtained initial ideas from the target population, developed pilot materials, and then modified the materials based on subsequent feedback. We adhered to the Centers for Disease Control and Prevention guidelines on developing materials (clear presentation, logical sequence, ease in understanding, and interesting, familiar, realistic, positive images).[43] When developing materials for cultures with a preference for oral communication, use of narrative, storytelling to relay information, use of symbols and imagery with special meaning, and presentation in a spoken word format should be considered. The steps taken were those customary for design of public health messages[44] and included defining the audience, conducting audience research, developing the concept, developing the content and visual images, and pretesting and revising draft material.

Using the normative group process, we presented materials to the project team at each step of development. Consensus was reached before moving to the next step. While this process required more time than one in which a single person developed the materials, the end product was one that was culturally appropriate, suited to the reading levels of the audience, and tailored to the preferred style of audience. A purposive sample was used to pilot test the materials before layout, design, and printing.

Description of the videotape and brochure

Our goals were to (*a*) design materials that were culturally sensitive to African American men and their families, (*b*) reach a large audience, (*c*) reach underserved groups that may not come regularly to medical settings, (*d*) potentially reduce costs compared with traditional methods of physician-patient discussions, and (*e*) allow a decision to be made over time with the input of family and friends. The videotape and brochure were designed to include identical content (such as anatomy and function of the prostate, methods of screening, epidemiology) and to include a balanced presentation of the benefits and limitations of screening. Neither included a recommendation for or against screening. Both the video and the brochure highlighted Hall of Fame Major League baseball player and manager Frank Robinson. Because the materials were not intended to provide all of the possible information about screening, an important goal was to encourage men to seek further information from health care professionals as well as from other usual informational resources.

The 25-minute videotape narrated by Frank Robinson follows a middle-aged African American man (an actor) through the process of learning about the benefits and limitations of screening. In the first two scenes, the man's family and friends tell him about screening and encourage him to learn more about it before making a decision. In the last scene, the man visits his doctor, who describes the various issues one needs to consider when making a screening decision. The doctor does not make a recommendation for or against screening but instead emphasizes that the decision is an individual one, to be made in conjunction with health care professionals and one's family.

The brochure is an 8½" x 11" glossy magazine-style piece with a full-color cover and 18 pages of two-color text. In addition to the same content and many of the images that appear in the video, the brochure includes a glossary of 25 terms related to prostate cancer screening and a question and answer section intended for men to take with them to a doctor's appointment.

DISCUSSION

We have successfully developed an academic-community collaboration that has the goal of improving a health-related problem that exists in the African American community. The collaboration's success has been due to the equal partnership and the inclusion of the values, knowledge, and expertise of the community.[45] The formative research reported here was central to developing educational materials that were designed specifically for African American men. The focus groups were extremely valuable in helping to develop the design and procedures used in the randomized trial.

The immediate benefits of a collaboration of this nature included the quality and comprehensiveness of

the educational materials, which resulted from the community and academic investigators contributing equally to their development. The investigators' training, background, and views on prostate cancer screening are quite varied. We believe that these differences have resulted in more comprehensive materials than would have been produced had either group developed them independently. Interestingly, because of working together on this project, our views on screening have become more similar.

For participants in the randomized trial, the near-term benefits of this project will be improved knowledge and the satisfaction derived from exposure to the educational materials. Potential long-term benefits include the dissemination of one or both of the materials to a larger Masonic audience and/or to other African American men more broadly.

This research addressed health disparities by improving knowledge about prostate cancer screening and informed decision-making of African American men. Although the prostate cancer screening dilemma is a problem for all men, it is a particular problem for African American men given the racial disparities in incidence, mortality, and five-year survival rates. In a recent article addressing the problem of prostate cancer and black men, Brawley notes that "although black men potentially have the most to gain from screening, they also are the most likely to be harmed by screening" because of the prevalence of comorbid diseases that may make treatment efforts difficult.[46] Culturally appropriate education about the complex issues surrounding prostate cancer screening and treatment is thus of critical importance. Despite the greater incidence of and mortality from prostate cancer among African American men than among men of other racial/ethnic backgrounds, Brawley concludes that overdiagnosis is a problem among blacks as well as whites, as indicated by the unchanging mortality rates that have occurred in conjunction with varying incidence and treatment modalities over the past 25 years.[46] The problem of overdiagnosis and its implications for screening is poorly understood by men and warrants a significant educational campaign to help men make informed decisions that are consistent with their own values and preferences.

A limitation of the study is that the Prince Hall Masons are not a representative sample of African American men. For example, their level of education may be higher than the average for African American men. The men who agreed to participate in the study appeared to be highly motivated to learn about and undergo prostate cancer screening. We considered conducting the focus groups and the subsequent randomized trial with a sample of men obtained by random-digit-dialing procedures. However, this method of accrual has its own set of difficulties in terms of obtaining a representative sample, particularly among older men of color.[47] Similarly, accruing participants from a medical setting would have potentially resulted in a sample that was more likely to utilize health care facilities and consequently not be a representative sample. We believed that the ability to reach and follow a sample of African American men by telephone and mail in the initial evaluation of these materials outweighed the shortcomings of the sample characteristics. Subsequent evaluations of these materials will attempt to include men not represented in the current evaluation.

The relevance of this research program lies in the development of educational materials designed to address a difficult decision faced by a high-risk and often underserved group of men. Our goal was to develop and evaluate two culturally sensitive educational tools that are relatively inexpensive, easy to disseminate, and require relatively little effort to use. Providing men with the opportunity to learn about and consider the benefits and limitations of a health issue while at home, without having to travel to a medical setting, represents a potential advantage over traditional methods of patient education. The outcome of this research will promote public health among African American men through the dissemination of the more effective educational method.

REFERENCES

1. Greenlee RT, Hill-Harmon M, Murray T, Thun M. Cancer statistics, 2001. CA Cancer J Clin 2001;51:15-36.
2. Stanford JL, Stephenson RA, Coyle LM, Cerhan J, Correa R, Eley JW, et al. Prostate cancer trends 1973–1995. Bethesda (MD): SEER Program, National Cancer Institute; 1999. NIH Pub. No. 99-4543.
3. Gohagen J, Prorok PC, Kramer BS, Cornett JE. Prostate cancer screening in the prostate, lung, colorectal and ovarian cancer screening trial of the National Cancer Institute. J Urol 1994;152:1905-9.
4. Mielkle W, Smith J. Epidemiology of prostate cancer. Urol Clin North Am 1990;17:709-18.
5. Pienta K, Esper P. Risk factors for prostate cancer. Ann Intern Med 1993;118:793-803.
6. Mahon S. Using brochures to educate the public about the early detection of prostate and colorectal cancer. Patient Education 1995;22:1413-20.
7. Gagliano ME. A literature review on the efficacy of video in patient education. J Med Educ 1988;63:785-92.

8. Potosky A, Miller B, Albertsen P, Kramer B. The role of increasing detection in the rising incidence of prostate cancer. JAMA 1995;237:548-52.
9. Woolf S, Rothemich S. Screening for prostate cancer: the roles of science, policy, and opinion in determining what is best for patients. Annu Rev Med 1999;50:207-21.
10. Mettlin C, Murphy G, Babian R, Chesley A, Kane R, Littrup P, et al. The results of a five-year early prostate cancer detection intervention. Cancer 1996;77:150-9.
11. Cooner W, Mosley B, Rutherford C, Beard J, Pond H, Terry W, et al. Prostate cancer detection in a clinical urological practice by ultrasonography digital rectal examination and prostate specific antigen. J Urology 1990;143:1146-54.
12. Lee F, Torp-Pedersen S, Littrup P, McLeary R, McHugh T, Smid A, et al. Hypoechoic lesions of the prostate: clinical relevance of tumor size, digital rectal examination, and prostate-specific antigen. Radiology 1989;170: 29-32.
13. Smith RA, von Eschenbach AC, Wender R, Levin B, Byers T, et al. American Cancer Society guidelines for the early detection of cancer: update of early detection guidelines for prostate, colorectal, and endometrial cancers. CA Cancer J Clin 2001;51:38-75.
14. Mercer S, Goel V, Levy I, Ashbury FD, Iverson D, Iscoe N. Prostate cancer screening in the midst of controversy: Canadian men's knowledge, beliefs, utilization, and future intentions. Can J Public Health 1997;88:327-32.
15. O'Dell K, Volk R, Cass A, Spann A. Screening for prostate cancer with PSA: are patients making informed decisions? J Fam Pract 1999;48:679-81.
16. Taylor KL, Shelby, R., Kerner J, Redd W, Lynch, J. The impact of undergoing prostate cancer screening on prostate-cancer related knowledge and distress. Cancer. In press 2002.
17. Mainous A, Hagen MD. Public awareness of prostate cancer and the prostate-specific antigen test. Cancer Pract 1994;2:217-21.
18. Price J, Colvin T, Smith D. Prostate cancer: perceptions of African American males. J Natl Med Assoc 1993; 85:941-47.
19. Taylor KL, DiPlacido J, Redd W, Faccenda K, Greer L, Perlmutter A. Demographics, family histories, and psychological characteristics of prostate carcinoma screening participants. Cancer 1999;85:1305-12.
20. Kassirer J. Incorporating patients preferences into medical decisions. N Engl J Med 1994;330:1895-6.
21. Chan E, Sulmasy D. What should men know about prostate specific antigen screening before giving informed consent? J Gen Intern Med 1996;11:114.
22. Flood A, Wennberg J, Nease R, Fowler F, Ding J, Hynes L. The importance of patient preference in the decision to screen for prostate cancer. J Gen Intern Med 1996; 11:342-9.
23. Davidson B, Kirk P, Degner L, Hassard T. Information and patient participation in screening for prostate cancer. Patient Educ Couns 1999;37:255-63.
24. Volk R, Cass A, Spann S. A randomized controlled trial of shared decision making for prostate cancer screening. Arch Fam Med 1999;8:333-40.
25. Schapira M, VanRuuiswyk J. The effect of an illustrated pamphlet decision-aid on the use of prostate cancer screening tests. J Fam Pract 2000;49:418-24.
26. Wolf A, Nasser JF, Wolf A, Schorling JB. The impact of informed consent on patient interest in prostate-specific antigen screening. Arch Intern Med 1996;156:1333-6.
27. Prochaska J, Velicer W, Rossi J, Goldstein M, Marcus B, Rakowski W, et al. Stages of change and decisional balance for 12 problem behaviors. Health Psychol 1994; 13:39-46.
28. Rakowski W, Dube C, Marcus B. Assessing elements of women's decisions about mammography. Health Psychol 1992;11:111-18.
29. Aiken L, West S, Woodward C, Reno R. Health beliefs and compliance with mammography-screening recommendations in asymptomatic women. Health Psychol 1994;13:122-9.
30. Champion V. The relationship of breast self-examination to health belief model variables. Res Nurs Health 1987;10:375-82.
31. Myers R, Wolf T, Balshem A, Ross E, Chodak G. Receptivity of African-American men to prostate cancer screening. Urology 1994; 43:480-7.
32. Price J, Colvin T, Smith D. Prostate cancer: Perceptions of African American males. J Natl Med Assoc 1993; 85:941-7.
33. Thomas S, Stotts R, Dignan M. Increasing minority participation in prostate cancer screening. Presented at the Association for the Advancement of Behavior Therapy meeting; 1993; Atlanta.
34. Robinson SB, Ashley M, Haynes A. Attitudes of African Americans regarding screening for prostate cancer. J National Med Assoc 1996;88:241-6.
35. Myers R, Wolf R, McKee L, McGrory G, Burgh D, Nelson G, et al. Factors associated with intention to undergo annual prostate cancer screening among African American men in Philadelphia. Cancer 1996;78;471-9.
36. Brown M, Potosky A, Thompson G, Kessler L. The knowledge and use of screening tests for colorectal and prostate cancer: data from the 1987 national health interview survey. Prev Med 1990;19:562-74.
37. Collins M. Increasing prostate cancer awareness in African American men. Oncol Nurs Forum 1997;24:91-5.
38. Myers R, McGrory T, Wolf D, Burgh J, et al. Prostate cancer education and screening among African American men. Presented at the American Society of Preventive Oncology 21st Annual Meeting; 1997 Mar; New Orleans.
39. Seifer SD. Engaging colleges and universities as partners in healthy communities initiatives. Public Health Rep 2000;115:234-7.
40. Richards R. Building partnerships: educating health professionals for the communities they serve. San Fransico: Jossey-Bass Publishers; 1995.
41. Bledstein BJ. The culture of professionalism: the middle

class and the development of higher education in America. New York: W.W. Norton; 1976. p. 90.
42. The PSA decision: what you need to know [videocassette]. Hanover (NH): Foundation for Informed Medical Decision Making; 1994.
43. AMC Cancer Research Center. Beyond the brochure: alternative approaches to effective health communication. Atlanta: CDC; 1994.
44. National Cancer Institute (US). Clear & simple: developing effective print material for the low-literate reader. Washington: Department of Health and Human Services (US); 1994.
45. National Policy Task Force, Community-based public health initiative. Battle Creek (MI): W.K. Kellogg Foundation; 1996.
46. Brawley OW. Prostate cancer and black men. Semin Urol Oncol 1998;16:184-6.
47. Taylor KL, Kerner JF, Gold KF, Mandelblatt JS. Ever vs. never smoking among an urban, multiethnic sample of Haitian-, Caribbean-, and U.S.-born blacks. Prev Med 1997;26:855-65.

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