

Trends in treatment patterns and outcomes among patients with metastatic androgen pathway modulation–resistant prostate cancer (mAPMR) in real-world clinical practice: a PRECISION data platform analysis

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Background

The treatment landscape for mAPMR (also known as metastatic castration-resistant prostate cancer [mCRPC]) has changed dramatically in recent years, with the approval of newer therapies including ¹⁷⁷Lu-PSMA-617 and earlier use of androgen receptor pathway inhibitors (ARPIs). The aim of this study was to characterize the impact of these changes on real-world treatment patterns and outcomes for patients with mAPMR across care settings.

Methods

Data from the PRECISION data platform, a harmonized dataset of patients with advanced prostate cancer in the United States, were used to identify men diagnosed with mAPMR between 01/01/2021 and 12/31/2025 (date of mAPMR diagnosis = index date). Patient characteristics and treatment patterns were assessed descriptively, overall and by index year, to characterize trends. Kaplan-Meier methods were used to estimate progression-free survival (PFS) and overall survival (OS), measured from the index date and initiation of each line of therapy (LOT).

Results

A total of 16,737 patients were included. Median age was 75 years, 64% were White and 14% Black, and 71% were treated in urology settings at index (58% of these had evidence of referral to oncology settings during the study). Prior to mAPMR diagnosis, 60% of patients received ≥1 ARPI and 11% received ≥1 taxane; both proportions increased by index year. Overall, 25% of patients had no evidence of initiating any systemic therapy for mAPMR. Among patients who initiated first-line therapy, 49% did not receive a subsequent LOT. Proportions declined sharply across subsequent lines: only 44% of second-line patients received a third-line therapy, 42% of third-line patients received a fourth-line therapy, and 39% of fourth-line patients received a fifth-line therapy. ARPIs were the most common treatment at every LOT (**Figure 1**), followed by taxanes and sipuleucel-T. However, utilization of newer treatments, such as ¹⁷⁷Lu-PSMA-617, increased over time, with a trend toward use in earlier LOTs in more recent years, following label expansion. Median PFS from LOT initiation decreased from 19 months for first-line therapy to 13 months for third-line therapy, with corresponding median OS decreasing from 35 months to 32 months.

Conclusions

The treatment landscape for mAPMR is evolving, yet this real-world study suggests that many patients are still not optimally treated: most receive 0-1 LOT. Those treated with an ARPI mostly receive a subsequent ARPI rather than different cytotoxic modalities. Nonetheless, longer median PFS

and OS compared with earlier real-world studies suggest that growing use of newer therapies such as ¹⁷⁷Lu-PSMA-617 may improve outcomes. Overall, these findings suggest that many patients with mAPMR remain undertreated and may benefit from earlier use of newer therapies as well as increased availability of novel therapies.

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Conflicts of interest disclosure statement

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Figure. Treatment switching across first-line to fifth-line therapy post-mAPMR diagnosis.

