PSA Screening: Shared Decision-Making Is a Flawed Approach

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From 2012 to 2018, the US Preventive Services Task Force (USPSTF) recommended against performing prostate-specific antigen (PSA) testing for prostate cancer screening (D grade). At that time, the USPSTF found that PSA screening would lead to early and persistent harm from treatment (eg, erectile dysfunction, urinary incontinence, cardiovascular events, venous thromboembolism) in approximately 50 men to possibly prevent one death from prostate cancer in the long term.[1] Consequently, the USPSTF concluded that the benefits of PSA-based screening do not outweigh the harms. During these years, fewer men received PSA tests, resulting in fewer prostate biopsies and corresponding declines in prostate cancer incidence and treatment-related adverse effects.[2,3] Due to the lower number of early-stage prostate cancer diagnoses, the proportion of men with metastatic cancer at the time of diagnosis increased from 15% to 24%.[4,5] One study showed a small increase in the incidence of metastatic prostate cancer, although there was no change in prostate cancer deaths.[6,7]

In 2018, the USPSTF changed its assessment. Reasoning that the increasing use of active surveillance protocols for men with low-risk prostate cancer had reduced the burden of harm, it decided that the harms of PSA screening in men 55 to 69 years of age no longer canceled out small reductions in metastatic prostate cancer and prostate cancer mortality on the population level. Because an individual is still far more likely to experience harm than benefit from PSA screening, the USPSTF currently states that "men should have an opportunity to discuss the potential benefits and harms of screening with their clinician and to incorporate their values and preferences in the decision" (C grade).[8]

As discussed in a recent article in *American Family Physician*,[9] prostate cancer screening guidelines from the USPSTF, American Cancer Society, and American Urological Association urge family physicians to inform patients about their risk of prostate cancer; discuss potential outcomes of PSA testing, including management of positive test results; and help them to decide whether to get tested.[8,10,11] In contrast, a systematic review of barriers and facilitators to shared decision-making for PSA screening in primary care showed that most clinicians do not have the time or tools to follow these guidelines in practice.[12] In 2020, less than 40% of US men who received a PSA test reported having a shared decision-making conversation with their clinician.[13] Following the 2018 USPSTF recommendation, screening increased by a greater degree in men 70 years and older than in men 55 to 69 years of age.[14,15] Despite the USPSTF maintaining a D (do not do) recommendation in men 70 years and older, more men who have little chance of benefiting are now being screened. A study including 26 European countries demonstrated evidence of similar trends, with countries where PSA screening is widely practiced reporting many more prostate cancer cases, particularly in older men, but minimal differences in mortality compared with countries with less PSA screening.[16]

Decision aids are unlikely to improve this situation. Although decision aids improve congruence between informed values and screening or treatment choices in some cases,[17] their effects on prostate cancer screening are modest. Systematic reviews of randomized trials found that they slightly improve patients' short-term knowledge but have no effect on the likelihood of having a shared decision-making conversation, the decision to undergo screening, or health outcomes.[18-20] Rather than assisting patients in making prostate cancer screening choices that are congruent with their preferences and values, shared decision-making leads to "decision abdication" by overwhelming them with facts and figures while not recommending a specific course of action.[21,22] Overall, the shared decision-making, or informed choice, approach to PSA screening in the United States and Europe has not moderated high rates of testing among those least likely to benefit and most likely to be harmed by overdiagnosis and overtreatment.[23]

What if family physicians instead concentrate on screening "high-risk" groups: men with a family history of prostate cancer and Black men? This screening strategy is unlikely to meaningfully shift the balance of benefits and harms. Family history has limited usefulness as a risk factor. Much of the increased risk of prostate cancer in first-degree relatives is due to more diagnoses of indolent tumors as a result of higher rates of PSA testing.[24] In a multicenter cohort study, patients who had a first-degree relative with prostate cancer were only 1.4 times more likely to have high-grade prostate cancer on biopsy than patients without a family history.[25] Race-based screening, on the other hand, is ethically fraught and risks social stigmatization, racial mislabeling, and exacerbation of current health disparities by introducing unnecessary harms, because the only two randomized

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trials that found PSA screening benefits included very few Black men.[26-28] The higher prostate cancer mortality in Black men compared with other races has underlying structural causes, such as differential access to high-quality care and economic opportunity, that screening does not address.[26,29]

Since its premature introduction as a screening test in the early 1990s, PSA has remained in the repertoire of preventive care because no one has come up with a more beneficial alternative. Even though this test's flaws, including poor accuracy and the cascade of interventions that follow a positive result,[30] are well established, guideline developers have assumed that shared decision-making would limit the population of men being screened to those prepared to endure the lifelong monitoring and interventions that follow a positive PSA result. The preponderance of the evidence has not reflected this assumption. The net population benefit of prostate cancer screening is too small—particularly in men older than 70 years—to justify continuing this failed approach. Rather than treating PSA as an elective test and trying unsuccessfully to present "both sides" of the screening decision, primary care physicians should go back to discouraging its use.

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