CLINICAL COMPANION & SAMPLE REPORT

Curated Clinical Case and Sample Report

How the Prostate Cancer Estimation and Mapping report adds clinical value.

A short physician-facing companion to a single demonstration case — followed by the Prostate Cancer Mapping and Therapeutic Margin Report as the appended sample exhibit.

DOCUMENT
CCR-CEM-002

ISSUED
April 2026

PAGES
9 (incl. 5-page sample report)

01 / WHY THIS CASE · CLINICAL SUMMARY

A dominant MRI-visible lesion — with multifocal, bilateral findings beyond it.

A 68-year-old man with biopsy-confirmed localized prostate cancer being evaluated for treatment options. Multiparametric MRI demonstrates a dominant lesion in the left mid-gland transition zone; targeted biopsy confirms disease within that lesion field; systematic biopsy and integrated fine-needle aspiration findings identify additional disease beyond it. Read together, the inputs describe multifocal, bilateral disease rather than a single isolated focus — the situation the Prostate Cancer Estimation and Mapping report is designed for.

The report consolidates AI-assisted lesion localization, sector-level estimation, pathology correlation, and therapeutic margin assessment into a single mapped read — framing the focal-therapy versus expanded-treatment-field question on one artifact.

AGE	PSA	STAGE	MRI	GLEASON
68 yr	9.4 ng/mL	T2a	PI-RADS 4	7 (3+4)

Dominant lesion

MRI-visible dominant lesion mapped to the left mid-gland transition zone (LM-TZp / LM-TZa), with concordant targeted biopsy and ROI-based integrated FNA findings.

Systematic biopsy outside the lesion field

Non-benign findings in 3 systematic sectors beyond the dominant lesion (Rt Per Med Apex, Rt Per Lat Apex, Lt Ant Horn Apex), supporting multifocal and bilateral disease.

Integrated FNA in additional sectors

FNA provides supportive evidence in non-targeted sectors — including molecular support for disease despite benign cytology, plus atypical and suspicious findings warranting map correlation.

Question for the report

Frame focal therapy candidacy versus an expanded treatment field, given multifocal and bilateral disease distribution and a defined therapeutic margin.

DEMONSTRATION NOTE

This document is a demonstration sample for educational purposes. Patient, physician, accession, and institutional identifiers in the appended report have been fictionalized for publication and teaching use. The appended report is not an issued clinical document.

02 / WHY THIS REPORT ADDS VALUE · HOW TO READ IT

From a dominant lesion to a mapped, margin-aware view of the whole gland.

A dominant MRI-visible lesion with targeted biopsy confirmation can, on its own, suggest a focal therapy pathway. Once systematic biopsy findings outside that lesion field and integrated FNA support in additional sectors are layered in, the picture often shifts toward multifocal or bilateral disease — with direct implications for whether a focal approach is appropriate, whether hemi-ablation is feasible, or whether a broader treatment field is the more defensible plan.

WHY IT ADDS VALUE

Confirms the dominant lesion in context

Targeted biopsy and ROI-based integrated FNA confirm disease within the LM-TZp / LM-TZa lesion field, anchored on the lesion-level map.

Surfaces disease beyond the dominant lesion

Systematic biopsy findings in non-dominant sectors, plus integrated FNA support in additional sectors, are read alongside the dominant lesion rather than as separate documents.

Makes multifocal, bilateral distribution legible

The map encodes findings on both sides of the gland, including molecular support despite benign cytology and atypical or suspicious findings warranting correlation.

Frames the candidacy question

The therapeutic margin layer frames focal therapy candidacy versus an expanded treatment field on a single artifact, supporting margin-aware planning rather than retrospective reconciliation.

HOW TO READ THE APPENDED REPORT

Start with the lesion-level map

Confirm the dominant lesion's sector assignment (LM-TZp / LM-TZa) and the targeted-biopsy correlation that anchors it.

Read sector-level estimation across the gland

This is where systematic biopsy findings outside the dominant lesion field, and integrated FNA support in additional sectors, change the spatial picture.

Note the multifocal, bilateral distribution

The map is designed to make distribution immediately legible — rather than reconstructed from separate biopsy, FNA, and imaging documents.

Review the therapeutic margin assessment

Use this layer to frame the focal-therapy versus expanded-treatment-field question — including hemi-ablation feasibility where relevant — and close with the integrated summary.

QUICK KEY FOR THIS CASE

Dominant lesion
LM-TZp / LM-TZa, targeted-biopsy positive, confirmed.

Beyond the dominant lesion
Additional systematic + FNA findings in non-targeted sectors.

Distribution
Multifocal · bilateral · expanded field considered.

APPENDIX · PAGES 05 – 09

Sample Prostate Cancer Mapping and Therapeutic Margin Report

Demonstration exhibit for educational purposes.

The following pages reproduce a representative report as it would be delivered to the treating clinician. Patient, physician, accession, and institutional identifiers have been fictionalized for publication and teaching use.

BioVantra

Prostate Cancer Mapping and Therapeutic Margin Report

Integrated Imaging, Pathology, and AI-Assisted Margin Assessment

PATIENT DETAILS

PATIENT	PHYSICIAN	CLINICAL & IMAGING	PATHOLOGY
Name: **Bennett, Michael R**	Name: **Andrew Collins, M.D.**	PSA: **9.4 (3/3/2026)**	Biopsy: **TP Fusion (4/8/2026)**
DOB (Age): **3/14/1958 (68y)**	Clinic: **Urology Associates**	Clinical Tumor Stage: **T2a**	Accession No: **BV-26-000875**
Patient ID: **MB25031467**	Add'l Recip.: **Sarah Whitman, M.D.**	MRI: **PI-RADS 4 (2/18/2026)**	Gleason Score: **7 (3+4), GG2**
Diagnosis: **C61**		Prostate Volume: **67.9**	NCCN Risk: **Unfavorable Int**

CANCER MAPPING AND THERAPEUTIC SUMMARY

Cancer mapping identifies a dominant lesion involving the LM-TZp and LM-TZa sectors, supported by concordant targeted biopsy and integrated FNA findings. Additional systematic biopsy and FNA findings support multifocal and bilateral disease, favoring an expanded treatment field rather than a strictly focal target volume.

CLINICAL CORRELATION AND MANAGEMENT CONTEXT

Targeted biopsy and ROI-based integrated FNA findings are concordant with the dominant mapped lesion involving the LM-TZp and LM-TZa sectors. Systematic biopsy identifies additional adenocarcinoma outside the dominant lesion field, while integrated FNA further supports disease beyond the dominant target through molecularly supported involvement in non-targeted sectors and atypical or suspicious findings elsewhere in the gland. Taken together, these findings support multifocal and bilateral disease distribution rather than disease confined to a single focal target. In the context of focal therapy planning, treatment margin selection should account for disease beyond the dominant lesion complex, and an expanded treatment field may be more appropriate than a strictly focal ablation zone.

BioVantra

Patient: Bennett, Michael R

DOB: 3/14/1958

Prostate Cancer Mapping and Therapeutic Margin Report

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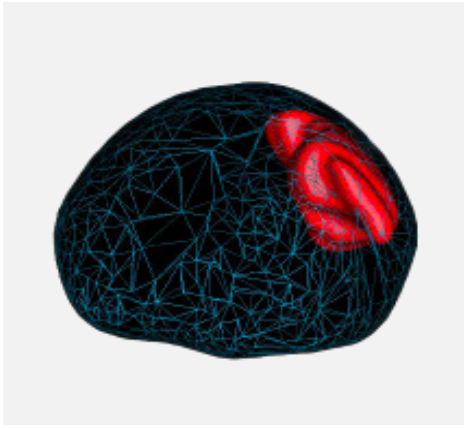
LESION ONE

3D Tumor Location

Axial

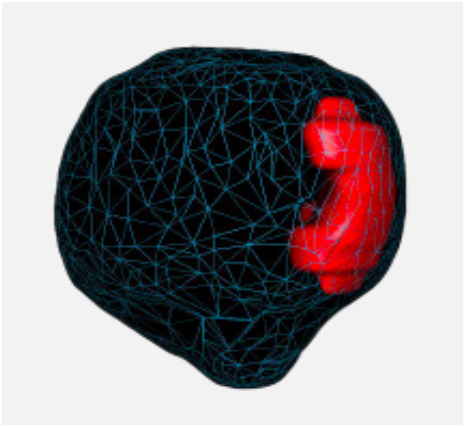
Right Anterior Left



Posterior

Coronal

Right Base Left

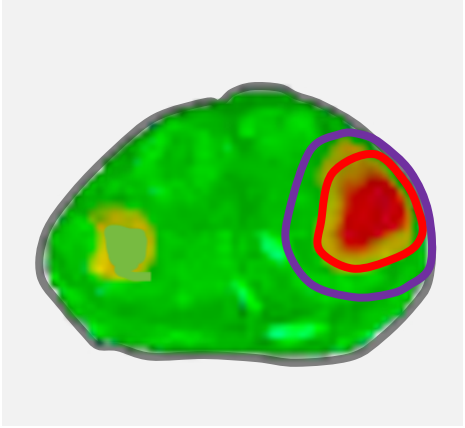


Apex

2D Therapeutic Margin

T2W

Right Anterior Left



Posterior

Level of Suspicion (LOS): 5	Tumor Dimensions:	Prostate Capsule
ProstatID: 86.4	1.6 cm (TV) x 2.2 cm (AP) x 2.6 cm (L)	Tumor Margin
Primary Sector: LM-TZp	Tumor Volume: 3.25 cc	Therapeutic Margin (10 mm)
Additional Sector(s): LM-TZa	Tumor Volume Percentage: 8.0%	

Pathology Confirmation

Parameter	Details
Sector(s) Sampled:	Lt Ant Med Apex
Sector(s) Positive for Adenocarcinoma:	Lt Ant Med Apex
Highest Grade Group:	7 (3+4), GG2 with 20% Pattern 4
% Involvement Length:	40%
% Involvement Area:	10%
Maximum Diameter:	4.8 mm
Perineural Invasion (PNI) Status:	Perineural invasion not identified in sampled cores
Extraprostatic Extension (EPE) Status:	Not identified in sampled cores
Artera AI Risk Assessment:	Low Risk
Genomic Prostate Score:	39 (Intermediate Risk)
Decipher Prostate Score:	0.40 (Low Risk)

Prostate Cancer Mapping and Therapeutic Margin Report

Integrated Imaging, Pathology, and AI-Assisted Margin Assessment

SYSTEMATIC BIOPSIES

Systematic biopsy sampling included 15 sectors, with non-benign findings identified in 3 sectors, including Rt Per Med Apex, Rt Per Lat Apex, and Lt Ant Horn Apex.

Sector / Site	Finding	Grade	Extent	Mapping Significance
Rt Per Med Apex	ASAP			Correlate with lesion map
Rt Per Lat Apex	Adenocarcinoma	GG1 (3+3)	5% / 1.8 mm	Supports bilateral disease
Lt Ant Horn Apex	Adenocarcinoma	GG2 (3+4)	30% / 2.0 mm	Supports multifocal disease

Remaining systematic sectors were negative for adenocarcinoma and did not identify additional mapped disease.

Interpretation: Systematic biopsy findings support multifocal and bilateral disease distribution, which should be considered in therapeutic margin planning.

FINE NEEDLE ASPIRATIONS

Systematic prostate fine needle aspiration sampling included 8 sectors, with integrated diagnosis, cytology, TMPRSS2-ERG, and genomic complexity assessment summarized below.

Site	Integrated Dx	Cytology	TMPRSS2-ERG	GCS
Rt Per Med	PCa	Benign	2+Esplit	51.5 (Moderate Risk)
Rt Per Lat	PCa	Benign	CNI	68.2 (Moderate Risk)
Rt Ant Horn	Benign	Benign	Negative	0.0 (Low Risk)
Rt Ant Med	Benign	Benign	Esplit	16.7 (Low Risk)
Lt Per Med	Suspicious	Suspicious	CNI	53.0 (Moderate Risk)
Lt Per Lat	Atypical	Atypical	Negative	0.0 (Low Risk)
Lt Ant Horn ROI	PCa	PCa G1/3	CNI	50.0 (Moderate Risk)
LT Ant Med ROI	PCa	PCa G2/3	CNI	100.0 (High Risk)

Interpretation: Integrated FNA findings support multifocal and molecularly heterogeneous disease, with malignant involvement identified in Rt Per Med, Rt Per Lat, Lt Ant Horn ROI, and LT Ant Med ROI, molecular support for disease despite benign cytology in Rt Per Med and Rt Per Lat, and additional atypical or suspicious findings in Lt Per Med and Lt Per Lat that warrant correlation with the lesion map and biopsy results.

Prostate Cancer Mapping and Therapeutic Margin Report

Integrated Imaging, Pathology, and AI-Assisted Margin Assessment

Test Description and Clinical Significance

This report integrates prostate imaging, tissue-based pathology, and AI-assisted spatial analysis to support prostate cancer localization, cancer estimation mapping, and therapeutic margin assessment in patients undergoing diagnostic evaluation or treatment planning. Its purpose is not only to document whether adenocarcinoma is present, but also to characterize where clinically significant disease is located within the gland, how imaging and pathology correlate, and how the mapped distribution may inform focal treatment planning or broader management considerations.

The imaging component incorporates multiparametric prostate MRI interpreted within contemporary prostate imaging standards, together with AI-assisted lesion detection and volumetric mapping when available. These tools support lesion localization, sector assignment, lesion dimension estimation, three-dimensional visualization of suspicious intraprostatic foci, and estimation of disease extent beyond the visually dominant lesion. AI-assisted prostate MRI analysis may improve mapping precision and diagnostic confidence when interpreted in conjunction with tissue-confirmed findings.

The pathology component incorporates targeted biopsy findings, systematic biopsy findings, and fine-needle aspiration findings when available. These tissue-based data provide histologic or cytologic confirmation of malignancy, define grade and extent, and help determine whether imaging-defined abnormality is concordant with sampled tumor, under-sampled, or more extensive than initially appreciated. In this way, pathology functions not merely as a confirmatory endpoint, but as an essential component of whole-gland cancer mapping.

A central aim of the report is therapeutic margin assessment. Because prostate cancer may extend beyond the dominant MRI-visible lesion, focal treatment planning depends on more than lesion detection alone. Published focal therapy literature supports the importance of careful treatment-margin design, often in the range of approximately 8 to 10 mm, to account for intraprostatic tumor spread beyond the visible lesion boundary. The therapeutic margin model presented in this report is intended to provide a structured visual and interpretive framework for assessing lesion containment, adjacent sector risk, and treatment-field planning.

This report is designed to support clinical decision-making in cases where lesion localization, disease extent, and margin adequacy materially affect management. Depending on the mapped pattern of disease, the findings may support focal treatment planning, cautious consideration of hemi-ablation, or broader treatment approaches when multifocality, bilateral involvement, or adjacent-sector extension are identified. The report should therefore be interpreted as an integrated clinical mapping and margin-assessment tool rather than as a stand-alone imaging summary or pathology report.

Interpretation should be made in conjunction with PSA-related parameters, imaging findings, biopsy method, histopathologic and cytologic results, genomic or risk-stratification tools when available, and the overall clinical context. Limitations may include lesion under-sampling, imaging resolution constraints, variability in tumor contour estimation, and the inability of any single modality to fully define microscopic tumor extent in all cases. For that reason, the greatest clinical value is achieved when imaging, pathology, and AI-assisted mapping are interpreted together.

Selected References

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Prostate Cancer Mapping and Therapeutic Margin Report

Integrated Imaging, Pathology, and AI-Assisted Margin Assessment

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COLLEGE of AMERICAN PATHOLOGISTS

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Laboratory Director *Date*

This test was developed and its performance characteristics were determined by BioVantra. It has not been cleared or approved by the U.S. Food and Drug Administration. The FDA has determined that such clearance or approval is not necessary for clinical use. This laboratory is certified under the Clinical Laboratory Improvement Amendments of 1988 (CLIA) to perform high-complexity testing. CLIA ID No. 10D1087213; CAP No. 7214934.