

Supplemental table 1. Descriptive characteristics of prostate cancer quality measures

Measures	Proposed by
Structure	
The proportion of patients treated by a high volume (upper tertile) provider (surgeon or radiation oncologist)	RAND
Availability of radiation oncology facilities and psychological counselling for patients	RAND
Broad certification of urologists and radiation oncologists	RAND
Information about outcomes for patients treated by an institution	RAND
Evidence of institutional adherence to practice protocol for the college of American Pathologists for management of pathology specimen	RAND
Process	
DRE (Digital Rectal Examination)	RAND
At least 10 core-needle samples taken at time of prostate biopsy	ERSPC
PSA (Prostate Specific Antigen) level documented	RAND
Clinical T stage documented	PQRI
Assessing the stage of the disease before the treatment/pre-treatment clinical staging with DRE, total PSA, Gleason Grade	RAND
Assessment of the family history of prostate cancer	RAND
Comorbidity assessment	RAND
Bone scan done in high-risk patients	NCCN
CT Scan done in high-risk patients	NCCN
Avoidance of Overuse Measure- Bone scan for Staging Low-Risk Patients	AMA
Avoidance of Overuse Measure- CT scan for Staging Low-Risk Patients	PCP
A clear description of the risk of treatment complications	RAND
Gleason score reported to patient	RAND
Patient's assessment of urinary, sexual, and bowel functioning before treatment	RAND
Percentage of high risk patients receiving lymphadenectomy	AQUA
Measuring the amount of blood loss during a radical prostatectomy	RAND
Appropriate antibiotic use and discontinuation	AQUA

Appropriate thromboprophylaxis rates	AQUA
Use of adjuvant ADT before brachytherapy	AQUA
DEXA Scan for men starting \geq 12 months of ADT	AQUA
Document cholesterol and /or glucose levels before starting ADT \geq 12 months and again with 12 months after starting	AQUA
Percent use of active surveillance for very low-risk patients	AQUA
Document \geq 2 PSAx within one year following treatment or initiation of active surveillance	AQUA
Number of chemotherapy cycles documented	QOPI
Treatment Summary communication	AMA
Effectiveness of narcotic assessed on visit following prescription	QOPI
Chemotherapy intent (curative vs palliative documented before or within two weeks after administration)	QOPI
Chemotherapy intent discussion with patient documented	QOPI
Use of white cell stimulating factors when the risk of febrile neutropenia for patients is less than 20%	QOPI
Signed patient consent for chemotherapy	QOPI
Patient consent documentation in practitioner note	QOPI
Chemotherapy treatment summary completed within 3 months of chemotherapy end	QOPI
Chemotherapy treatment provided to patient within 3 months of chemotherapy end	QOPI
Chemotherapy treatment summary provided or communicated to practitioner(s) within 3 months of chemotherapy end	QOPI
Cigarette smoking status documented by second office visit (Smoking status/tobacco use documented in past year from QOPI)	QOPI
Smoking cessation counselling recommended to cigarette smokers by 2nd office visit	QOPI
Action taken to address problems with emotional well-being by the second office visit	QOPI
Rate of acute surgical complications	RAND
Using computerized tomography to plan treatment for radiation therapy	RAND
Immobilizing the patient during treatment while protecting rectal mucosa	RAND
Radical Prostatectomy Pathology Reporting	CAP

Androgen deprivation therapy (ADT)/adjuvant hormonal therapy for High Risk Prostate Cancer Patients	AMA
Docetaxel-based chemotherapy for castration-resistant, metastatic prostate cancer	Trials (SWOG-99-16 ¹ and TAX-327 ²)
Received radiation therapy (RT) within 30 days of death	ASTRO
Conformal radiation utilized for patients receiving XRT	AQUA
Following with the patient at least twice during the first year treatment	RAND
Surgery performed under epidural anesthesia after retro pubic prostatectomy	N/A
Received chemotherapy in the last 14 days of life	RAND
3-D CRT or IMRT for prostate cancer patients treated with EBRT	D'Amico et al. 1998 ³
Use of high energy photon (> 10 mV) Photons	D'Amico et al. 1998 ³
Central axis doses of at least 75 Gy for radiotherapy	D'Amico et al. 1998 ³
Prescription of narcotic pain medication for advanced cancer patients in pain	N/A
Communicating with the patient's primary care physician to ensure continuing care	RAND
Plan of care for moderate/severe pain documented	QOPI
Pain assessed by second office visit	QOPI
Constipation assessed at time of narcotic prescription or following visit	QOPI
Patient emotional well-being assessed by the second office visit	QOPI
PSA monitoring after treatment	ASCO, AQUA
DRE monitoring in active surveillance	AQUA
Repeat biopsy in 18 months in active surveillance	AQUA
Use of active surveillance, watchful waiting for low-risk prostate cancer	AQUA
Outcome	
Hospitalization or medical or surgical treatment for a variety of serious complications	RAND

Avoided multiple hospital admissions in last 30 days of life	ASCO
Hospice Admissions for Cancer in the Final Days of Life	ASCO
T-stage stratified surgical margin status	AQUA
Patient's assessment of urinary, sexual, and bowel functioning after treatment	RAND
Patients' satisfaction with treatment choice, continence, and potency	RAND

Bibliography to Supplemental table 1:

1. Petrylak DP, Ankerst DP, Jiang CS, Tangen CM et al. Evaluation of prostate-specific antigen declines for surrogacy in patients treated on SWOG 99-16. *J Natl Cancer Inst.* 2006 Apr 19;98(8):516-21.
2. Tannock IF, de Wit R, Berry WR, Horti J et al. Docetaxel plus prednisone or mitoxantrone plus prednisone for advanced prostate cancer. *N Engl J Med.* 2004 Oct 7;351(15):1502-12.
3. D'Amico AV, Whittington R, Malkowicz SB, Schultz D et al. Biochemical outcome after radical prostatectomy, external beam radiation therapy, or interstitial radiation therapy for clinically localized prostate cancer. (1998) *JAMA* 280: 969–974

RAND, RAND Corporation; DRE, digital rectal examination; ERSPC, European Randomized Study of Screening for Prostate Cancer; PSA, prostate-specific antigen; PQRI, Physician Quality Reporting Initiative; NCCN, National Comprehensive Cancer Network; CT, computed tomography; AMA, American Medical Association; PCPI, Physician Consortium for Performance Improvement (AMA-convened PCPI); AQUA, American Urology Association Quality Registry; DEXA, dual-energy x-ray absorptiometry; QOPI, Quality Ontology Initiative; CAP, College of American Pathologists; SWOG, (formerly Southwest Oncology Group); TAX 327, docetaxel study investigators; N/A, not applicable; 3D-CRT, three-dimensional conformal radiation therapy; IMRT, intensity modulated radiation therapy; EBRT, external beam radiation therapy; ASCO, American Society of Clinical Oncology.