The practice of active surveillance for prostate cancer: trends, variation, and quality within a large national health system

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Background
Active surveillance (AS) is broadly endorsed as preferred management for favorable risk prostate cancer, but little guidance exists regarding the practice of AS after diagnosis. Furthermore, few data exist regarding variation and potential disparity in use of AS interventions. The objective of this manuscript is to characterize the practice of AS broadly and deeply in the national VA Health Care System.

Methods
The cohort consists of patients listed in the VA Informatics and Computing Infrastructure (VINCI) Prostate Data Core, which consists of patients with an entry in the VA Cancer Registry System (VACRS) with prostate as their primary site of tumor or with a relevant procedure or diagnosis code recorded in the VA Corporate Data Warehouse (CDW). Radiology reports for MRIs and pathology reports for biopsies administered between 2006 and 2025 were obtained for male prostate cancer patients and natural language processing (NLP) was performed to identify Gleason grade groups. We limited the cohort to patients with Gleason Grade Group (GG) 1 or GG 2 prostate cancer at diagnostic biopsy (DBx). We determined use of AS or watchful waiting, use of MRI before both DBx and confirmatory biopsy (CBx), defined as the next biopsy following DBx.

Results
In total, there were 103,873 patients diagnosed with GG 1 (53.1%) or GG 2 (42.9%) prostate cancer between 2006 and 2024. Of these patients, 40,809 (38%) were managed with AS/WW for at least a year after diagnosis (54.1% of GG1 and 21.8% of G2 patients), rising from 21% in 2006 to 46% in 2023. For GG1 and GG2 these rates rose from 25% to 67% and 12% to 30%, respectively. 26,059 (25.1%) received a CBx at any time following DBx. Only 24% of AS patients received CBx within 15 months of diagnosis, and this rate did not increase substantially over time. MRI-guided biopsy is a more recent phenomenon, with a constant increase in the number of patients receiving an MRI within the year prior to biopsy. From 2015 to 2025, MRI-guided biopsy increased from 0.8% to 33.5% for DBx and from 4.3% to 38.0% for CBx. Rates of MRI in the year prior to biopsy were similar for both GG1 and GG2 diagnoses.

Conclusion
Use of AS for prostate cancer is high and rising in the VA system, among both GG1 and GG2 patients. However, adequacy of surveillance is a concern; MRI remains relatively infrequently used before biopsy, and rates of CBx are low. We aim next to define durability of surveillance and conversion to active treatment, and to explore variation by geography and across sociodemographic groups.

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Conflicts of Interest Disclosure Statement
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