| Measure ID | Domain | Measure Title | Measure Description/Definition | Numerator | Denominator | Denominator Exclusions | Denominator Exceptions | Risk- adjustment |
|---------------------|--|--|--|---|---|------------------------|---|---------------------|
| AQUA3 (inverse) | Efficiency and Cost Reduction | Cryptorchidism: Inappropriate use of scrotal/groin ultrasound on boys | Percentage of patients (boys) =< 18 yrs. of age newly diagnosed with undescended testis or retractile testis with an order for ultrasound (scrotal or groin) placed. | Number of patients (boys) =< 18 yrs. of age newly diagnosed with undescended testis or retractile testis with a scrotal or groin ultrasound order placed | Number of patients (boys) =< 18 yrs. of age newly diagnosed with undescended testis or retractile testis | None | 1) Boys with hypospadias or other findings concerning for disorder of sexual differentiation; 2) Boys with bilateral nonpalpable testes; 3) Relative exclusion – obese/overweight boys with nonpalpable testis may benefit from ultrasound to identify an inguinal testis; 4) clinical concern of torsion of undescended testis, or to differentiate UDT from incarcerated hernia or other acute scrotal/inguinal process | No |
| AQUA8 | Patient safety | Hospital re-admissions / complications within 30 days of TRUS Biopsy | Percentage of patients who had TRUS biopsy performed who had ≥24h after the biopsy): infection, hematuria, new antibiotic Rx after biopsy, or inpatient consultation within 30 days | Number of patients with a TRUS biopsy performed that had infection, hematuria, new antibiotic Rx after biopsy, or inpatient consultation within 30 days | Number of patients with a TRUS biopsy performed | None | None | No |
| AQUA12 | Person & Caregiver- Centered Experience Outcomes | Benign Prostate Hyperplasia: IPSS improvement after diagnosis | Percentage of patients with NEW diagnosis of clinically significant BPH who had IPSS (international prostate symptoms score) or AUASS (American urological association symptom score) improvement by ≥20%. | Number of patients with a new diagnosis of benign prostatic hyperplasia (BPH) with a baseline IPSS/AUASS ≥8 (defining at least "moderate" symptoms) who are documented to have an improvement (decrease) in IPSS/AUASS by at least 20% within 12 months of diagnosis. | Number of patients with a new diagnosis of benign prostatic hyperplasia (BPH) and baseline IPSS / AUASS ≥8. | IPSS <8 | None | No |
| AQUA13 | Effective Clinical Care | Stress Urinary Incontinence (SUI): Revision surgery within 12 months of incontinence procedure | Percentage of women who undergo surgery for stress incontinence who require revision surgery within 12 months | Women undergoing revision surgery within 12 months of primary surgery | Women undergoing incontinence surgery (one of 8 classes of procedure defined by CPT codes) | None | None | Yes |
| AQUA14 (inverse) | Efficiency and Cost Reduction | Stones: Repeat Shock Wave Lithotripsy (SWL) within 6 months of treatment | Percentage of patients who underwent endoscopic procedures following SWL | Patients undergoing SWL twice on the ipsilateral side within 6 months | Patients undergoing SWL followed by ipsilateral SWL, ureteroscopy, or percutaneous nephrolithotomy within 6 months | None | None | Yes |
| AQUA15 | Patient Safety | Stones: Urinalysis documented 30 days before surgical stone procedures | Percentage of patients with a documented urinalysis 30 days before surgical stone procedures | Patients with documented urinalysis within 30 days before surgery | Patients undergoing surgical stone procedures (including cystoscopy stent placement, percutaneous nephrostomy tube placement, shock wave lithotripsy, percutaneous nephrolithotomy, and ureteroscopy) | None | None | No |
| AQUA16 | Efficiency and Cost Reduction | Non-Muscle Invasive Bladder Cancer: Repeat Transurethral Resection of Bladder Tumor (TURBT) for T1 disease | Percentage of patients with T1 disease, that had a second TURBT within 6 weeks of the initial TURBT | Patients with T1 disease that had a second TURBT within 6 weeks of the initial TURBT | Patients diagnosed with clinical stage T1 bladder cancer | None | Onset of systemic chemotherapy or radical cystectomy within 3 months of diagnosis | No |

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| AQUA17 | Effective Clinical Care | Non-Muscle Invasive Bladder Cancer: Initiation of BCG within 3 months of diagnosis of high-grade T1 bladder cancer and/or CIS | Percentage of patients who initiate BCG treatment within 3 months of diagnosis of high-grade T1 bladder cancer and/or CIS | Patients starting BCG within 3 months of TURBT | Patients diagnosed with high-grade T1 bladder cancer and/or CIS | None | Onset of systemic chemotherapy or radical cystectomy within 3 months of diagnosis; prior completion of at least 6 weeks BCG | No |
| AQUA18 | Effective Clinical Care | Non-Muscle Invasive Bladder Cancer: Early surveillance cystoscopy within 4 months of initial diagnosis | Percentage of patients who receive surveillance cystoscopy within 4 months of TURBT for bladder cancer | Patients undergoing cystoscopy within 4 months of TURBT | Patients undergoing TURBT for any bladder cancer | None | Onset of systemic chemotherapy or radical cystectomy within 3 months of diagnosis | No |
| AQUA19 | Effective Clinical Care | Diagnosis of Type of Azoospermia and Diagnostic Testing for Obstructive Azoospermia | Percentage of patients who had minimum necessary concepts discussed as part of diagnosis of azoospermia alone, to determine possibility of obstructive versus non-obstructive azoospermia and underwent diagnostic testing for obstructive azoospermia | Patients who had documentation of minimum necessary concepts discussed as part of diagnosis of azoospermia alone, to determine possibility of obstructive vs non obstructive azoospermia and received proper diagnostic testing for obstructive azoospermia. Discussion must include: Normal testicular size, Normal FSH (<8), Normal semen volume and pH, AND Missing vas/beaded vas AND TESTING MUST INCLUDE: FSH AND Semen analysis volume and pH AND Genetic testing AND (one of the following): Open diagnostic testicular biopsies (unilateral) OR Open diagnostic testicular biopsy (bilateral) OR Needle diagnostic testicular aspiration (bilateral) OR Needle diagnostic testicular aspiration (unilateral) OR Biopsy gun diagnostic testicular biopsy (bilateral) OR Biopsy gun diagnostic testicular biopsy (unilateral) OR Epididymal aspiration (unilateral) or bilateral) | All patients with azoospermia | Patients with CF mutation and an absent vas | None | No |
| AQUA20 | Effective Clinical Care | Genetic Testing of the Azoospermic Male | Percentage of patients with non-obstructive azoospermia due to primary testis failure who were offered genetic testing | Patients who were offered genetic testing (karyotype AND y-chromosome microdeletion) | All patients with non-obstructive azoospermia due to testis failure | Documentation of medical reason(s) for not offering genetic testing. Documentation of patient reason(s) for not offering genetic testing | None | No |

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| AQUA21 | Effective Clinical Care | Appropriate Management of Obstructive Azoospermia | Percentage of obstructive azoospermia patients managed appropriately | Patients who were managed by one of the following: Diagnostic biopsy/aspiration alone (only) and refer to male reproductive specialist OR Diagnostic testicular or epididymal aspiration with cryopreservation for IVF use OR Diagnostic testicular biopsy (needle or open) with cryopreservation for IVF use OR Vasal or vaso-epididymal reconstruction when appropriate (ie not CBAVD) OR TURED OR Discuss reconstruction/corrective (ie 4 and 5) vs aspiration/biopsy and cryo for IVF (ie 2 and 3) | All patients with obstructive azoospermia | None | None | No |
| AQUA22 | Effective Clinical Care | Bone imaging and soft tissue imaging at the time of diagnosis of metastatic CPRC | Percentage of patients who receive bone imaging and soft tissue imaging at the time of diagnosis of metastatic CPRC | Patients receiving bone imaging and soft tissue imaging concurrent with diagnosis of metastatic CRPC | Patients with metastatic CRPC | None | None | No |
| AQUA23 | Effective Clinical Care | Blood work for patients receiving abiraterone | Percentage of patients receiving abiraterone who receive monthly blood work and serum transaminases (ALT and AST) and bilirubin levels prior to starting treatment and every two weeks for the first three months of treatment and monthly thereafter | A. Number of patients getting blood work on a monthly basis. B. Number of patients receiving abiraterone whose serum transaminases (ALT and AST) and bilirubin levels were measured prior to starting treatment. C. Number of patients tested for serum transaminases and bilirubin levels every two weeks during the first 3 months of treatment. D. Number of patients receiving abiraterone whose serum transaminases (ALT and AST) and bilirubin levels were measured monthly after month 3 of treatment. E. Overall Perfomance: Number of patients receiving abiraterone who receive monthly blood work and serum transaminases (ALT and AST) and bilirubin levels prior to starting treatment and every two weeks for the first three months of treatment and monthly thereafter | Patients with advanced prostate cancer on abiraterone | None | None | No |
| AQUA24 | Effective Clinical Care | Testosterone and PSA levels checked for CRPC patients | Percentage of patients on hormonal therapy who have their testosterone and PSA levels checked before starting treatment for CRPC | Patients who have their testosterone and PSA levels checked before starting treatment for CRPC | Patients with advanced prostate cancer on hormonal therapy | None | None | No |

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| AQUA25 | Effective Clinical Care | Use of Prednisone for CRPC patients on abiraterone | Percentage of patients who are receiving abiraterone who are also receiving prednisone | Patients receiving prednisone | Patients with advanced prostate cancer on abiraterone | None | None | No No |
| AQUA26 | Efficiency and Cost Reduction | Benign Prostate Hyperplasia Care: Benign Prostate Hyperplasia | Percentage of patients with new diagnosis of BPH who had a creatinine lab order placed or had a CT abdomen, MRI abdomen, ultrasound abdomen ordered or performed. | A. Number of patients with new diagnosis of BPH who had a creatinine lab order placed B. Number of patients with new diagnosis of BPH who had a CT abdomen, MRI abdomen, ultrasound abdomen ordered or performed C. Overall Average Performance - Number of patients with new diagnosis of BPH who had either a creatinine lab order placed or had a CT abdomen, MRI abdomen, ultrasound abdomen ordered or performed | Number of patients with a new diagnosis of benign prostatic hyperplasia(BPH) | None | Patients with known renal insufficiency (Cr >1.5 or documented in past medical history) or with documented flank pain or hematuria | No |
| AQUA27 | Effective Clinical Care | Appropriate Testing for Vasectomy Patients | Percentage of patients where a Post Vasectomy Semen Analysis (PVSA) was ordered and confirmed sterility within 6 months of undergoing a vasectomy | Patients with an order for a PVSA 6 months after a vasectomy and confirmed sterility (fresh uncentrifuged semen sample performed) | All patients undergoing a vasectomy | None | None | No |
| AQUA28 | Effective Clinical Care | Hypogonadism: Testosterone and hematocrit within 6 months of starting testosterone replacement | Percentage of patients with hypogonadism, starting testosterone medication (any formulation of testosterone) or rec'd testosterone injection in clinic have testosterone level ordered and hematocrit ordered/reported within 6 months of first testosterone Rx or injection | Number of patients with a diagnosis of hypogonadism receiving testosterone replacement (medication or injection) with a testosterone level test and hematocrit ordered/reported within 6 months of first testosterone Rx or infection | Number of patients with a diagnosis of hypogonadism receiving testosterone replacement (medication or injection) | None | None | No |
| AQUA29 | Person & Caregiver- Centered Experience Outcomes | Prostate Cancer: Patient report of Urinary function after treatment | Percentage of patients who had a reported urinary function score at 12 months after treatment that is within 80% of the reported urinary function score at baseline (before treatment) | Men completing EPIC-26 urinary function domain who had a reported urinary function score within 80% of the reported urinary function score at baseline (before treatment) | All newly diagnosed prostate cancer patients | None | None | Yes |
| AQUA30 | Person & Caregiver- Centered Experience Outcomes | Prostate Cancer: Patient report of Sexual function after treatment | Percentage of patients who had a reported sexual function score at 24 months after treatment that is within 60% of the reported sexual function score at baseline (before treatment) | Men completing EPIC-26 sexual function domain who had a reported sexual function score within 60% of the reported sexual function score at baseline (before treatment) | All newly diagnosed prostate cancer patients | None | None | Yes |

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|---------------|----------------------------|--|---|---|---|--|------------------------|-----------------|
| MUSIC 4 | Effective Clinical Care | Prostate Cancer: Active surveillance / watchful waiting for low-risk prostate cancer | Percentage of patients with low-risk prostate cancer receiving active surveillance or watchful waiting | Number of low-risk prostate cancer patients on active surveillance or watchful waiting | Number of low-risk prostate cancer patients 30 years or older | Prostate cancer patients < 30 years of age; patients that have had prior treatment for prostate cancer | None | No |
| MUSIC10 | Effective Clinical Care | Prostate Cancer: Confirmation Testing in low risk AS eligible patients | Percentage of low risk patients that are eligible for active surveillance who receive confirmation testing within 6 months of diagnosis | # of patients that underwent a second biopsy, MRI, or genomics test within 6 months after date of diagnosis (positive biopsy date) | # of patients aged 30 or older with new diagnosis of low and low-intermediate prostate cancer (Gleason 6 or low volume Gleason 3+4) | Prostate cancer patients < 30 years of age; Patients that have had prior treatment for prostate cancer; Patients on watchful waiting | None | No |
| MUSIC11 | Effective Clinical Care | Prostate Cancer: Follow-Up Testing for patients on active surveillance for at least 30 months | Percentage of patients on active surveillance that have ≥ 2 tumor burden reassessments and 3 PSA tests in first 30 months since diagnosis | # of patients on active surveillance that have ≥ 2 tumor burden reassessments and 3 PSA tests in first 30 months since diagnosis | # of patients aged 30 or older with new diagnosis of low and low-intermediate prostate cancer (Gleason 6 or low volume Gleason 3+4) | Prostate cancer patients < 30 years of age; Patients that have had prior treatment for prostate cancer | None | No |