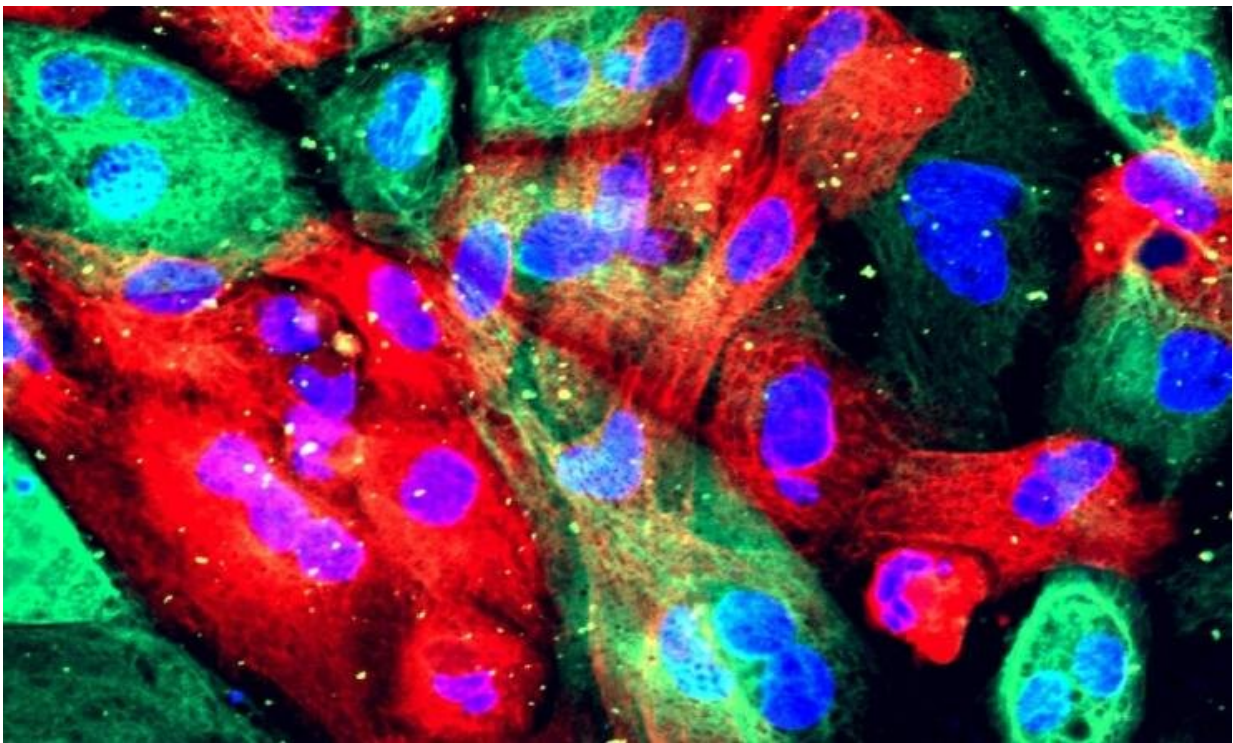


Lower prostate cancer screening rates associated with subsequent increase in advanced cancers

October 24 2022



Prostate cancer cells. Credit: NIH Image Gallery

In the face of conflicting evidence over the risks and benefits of routine prostate cancer screenings, a large, longitudinal analysis found Veterans Health Administration (VA) medical centers with lower prostate

screening rates had higher rates of metastatic prostate cancer cases in subsequent years than centers with higher screening rates.

Findings of the study will be presented today at the American Society for Radiation Oncology (ASTRO) Annual Meeting and are published in *JAMA Oncology*.

"This study provides evidence that facilities that are more intensively screening men may be reducing the risk of metastatic prostate cancer later," said Alex K. Bryant, MD, lead author of the study and a radiation oncology [resident physician](#) at the University of Michigan Rogel Cancer Center in Ann Arbor, Mich.

While the study wasn't a randomized, clinical trial—the gold standard in guiding [clinical practice](#)—findings are based on real-world evidence that can help guide screening decisions for patients weighing individual risks and benefits. "If someone had a strong family history of prostate cancer or other risk factors and wanted to reduce their risk of metastatic prostate cancer, these findings might support the decision to screen," said Dr. Bryant.

To-date, the two largest studies of prostate cancer screening—both randomized controlled trials—offered conflicting evidence on the risks and benefits of prostate specific antigen (PSA) testing, with one study suggesting that PSA screening reduces risk of metastatic prostate cancer and prostate cancer death, and another showing no benefit.

Since 2008, the conflicting data and corresponding changes in clinical practice guidelines led to a drop in PSA screening rates across the country, followed by a rise in metastatic prostate cancer incidence. However, there is currently no evidence linking the two trends.

"Conflicting research results understandably have led to reasonable

variations in screening patterns," said Dr. Bryant. "Physicians have very different feelings on the risks and benefits of prostate cancer screening. Some physicians feel the benefits of screening far outweigh the risks of false positives. Others, however, do not."

"Given the ambiguous clinical trial data about the efficacy of PSA screening," he continued, "we were hoping to see if we could find an association that suggested screening might be affecting rates of metastatic prostate cancer in the real world."

The team analyzed data from 128 facilities in the VA health system, the largest integrated healthcare system in the U.S. In 2005, at the start of the study, there were 4.7 million men in the cohort. By the end of the study in 2019, the cohort had grown to 5.4 million men.

Researchers analyzed yearly facility- and system-level PSA screening rates; system- and facility-level long-term non-screening rates; and age-adjusted incident rates of metastatic cancer from 2005 to 2019. Cases of metastatic cancer were identified using diagnostic codes and a validated natural language processing algorithm that culled through physician-recorded notes and radiographic reports.

PSA screening rates declined system-wide from 47% in 2005 to 37% in 2019, and this decline was seen across all ages and races. During this same period, long-term non-screening rates—the percentage of patients who missed screenings for three years in a row—increased across the VA healthcare system.

Overall, metastatic prostate cancer incidence rose from 4.6 cases per 100,000 men in 2008 to 7.9 per 100,000 in 2019. The rise was driven by increases in the 55-69 and over-70 age groups.

Facilities with lower yearly screening rates had higher subsequent rates

of metastatic prostate cancer. For each 10% decrease in screening, there was a corresponding 10% increase in metastatic prostate cancer incidence five years later (incidence rate ratio 1.10, 95% confidence interval [CI] 1.04-1.15, p

Citation: Lower prostate cancer screening rates associated with subsequent increase in advanced cancers (2022, October 24) retrieved 19 March 2023 from <https://medicalxpress.com/news/2022-10-prostate-cancer-screening-subsequent-advanced.html>

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