Negoita et al reported on a decrease in screening for prostate cancer with prostate-specific antigen (PSA) testing beginning in 2008, an increase in late-stage disease at the time of diagnosis beginning in 2010, and a potential stabilization in prostate cancer mortality beginning in 2014. The authors described multiple factors that could influence these trends, but concluded that the increased incidence in late-stage disease from 2010 to 2014 followed new screening recommendations from the US Preventive Services Task Force (USPSTF). Clearly, the trends in late-stage disease and mortality are of concern to the USPSTF. However, the assertion that these trends are a result of changes in the USPSTF’s recommendations is not likely correct, given that its recommendation for the majority of older men (men aged 50-75 years) did not change in 2008. Many other factors may have played a role in the increase in late-stage disease at the time of diagnosis and stabilization in mortality, including changing practice patterns; a decrease in the diagnosis of insignificant cancers due to a decrease in screening and delayed biopsy, which artificially changes the percentage of late-stage disease; the use of more sensitive diagnostic procedures that detect more cases of late-stage disease; and a plateau in the benefits of new diagnostic strategies and treatments. The decrease in PSA screening also may reflect the growing recognition by clinicians, patients, and professional societies that the PSA test has both benefits and harms.

Although the data presented by Negoita et al are critically important, the authors only described the potential downsides of reduced screening. Based on trial data, PSA screening prevents 0.31% of men from developing metastatic prostate cancer and 0.13% of men from dying of prostate cancer over 12 years. However, approximately 15% of men receive a false-positive result, many of whom need a biopsy. In addition, approximately 10% of screened men are diagnosed with prostate cancer over 10 years, 20% to 50% of whom are overdiagnosed, meaning that they will never develop signs or symptoms of the cancer in their lifetime. Because we cannot always differentiate overdiagnosis from significant disease, many men receive treatment, which can result in urinary incontinence and erectile dysfunction. Avoiding these harms with more focused screening strategies can maximize the benefit of screening by doing the least harm.

The chronology of the USPSTF’s recent recommendations concerning prostate cancer screening demonstrates why changes in screening shortly after 2008 are unlikely to be the result of the USPSTF’s recommendations. In 2002, the USPSTF issued an “I” statement, which is a recommendation neither for nor against screening but rather a call for more evidence. In 2008, the USPSTF again issued an “I” statement for the majority of men (aged 50-75 years) and issued a “D” recommendation for men aged ≥75 years. In 2012, based on 10-year data from the European Randomized Study of Screening for Prostate Cancer (ERSPC) and The Prostate, Lung, Colorectal and Ovarian (PLCO) Cancer Screening Trial, the USPSTF changed its recommendation to a “D” for all men. In 2018, based on extended follow-up from the ERSPC trial, the USPSTF changed its recommendation to a “C” for men aged 50 to 69 years (indicating a small net benefit, depending on a man’s individual circumstances and values, which means clinicians should engage men in shared decision making) and a “D” for men aged ≥70 years. Negoita et al reported increased PSA testing between 1985 and 2008 and decreased testing from 2008 to the present. In our view, it is unlikely that the USPSTF’s reissue of an “I” statement in 2008, even with the addition of a “D” recommendation for men aged ≥75 years, was the catalyst for this change. Rather, there was a growing recognition by clinicians and patients that PSA testing has harms.

Finally, it is important to consider the evidence regarding the time to observation of changes in metastatic disease. The ERSPC trial did not begin to observe changes in metastatic disease until 5 to 6 years. Thus, the increase in late-stage disease reported in 2010 (2 years after the initial decline in PSA screening in 2008) is unlikely to be caused just by reduced screening.

Prostate cancer guidelines uniformly agree that PSA screening has both benefits and harms. It is important not to return to the overenthusiasm for PSA screening observed in the 1990s but to understand whether the decline in PSA screening appropriately reflects men’s values and preferences, ensure that men are appropriately screened and treated, and develop new strategies to further reduce suffering and death from prostate cancer.
The US Preventive Services Task Force is an independent, voluntary body. The US Congress mandates that the Agency for Healthcare Research and Quality supports the operations of the US Preventive Services Task Force.

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Reply to Annual Report to the Nation on the Status of Cancer, Part II: Recent Changes in Prostate Cancer Trends and Disease Characteristics

We agree with Curry et al regarding the importance of understanding and quantifying the extent to which the decline in prostate-specific antigen (PSA) screening reflects a patient’s own values. As stated in our original article, PSA screening has both benefits and harms. When developing a cancer screening recommendation, the importance of considering the harms of screening cannot be overemphasized.

Curry et al state that our report asserts that changes in prostate cancer late-stage disease and mortality trends “are a result of changes in the USPSTF’s [US Preventive Services Task Force] recommendations.” Although we reported that changes in trends have been preceded by a decrease in PSA testing, we carefully avoided inferences and judgments regarding the USPSTF recommendations throughout the article. Our methods would not have allowed testing or quantification of the USPSTF recommendations because surveillance data concerning PSA screening-related harms are not available.

When discussing changes in PSA testing prevalence, incidence of late-stage disease, and mortality, the USPSTF recommendations were included to provide a context for possible influences on a patient’s values and a physician’s clinical judgements regarding the PSA test. A chronological relationship between the recommendations of the USPSTF and changes in prostate cancer trends does not establish causality.

It is plausible that the rising trend in the incidence of late-stage prostate cancer observed since 2010 has extended to 2015. The US Cancer Statistics Working Group reported an increase in the overall incidence of prostate cancer from 98.0 per 100,000 population in 2014 (95% confidence interval, 97.5-98.5 per 100,000...