

## Screening for Prostate Cancer Throwing Out the Baby with the Bathwater

WD Aiken

Prostate specific antigen (PSA)-based screening for prostate cancer and its effects on secular trends in prostate cancer incidence and mortality continue to generate controversy, as indicated by the letters to the editor by Aiken (1) and Gibson *et al* (2) in this issue of the Journal. Recently, the United States Preventive Services Task Force (USPSTF) ignited a fierce firestorm of debate in the United States of America (USA) and around the world when it released its latest recommendations regarding PSA-based prostate cancer screening on October 7, 2011. In its release, it recommended against PSA-based prostate cancer screening in all men.

### Who is the USPSTF?

The USPSTF is an American organization consisting of an independent panel of non-federal experts in preventive and evidence-based medicine. It makes recommendations regarding various preventive health services based on an assessment of the currently available evidence and disseminates these recommendations which serve as guidelines for clinical practice in the USA. While the recommendations are meant primarily for the USA population, there are doubtless large constituencies of non-USA persons, professional organizations and groups who rightly or wrongly depend on these recommendations for guidance on clinical practice in their respective countries.

### Rationale for screening

The aim of cancer screening is to detect disease at an earlier or pre-symptomatic stage in its evolution with the belief that earlier treatment is more likely to result in cure than later treatment which is typically administered when symptoms arise. For a cancer screening programme to be considered effective, it must not only unequivocally demonstrate that it reduces cancer-specific mortality, but there must not be an excess of harmful effects generated in achieving this end.

---

From: Division of Urology, Department of Surgery, Radiology, Anaesthesia and Intensive Care, The University of the West Indies, Kingston 7, Jamaica.

Correspondence: Dr WD Aiken, Division of Urology, Department of Surgery, Radiology, Anaesthesia and Intensive Care, The University of the West Indies, Kingston 7, Jamaica. E-mail: [william.aiken@uwimona.edu.jm](mailto:william.aiken@uwimona.edu.jm)

### Prostate cancer not a homogenous disease

Prostate cancer has a wide spectrum of behaviour, with some cancers causing death in 10 to 15 years from the time of discovery if left alone while other cancers never cause a problem in the man's lifetime. As even the more aggressive prostate cancers tend to be relatively slow growing, it is generally agreed that a man should have at least a 10–15 year life expectancy to benefit from screening tests.

### No decrease in mortality found

The USPSTF, citing evidence from several clinical trials which examined PSA-based prostate cancer screening, found that there was no appreciable decrease in prostate cancer mortality among screened men.

### Harm outweighs benefit

More importantly, the USPSTF found that the harmful effects which accrue from doing prostate biopsies in men with elevated PSAs who turn out not to have cancer (false positives), coupled with the treatment-related side effects (urinary incontinence, erectile dysfunction, anastomotic strictures and even death) in men diagnosed with prostate cancer who were not destined to die from the disease, appear to outweigh any beneficial effects of treating the cancer. In essence, the USPSTF believes that more harm than good is done by screening men for prostate cancer mostly because of the significant likelihood of detecting and treating indolent cancers that would never have caused any morbidity or mortality.

### Can the USPSTF recommendations be applied to the Caribbean region?

While the USPSTF presents a cogent argument for its recommendations against PSA-based screening, the evidence on which this recommendation is based was obtained from Caucasian populations with study participants who were overwhelmingly Caucasian (3, 4). Prostate cancer disproportionately affects men of African descent and is also known to run a more aggressive course and to have a poorer prognosis in men of African heritage (5, 6). African Americans have the highest prostate cancer incidence in the world while the Caribbean region has the highest prostate cancer mortality rate (7). Men of African descent have a higher prostate

cancer risk profile and therefore stand to benefit more from PSA-based screening. The risk-benefit ratio is therefore skewed toward benefit in Black men. As there was an insufficient number of Black men in those studies informing the USPSTF panellists, their recommendation cannot be generalized to the Caribbean and should therefore not be blindly followed.

### Preventing prostate cancer

Despite all the research done on prostate cancer to date, the only established risk factors for the disease remain race, age and family history. No modifiable risk factors have been unequivocally identified which can be manipulated to decrease the risk of the disease. Therefore, screening is currently the mainstay of prevention and should not be thrown out wholesale as the USPSTF is attempting to do without first determining if it might be of particular benefit to specific high-risk groups such as men of African descent and men with a strong family history. Ultimately, what is required is a test that will distinguish those prostate cancers that are destined to behave aggressively and threaten life from those that are relatively innocuous. Until this is available, Caribbean urologists should continue to recommend that men 40 years and older of African descent as well as men with a

positive family history who, based on their health, have at least a 10- to 15-year life expectancy, continue yearly screening tests for the disease.

### REFERENCES

1. Aiken WD. Prostate cancer incidence in Jamaica before and after the introduction of prostate specific antigen. *West Indian Med J* 2011; **60**: 597.
2. Gibson TN, Hanchard B, Waugh N, McNaughton D. Re: prostate cancer incidence in Jamaica before and after the introduction of prostate specific antigen. *West Indian Med J* 2011; **60**: 597–8.
3. Schröder FH, Hugosson J, Roobol MJ, Tammela TLJ, Ciatto S, Nelen V et al. Screening and prostate-cancer mortality in a randomized European study [Internet]. *The New England Journal of Medicine* 2009; **360**: 1320–8.
4. Andriole GL, Crawford ED, Grubb RL, Buys SS, Chia D, Church TR et al. Mortality results from a randomized prostate-cancer screening trial [Internet]. *The New England Journal of Medicine* 2009; **360**: 1310–9.
5. Odedina FT, Akinremi TO, Chinegwundoh F, Roberts R, Yu D, Reams RR et al. Prostate cancer disparities in Black men of African descent: A comparative literature review of prostate cancer burden among Black men in the United States, Caribbean, United Kingdom, and West Africa [Internet]. *Infectious Agents and Cancer* 2009; **4** (Suppl 1): S2.
6. Ben-Shlomo Y, Evans S, Ibrahim F, Patel B, Anson K, Chinegwundoh F et al. The risk of prostate cancer amongst Black men in the United Kingdom: The PROCESS cohort study [Internet]. *European Urology* 2008; **53**: 99–105.
7. Jemal A, Bray F, Ferlay J. *Global Cancer Statistics*. World 2011; **61**: 69–90.