With a New Diagnosis of Prostate Cancer, Where you Live Matters

For men with newly-diagnosed prostate cancer, numerous initial options are available. These include formal treatment options as well as a growing interest in active surveillance, a period of close observation. Studies have shown that utilizing a tissue-based genomic test can provide important insight into whether a localized tumor is slow-growing or aggressive, thus enhancing the ability to offer active surveillance to patients, or to potentially tailor the intensity of treatment. Despite their growing availability, little has been known about how these types of tests have been utilized. Recently, Yale researchers performed a large national study to understand patterns of national utilization of genomic testing.

In a study published by *JAMA Oncology*, Michael Leapman, MD, Assistant Professor of Urology at Yale School of Medicine and Clinical Program Leader of the Prostate & Urologic Cancers Program at Smilow Cancer Hospital, and colleagues explored national trends in the use of prognostic genomic tests. They looked at regional patterns of testing, particularly focusing on regions that shared similar trajectories of testing uptake. With new technologies in cancer care coming available at a rapid pace, the Yale research team sought to understand potential facilitators and barriers to use.

Using data from Blue Cross Blue Shield Axis, the largest source for commercial insurance claims in the United States, claims were reviewed for commercially-available, tissue-based gene expression testing in the six-month period following a new diagnosis of prostate cancer. The researchers used a form of statistical growth modeling to uncover trends in the use of genomic tests and the proportion of tested patients within regions. The primary regional unit used in the study was the Hospital Referral Region (HRR), areas that tend to share distinct referral patterns for complex surgical care.

The study cohort was comprised of 217 qualifying HRRs with more than 90,000 men and an average age of 60 at prostate cancer diagnosis. Dr. Leapman and colleagues found that while there was overall increasing use of tests, there was very striking geographic variation. For example, many HRRs show little to no use of genomic testing while testing was much more common in others. Furthermore, the study revealed geographic regions which adopted genomic testing at faster rates possessed higher education levels, median household incomes, access to prostate cancer resources, and prostate cancer screenings.

"Little was known about how genomic testing was used in routine clinical care," said Dr. Leapman. "While we anticipated higher rates of test utilization over time, we were surprised at the extent of how early use of genomic testing with prostate cancer varied based on region."

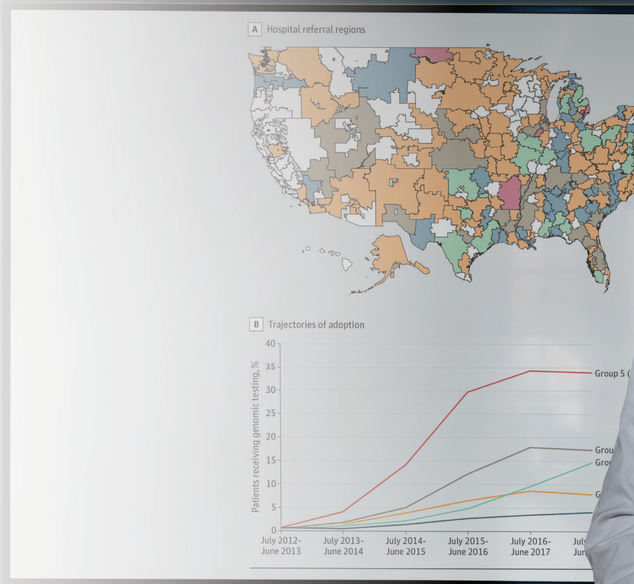
Study findings also cast light on a reluctance to accept new technologies in cancer care. In the first year of claim data (July 2012 through June 2013), researchers found minimal baseline use of genomic testing—0.8%, but adoption of this testing increased to 11.3% by the end of the five-year study period (July 2017 through June 2018).

The researchers hypothesized that use of gene expression testing could be driven by multiple factors such as stronger preferences for emerging technologies by some providers and regions, greater patient interest, or industry involvement and marketing.

It remains to be seen whether utilizing gene expression testing has an impact on a patient's health outcome, an angle not explored in this first review of claim data. Correlating evidence in their findings also showed that the high usage of testing was found in regions of advanced education and high income, leading to speculation of an emerging economic barrier, another subset of data that warrants further investigation.

"Ultimately, these findings can sharpen our broader clinical focus on ensuring that prognostic testing is used in patients who stand to benefit from their results," Dr. Leapman added.

"Some regions had minimal or no use of genomic testing, while others had high levels of use, implying that decisions to test are highly discretionary," said Dr. Leapman. "In addition, there were groups of geographically unrelated regions that shared a similar pace of growth over time. These findings raise questions about shared factors that might promote rapid uptake of new cancer technologies."



Michael Leapman, MD