

# Real-World Insights Into Prostate Cancer Management Using Electronic Health Record-Derived Data From the UK

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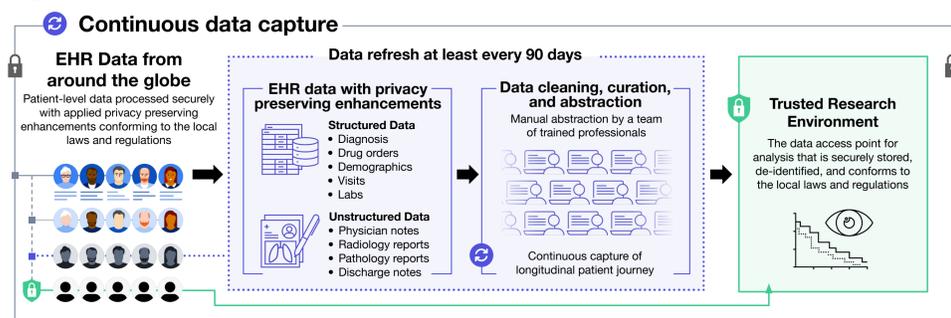
## Background

- Prostate cancer is one of the most prevalent cancers among men, and understanding patient experiences through high-quality datasets can guide improvements in care and treatment outcomes
- We aimed to describe the comprehensive, deidentified patient-level data in Flatiron Health Research Database, derived from electronic health records (EHRs) of patients with prostate cancer in the UK, with a focus on patient demographics, clinical characteristics, treatments, and outcomes

## Methods

- Data source:** This study used the UK Flatiron Health Research Database, a nationwide, longitudinal, EHR-derived, deidentified database, comprising patient-level data from a range of National Health Service (NHS) clinics. The data are curated using a combination of technology-enabled abstraction and manual review (**Figure 1**)<sup>1,2,3</sup>
- Setting:** Individuals diagnosed with prostate cancer (all stages) between January 1, 2011 and June 30, 2025 (n = 3545)
- Outcomes:** Descriptive analysis of patient characteristics (demographics, biomarker testing rates, treatment patterns) and survival analysis using Kaplan-Meier methods

**Figure 1. Overview of the Process for EHR-Derived Real-World Data Curation**



## Results

- Cohort:** Out of 3545 patients, 905 (26%) were metastatic. Of these, 685 (85%) were metastatic at diagnosis and 125 (15%) progressed to metastasis during follow-up. 305 patients had Castration-Resistant Prostate Cancer (CRPC) and underwent treatment
- Completeness:** Prostate cancer-specific variables had high completeness, with 97% and 94% of patients having documented Gleason score and PSA at diagnosis, respectively. 60 (2%) patients were tested for *BRCA* mutations. The completeness increased in more advanced and treated patients (**Table 1**)
- Treatment regimen:** 110 (36%) patients had first-line therapy (1L) with drugs other than LHRHa or 1st-generation anti-androgens (**Figure 2**). Among these, the most common 1L regimens were enzalutamide, abiraterone, and docetaxel
- Outcomes:** Median overall survival from initial diagnosis was 9.8 years (95% confidence interval 9.3-10.3). Survival was lower in patients with more advanced disease stage and higher Gleason score (**Figure 3**)

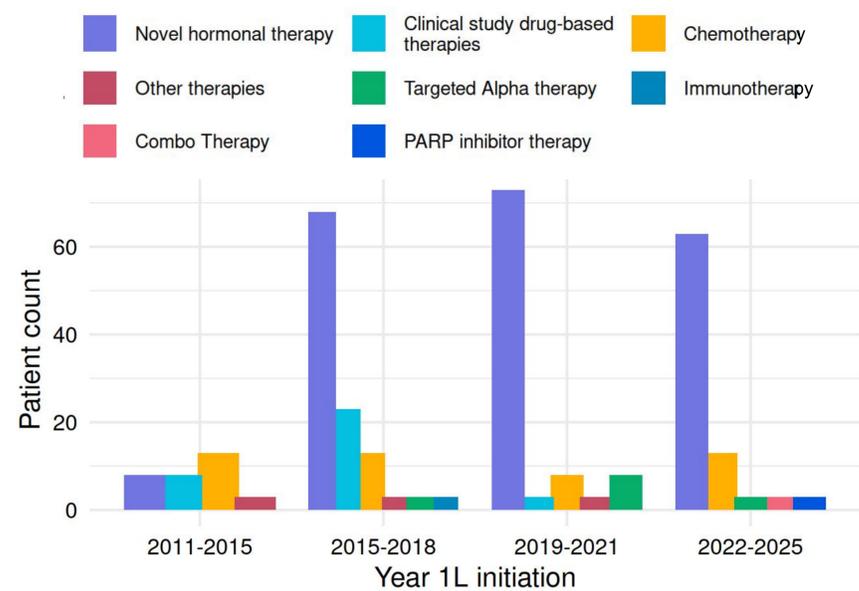
**Table 1. Characteristics of Patients Included in the Study**

Characteristics	Overall cohort (n = 3545)	Metastatic cohort (n = 905)	Treated CRPC cohort (n = 305)
Age, median (IQR), y	69 (64, 74)	71 (65, 76)	68 (63, 72)
Group stage, No. (%)			
Stage I	315 (13)	5 (1)	5 (1)
Stage II	135 (6)	5 (1)	5 (1)
Stage III	965 (41)	115 (14)	45 (16)
Stage IV	935 (40)	685 (85)	235 (81)
Unknown	1185	95	25
CRPC disease, No. (%)			
Yes	515 (21)	455 (58)	305 (100)
No	1995 (79)	335 (42)	0 (0)
PSA recorded, No. (%)			
Yes	3325 (94)	865 (96)	305 (98)
No	225 (6)	35 (4)	5 (2)
Gleason score, No. (%)			
≤6	605 (18)	15 (2)	5 (2)
7	1605 (47)	195 (24)	55 (20)
8	325 (9)	105 (13)	35 (13)
9	805 (23)	425 (52)	155 (56)
10	105 (3)	85 (10)	25 (9)

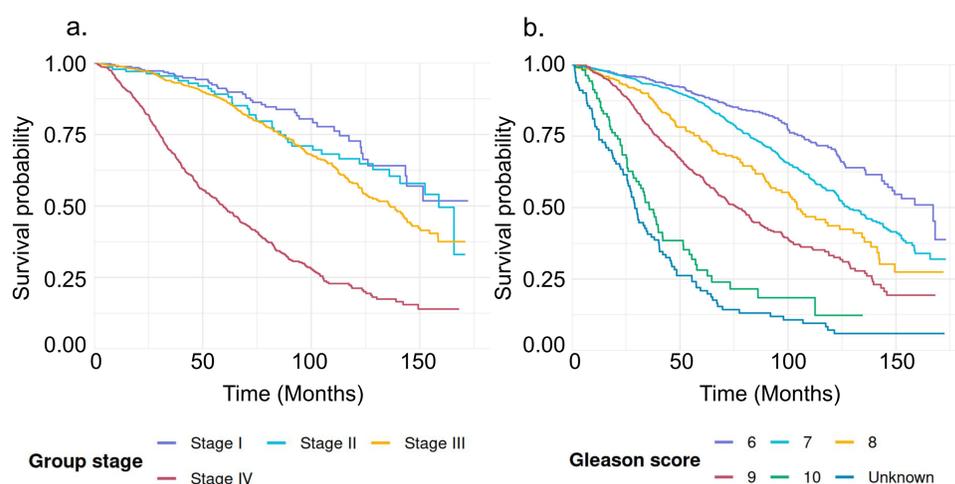
IQR, interquartile range; PSA, prostate-specific antigen  
Counts were masked for privacy by midpoint-10 rounding and recalculating proportions

## Results (continued)

**Figure 2. Market Share of Treatment Regimens in 1L Therapy for Castration-Resistant Prostate Cancer Across Study Years**



**Figure 3. Overall Survival from Initial Diagnosis Date by Group Stage and Gleason Score**



This novel UK EHR-derived prostate cancer dataset provides **valuable real-world evidence to inform treatment decisions** and health assessments

## Future Directions

- Future research should focus on long-term follow-up to understand how various treatments affect survival, recurrence, and patient quality of life over extended periods, thereby contributing to personalised care in the UK
- Expand research to include additional global datasets, facilitating broader cross-national comparisons and helping identify universal treatment strategies that can be adapted to different healthcare systems

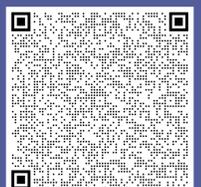
## References

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