**Additional file 1: list of QI assessed and selected for prostate cancer, according to the clinical domain.**

<table>
<thead>
<tr>
<th>Description</th>
<th>Ref.</th>
<th>Numerator</th>
<th>Denominator</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DIAGNOSIS AND STAGING (n=6)</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Proportion of patients with prostate cancer and a documented digital rectal examination (DRE).</td>
<td>[1-3]</td>
<td>Number of patients with prostate cancer who had a documented digital rectal examination (DRE).</td>
<td>Number of patients with prostate cancer.</td>
</tr>
<tr>
<td>Proportion of patients with prostate cancer and the diagnosis based only on the PSA result.</td>
<td>[2, 4-12]</td>
<td>Number of patients with prostate cancer whose diagnosis was based only on the PSA result.</td>
<td>Number of patients with prostate cancer.</td>
</tr>
<tr>
<td>Proportion of patients with prostate cancer and the diagnosis based on prostatic biopsy.</td>
<td>[13-19]</td>
<td>Number of patients with prostate cancer whose diagnosis was based on prostatic biopsy.</td>
<td>Number of patients with prostate cancer.</td>
</tr>
<tr>
<td>Proportion of patients with prostate cancer and 8 or more diagnostic prostatic biopsies.</td>
<td>[14, 15, 20]</td>
<td>Number of patients with prostate cancer who underwent 8 or more diagnostic prostatic biopsies.</td>
<td>Number of patients with prostate cancer whose diagnosis was based on prostatic biopsy.</td>
</tr>
<tr>
<td>Proportion of patients with prostate cancer and a documented multidisciplinary discussion.</td>
<td>[21-23]</td>
<td>Number of patients with prostate cancer who had a documented multidisciplinary discussion.</td>
<td>Number of patients with prostate cancer.</td>
</tr>
<tr>
<td>Proportion of patients with prostate cancer and pre-treatment clinical staging (cTNM) according to the AJCC TNM 7th edition.</td>
<td>[2, 24, 25]</td>
<td>Number of patients with prostate cancer who had a pre-treatment clinical staging (cTNM) according to the AJCC TNM 7th edition.</td>
<td>Number of patients with prostate cancer undergoing curative treatment (surgery or radiotherapy).</td>
</tr>
<tr>
<td><strong>PATHOLOGY (n=4)</strong></td>
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</tr>
<tr>
<td>Proportion of patients with prostate cancer and the pathology report of the biopsy including the following characteristics: - histologic type according to WHO - histologic grade with Gleason score - tumour quantitation (number of positive cores/total number of cores and/or proportion of prostatic tissue involved by tumour).</td>
<td>[26-43]</td>
<td>Number of patients with prostate cancer whose pathology report of the biopsy included the following characteristics: - histologic type according to WHO - histologic grade with Gleason score - tumour quantitation (number of positive cores/total number of cores and/or proportion of prostatic tissue involved by tumour).</td>
<td>Patients with prostate cancer undergoing biopsy.</td>
</tr>
<tr>
<td>Proportion of patients with prostate cancer and the pathology report of the TUR-P including the following characteristics: - histologic type according to WHO - histologic grade with Gleason score - tumour quantitation (proportion of prostatic tissue involved by tumour).</td>
<td>[26-43]</td>
<td>Number of patients with prostate cancer whose pathology report of the TUR-P included the following characteristics: - histologic type according to WHO - histologic grade with Gleason score - tumour quantitation (number of positive cores/total number of cores and/or proportion of prostatic tissue involved by tumour).</td>
<td>Patients with prostate cancer undergoing TUR-P.</td>
</tr>
<tr>
<td>Description</td>
<td>Reference</td>
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<td>Reference</td>
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</tr>
<tr>
<td>Proportion of patients with prostate cancer and the pathology report of the prostatectomy with pelvic lymphadenectomy including the number of resected lymph nodes.</td>
<td>[44, 45]</td>
<td>Number of patients with prostate cancer whose pathology report of the prostatectomy with pelvic lymphadenectomy included the number of resected lymph nodes.</td>
<td>Patients with prostate cancer undergoing prostatectomy with pelvic lymphadenectomy.</td>
</tr>
</tbody>
</table>

**TREATMENT (n=9)**

<table>
<thead>
<tr>
<th>Description</th>
<th>Reference</th>
<th>Description</th>
<th>Reference</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proportion of patients with localized (N0, M0) low risk (cT1-2a and Gleason≤6 and PSA≤10 ng/ml) prostate cancer, stratified according to the 1st treatment received (no treatment, active surveillance, radical prostatectomy ± pelvic lymphadenectomy, HT, RT, ChT).</td>
<td>[58-61]</td>
<td>Number of patients with localized (N0, M0) low risk (cT1-2a and Gleason≤6 and PSA≤10 ng/ml) prostate cancer who underwent the following 1st treatment: - no treatment - active surveillance - radical prostatectomy ± pelvic lymphadenectomy - HT - RT - ChT.</td>
<td>Number of patients with localized (N0, M0) low risk (cT1-2a and Gleason≤6 and PSA≤10 ng/ml) prostate cancer.</td>
<td>Proportion of patients with localized (N0, M0) intermediate risk (cT2b-2c or Gleason=7 or PSA 10-20 ng/ml) prostate cancer, stratified according to the 1st treatment received (no treatment, active surveillance, radical prostatectomy ± pelvic lymphadenectomy, HT, RT, ChT).</td>
</tr>
<tr>
<td>Proportion of patients with localized (N0, M0) high risk (cT3-4 or Gleason≥8 or PSA≥20 ng/ml) prostate cancer undergoing radical treatment (radical prostatectomy ± pelvic lymphadenectomy, RT or brachytherapy).</td>
<td>[59-62] Number of patients with localized (N0, M0) high risk (cT3-4 or Gleason≥8 or PSA≥20 ng/ml) prostate cancer who underwent a radical treatment (radical prostatectomy ± pelvic lymphadenectomy, RT or brachytherapy).</td>
<td>Number of patients with localized (N0, M0) high risk (cT3-4 or Gleason≥8 or PSA≥20 ng/ml) prostate cancer.</td>
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<tr>
<td>Proportion of patients with localized (N0, M0) high risk (cT3-4 or Gleason≥8 or PSA≥20 ng/ml) prostate cancer undergoing radical RT with neo-adjuvant HT.</td>
<td>[76-79] Number of patients with localized (N0, M0) high risk (cT3-4 or Gleason≥8 or PSA≥20 ng/ml) prostate cancer who underwent a neo-adjuvant HT before radical RT.</td>
<td>Number of patients with localized (N0, M0) high risk (cT3-4 or Gleason≥8 or PSA≥20 ng/ml) prostate cancer undergoing radical RT.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proportion of patients with pT2 or pT3 prostate cancer undergoing prostatectomy ± pelvic lymphadenectomy with uninvolved margins.</td>
<td>[47-52, 80, 81] Number of patients with pT2 or pT3 prostate cancer who underwent prostatectomy ± pelvic lymphadenectomy with uninvolved margins.</td>
<td>Number of patients with pT2 or pT3 prostate cancer undergoing prostatectomy ± pelvic lymphadenectomy.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proportion of patients with non-metastatic (M0) prostate cancer undergoing external beam RT with dose escalation to at least 74 Gy.</td>
<td>[82-85] Number of patients with non-metastatic (M0) prostate cancer who underwent an external beam RT with dose escalation to at least 74 Gy.</td>
<td>Number of patients with non-metastatic (M0) prostate cancer undergoing RT.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proportion of patients with metastatic (M1) prostate cancer undergoing immediate (within 3 months form the diagnosis) HT or bilateral orchietomy.</td>
<td>[86, 87] Number of patients with metastatic (M1) prostate cancer who underwent an immediate (within 3 months from the diagnosis) HT or a bilateral orchietomy.</td>
<td>Patients with metastatic (M1) prostate cancer.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**FOLLOW-UP AND OUTCOME (n=4)**

<table>
<thead>
<tr>
<th>Analysis of disease-free survival at 1, 3 and 5 years from curative treatment.</th>
<th>[2, 88] Number of patients with prostate cancer who were disease-free at 1, 3 and 5 years from curative treatment.</th>
<th>Number of patients with prostate cancer undergoing radical treatment (surgery or radiotherapy).</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proportion of patients with prostate cancer and PSA relapse (&lt;0.2 ng/ml) within 1 year after radical prostatectomy ± pelvic lymphadenectomy.</td>
<td>[2] Number of patients with prostate cancer who had a PSA relapse (&lt;0.2 ng/ml) within 1 year after radical prostatectomy ± pelvic lymphadenectomy.</td>
<td>Number of patients with prostate cancer undergoing radical prostatectomy ± pelvic lymphadenectomy.</td>
</tr>
<tr>
<td>Analysis of overall survival at 1, 3 and 5 years from diagnosis.</td>
<td>Number of patients with prostate cancer who survived at 1, 3 and 5 years from diagnosis.</td>
<td>Number of patients with prostate cancer.</td>
</tr>
<tr>
<td>Proportion of patients with non-metastatic (M0) prostate cancer dead within 30 days after prostatectomy ± pelvic lymphadenectomy (post-operative mortality).</td>
<td>[2, 89] Number of patients with non-metastatic (M0) prostate cancer who died within 30 days after prostatectomy ± pelvic lymphadenectomy.</td>
<td>Number of patients with non-metastatic (M0) prostate cancer undergoing prostatectomy ± pelvic lymphadenectomy.</td>
</tr>
</tbody>
</table>

**Abbreviation:**

**PSA**= Prostate Specific Antigen; **TUR-P**= transurethral prostatic resection; **AJCC**= America Joint Committee on Cancer; **WHO**= World Health Organization; **HT**= Hormonal Therapy; **RT**=Radiotherapy; **ChT**= Chemotherapy.
References


61. Weckermann D, Goppelt M, Dorn R, Wawroschek F, Harzmann R: Incidence of positive pelvic lymph nodes in patients with prostate cancer, a prostate-specific antigen (PSA) level of < or =10 ng/mL and biopsy Gleason score of < or =6, and their influence on PSA progression-free survival after radical prostatectomy. BJU Int 2006, 97:1173-1178.


