APPENDIX A

Table 1. Areas of consensus (≥ 75%) at live forum	
1. Biochemical recurrence after local therapy	
For patients with rising PSA after radical prostatectomy, CT and bone scintigraphy (± pelvic MRI) are the recommended imaging modalities	82.1%
2. Treatment of newly diagnosed mCSPC/mCNPC	
Among mCSPC/mCNPC patients, disease stratification into high/low-volume disease is recommended to select patients for docetaxel*	89.7%
Among mCSPC/mCNPC patients, apalutamide in addition to ADT is a recommended treatment in an all-comer population	100.0%
Among mCSPC/mCNPC patients, enzalutamide in addition to ADT is a recommended treatment in an all-comer population	100.0%
Docetaxel in addition to ADT is a treatment option for patients with de novo, high-volume mCSPC/mCNPC without symptoms from the primary tumor	93.1%
For patients with de novo, low-volume mCSPC/mCNPC without symptoms from the primary tumor, treatment of the primary plus an ARAT (in addition to ADT) is recommended	96.6%
For patients with mCSPC/mCNPC, upfront docetaxel followed by ARAT is not recommended	75.9%
For patients with low-volume mCSPC/CNPC relapsing after local treatment of the primary tumor, an ARAT (in addition to ADT) is recommended	100.0%
Outside of clinical trials, MDT should be considered in low-volume patients, particularly for those having many symptoms from ARATs or systemic therapies	79.3%
For patients with de novo, high-volume and/or high-risk mCSPC/mCNPC, with a Gleason score of 9, multiple liver metastases and/or lytic bone metastases, and a PSA value <20 ng/mL but no histopathological evidence of small cell carcinoma, docetaxel (in addition to ADT) is the preferred treatment**	86.2%
2a. Imaging modality to guide treatment	
For the majority of patients with newly diagnosed low-volume mCSPC/mCNPC, CT and bone scintigraphy are sufficient to guide the decision to treat the primary tumor	96.6%

2b. Oligometastatic PCa (no prior systemic therapy for metastatic disease)	
The following definition of oligometastatic prostate cancer is recommended to guide metastasis-directed ablative therapy: *Limited bone and/or lymph node metastases, excluding visceral metastases*	79.3%
ARAT plus treatment of the primary is the recommended treatment approach in addition to ADT in the majority of patients with oligometastatic CNPC/CSPC with an untreated primary	86.2%
It is important to distinguish lymph node-only disease from disease that includes metastatic lesions at other sites when making treatment decisions in untreated de novo oligometastatic PCa	75.9%
Some evidence can be extrapolated to the oligometastatic setting that local treatment of MDT confers ADT-free survival or PFS in treatment-naive oligometastatic PCa but further study is needed	86.2%
Metastasis-directed ablative treatment of all lesions is not recommended for the majority or minority of patients over systemic therapy (ADT ± ARAT) in oligometastatic PCa (no prior systemic treatment)	86.2%
Prolongation of PFS is the treatment goal if adding metastasis-directed ablative treatment of all lesions to systemic treatment (ADT ± ARAT) in oligometastatic PCa	82.8%
Management strategy should be changed if a PSMA PET positive result is found for low-volume metastatic disease in a patient who is negative for metastases on conventional imaging (CT/bone scan) result	86.2%
3. Management of nmCRPC	
CT and/or bone scintigraphy is the recommended imaging modality to guide treatment decisions for the majority of patients with recent onset of CRPC and rising PSA in order to determine if patient is nmCRPC or mCRPC	100.0%
For asymptomatic nmCRPC (M0 CRPC) patients (no metastatic diseases documented on past imaging) on ADT who have rising PSA and PSADT ≤10 months, imaging is recommended once the confirmed total PSA level is >2 ng/mL	82.8%
In addition to ADT, AR antagonist treatment (e.g., apalutamide, darolutamide, or enzalutamide) is recommended for the majority of nmCRPC (M0 CRPC) patients who have PSA >2 ng/mL and PSADT ≤10 months	89.7%
In a minority of patients (i.e., who are ineligible or refuse other options), there is a role for	86.2%

ARAT to ARAT (back-to-back) sequencing, from nmCRPC to mCRPC	
ARAT to ARAT sequencing is not a preferred sequencing strategy for the majority of patients who progress from nmCRPC to mCRPC	93.1%
In a minority of patients (i.e., who are ineligible or refuse other options), there is a role for ARAT to ARAT (back-to-back) sequencing from mCNPC/mCSPC to mCRPC	79.3%
Oligoprogressive PCa is defined as: *A limited number of progressing pre-existing or new lesion(s) in a patient with metastatic disease that is otherwise stable/treatment-responsive*	75.9%
4. Management of mCRPC	
In the absence of other signs of progression, switching treatments at PSA progression alone in patients with mCRPC is not recommended	79.3%
In a minority of patients (i.e., who are ineligible or refuse other options), there is a role for ARAT to ARAT (back-to-back) sequencing within the mCRPC setting	93.1%
5. Bone and bone metastases	
For mCSPC patients starting on long-term ADT plus abiraterone acetate + prednisone who have NO documented osteoporosis, denosumab or a bisphosphonate at the dose and schedule used for osteoporosis in order to prevent cancer treatment-induced bone loss (CTIBL)/fractures is recommended only in patients with an increased risk of fracture (e.g., 10-year FRAX risk of 3% for hip fractures and/or 20% for all major fractures)	86.2%
For nmCRPC patients starting on long-term ADT plus ARATs who have NO documented osteoporosis, denosumab or a bisphosphonate at the dose and schedule used for osteoporosis in order to prevent cancer treatment-induced bone loss (CTIBL)/ fractures is recommended only in patients with an increased risk of fracture (e.g., 10-year FRAX risk of 3% for hip fractures and/or 20% for all major fractures)	86.2%
6. Molecular characterization: Tissue and blood	
Radical therapy (either surgery or radiation) is recommended over surveillance for patients presenting with a tumor BRCA1/2 germline aberration in patients with low-risk, localized PCa	82.8%
It is recommended that the majority of metastatic PCa patients have their tumors tested for BRCA1/2 aberrations	82.8%
It is recommended that the majority of metastatic PCa patients with a deleterious germline BRCA1/2 mutation receive a PARP inhibitor during their disease course outside of a clinical trial if none is available	96.6%

All specialists with experience in screening and treating should be able to order BRCA 1/2 genetic testing and lead the treatment planning for patients with a positive result	86.2%
PARP inhibitor or platinum therapy during disease course (when available) is recommended for metastatic PCa with a pathogenic BRCA 1/2 aberration (somatic and/or germline)	86.2%

*Physicians could select multiple options for question. This was the only option that reached consensus-level agreement. **This question was originally framed as "choose all that apply." It was re-voted to extract the true preferred treatment option. ADT: androgen deprivation therapy; ARAT: androgen receptor axis targeted agents; CSPC: castrate-sensitive prostate cancer; CRPC: castrate-resistant prostate cancer; CT: computed tomography; MDT: metastasis-directed therapy; m: metastatic; nm: non-metastatic; PCa: prostate cancer: PFS: progression-free survival; PSA: prostate-specific antigen.

Table 2. Areas of near-consensus (> 50–74%) at live forum	
1. Biochemical recurrence after local therapy	
For asymptomatic patients with rising PSA after radical RT, imaging is recommended at PSA ≥2 ng/mL above nadir (Phoenix criteria)	62.1%
For a patient with positive findings on PSMA PET after reaching biochemical recurrence, a change in treatment and monitoring plan is recommended	70.8%
2. Treatment of newly diagnosed mCSPC/mCNPC	
Either a high-volume or high-risk definition can be used to guide treatment selection of abiraterone acetate + prednisone in mCSPC/mCNPC, as long as the patient is classified as at least one	58.6%
An ARAT (abiraterone acetate + prednisone, apalutamide, or enzalutamide) in addition to ADT is recommended for patents with de novo, high-volume mCSPC/mCNPC without symptoms from the primary tumor	58.6%
For patients with high-volume mCSPC/mCNPC relapsing after local treatment of the primary tumor, treatment with an ARAT (abiraterone acetate + prednisone, apalutamide, or enzalutamide) is recommended	69.0%
2a. Imaging modality to guide treatment	
For patients receiving treatment for newly diagnosed mCSPC/mCNPC, the following monitoring schedule is recommended: baseline imaging, imaging at best response (i.e., 6–12 months), PSA monitoring for progression, further imaging at progression	65.5%
2b. Oligometastatic PCa (no prior systemic therapy for metastatic disease)	

For treatment decisions, it is not necessary to distinguish de novo, treatment-naive (synchronous) oligometastatic PCa from oligometastatic PCa recurring after local therapy (metachronous)	69.0%
MDT of all lesions, in addition to systemic therapy (ADT ± ARAT), is recommended in a minority of oligometastatic PCa patients	58.6%
Changing management strategy is warranted for a patient showing high-volume metastatic disease on PSMA PET that showed low-volume metastatic disease on conventional imaging	51.7%
For patients with low-volume disease on conventional imaging that show results consistent with high-volume disease on advanced imaging, it is recommended to treat the patient as low-volume disease	51.7%
In addition to ADT, ARAT + treatment of the primary is the recommended treatment approach for the majority of patients with an untreated primary who are non-metastatic based on conventional imaging, but have de novo oligometastatic PCa on advanced imaging	55.2%
2c. Imaging modalities in management of de-novo oligometastatic PCa (no prior metastatic disease or prior treatment for PCa)	
For patients with oligometastatic disease on CT/bone scintigraphy, PSMA PET-CT/MRI is recommended for guiding planning for MDT	65.5%
2d. Newly diagnosed oligorecurrent oligometastatic disease after local treatment with curative intent	
ARAT + ADT is recommended for the majority of patients with oligorecurrent (metachronous) oligometastatic PCa	51.7%
3. Management of nmCRPC	
There is rationale for lowering the PSA threshold of 2 ng/mL or greater for defining CRPC, but further study is needed	72.4%
For a patient being treated with an ARAT (apalutamide, darolutamide, or enzalutamide) for nmCRPC, it is recommended that treatment be changed (apart from ADT) at occurrence of metastases alone (apart from changes related to toxicity)	72.4%
Back-to-back ARAT to ARAT sequencing is not recommended for patients who progress from mCSPC/mCNPC to mCRPC	58.6%
Among patients with oligoprogressive chemotherapy-naïve mCRPC with disease progression (no visceral metastases) on a combination of ADT + ARAT, switching from current ARAT to another systemic therapy is recommended	65.5%
4. Management of mCRPC	

Switching treatment in patients with mCRPC based on unequivocal progression on next-generation imaging (wb-MRI, PET/CT with different tracers) alone (without PSA or clinical progression)	62.1%
Abiraterone acetate + prednisone to enzalutamide is the recommended ARAT-to-ARAT sequencing in the mCRPC setting	62.1%
5. Molecular characterization: Tissue and blood	
Tumor genomic testing should be recommended at first diagnosis of metastatic disease	58.6%
When recommending tumor genomic testing, PCa-specific, larger panel testing is recommended (including testing for homologous recombination deficiency, mismatch repair evaluation, and tumor mutation burden)	72.4%
PCa patients with mCSPC/mCNPC should be tested for somatic BRCA 1/2 mutation	58.6%
Any PCa patients with a strong family history of BRCA-associated concerns and undocumented somatic and germline aberration should be tested for germline BRCA1/2 mutation	72.4%
Platinum therapy is recommended during the disease course (including outside of a clinical trial if no trials are available) in selected patients with a deleterious germline BRCA 1/2 mutation	55.2%
Genetic counselling and/or germline DNA testing is recommended in the majority of newly diagnosed mCSPC/mCNPC patients	65.5%

ADT: androgen deprivation therapy; ARAT: androgen receptor axis targeted agents; CSPC: castrate-sensitive prostate cancer; CRPC: castrate-resistant prostate cancer; CT: computed tomography; MDT: metastasis-directed therapy; m: metastatic; MRI: magnetic resonance imaging; nm: non-metastatic; PCa: prostate cancer: PFS: progression-free survival; PSA: prostate-specific antigen; PSMA PET: prostate-specific membrane antigen positron emission tomography.

Table 3. Areas of no consensus (≤ 50%) at live forum	
1. Biochemical recurrence after local therapy	
Do you recommend repeat imaging (negative preoperative imaging) for an asymptomatic pN0 patient with PSA persistence (≥0.1 ng/mL) four to six weeks after RP?	
No	45.0%
Yes, to establish a new baseline following RP	35.0%

Yes, but only in the presence of other adverse factors (e.g., Gleason score, intraductal, etc.)	20.0%
Should mCSPC/CNPC patients still be stratified as high-/low-volume and high-/low-risk to inform treatment decision-making or can we consider this as an all comer population? Choose all correct responses*	
Apalutamide and enzalutamide can be used in an all-comer population	36.5%
All approved systemic treatments for mCSPC/mCNPC can be used in an all-comer population regardless of disease volume or disease risk	11.1%
High-/low-risk disease stratification still needed to select patients for abiraterone acetate + prednisone use	20.0%
2. Treatment of newly diagnosed mCSPC/mCNPC	
2b. Oligometastatic PCa (no prior systemic therapy for metastatic disease)	
What is your treatment goal when recommending MDT of all lesions instead of systemic therapy (ADT+/-ARAT) in oligometastatic PCa (no prior systemic therapy)?	
Delay start of ADT	44.8%
I do not recommend, or only rarely recommend, MDT of all lesions instead of systemic therapy in oligometastatic PCa	31.0%
Prolongation of PFS	24.1%
What is your cut-off for the number of metastases when considering PCa to be oligometastatic to guide treatment decisions regarding MDT of all lesions? Choose all correct responses.*	
<3 metastases	48.3%
<5 metastases	41.2%
<2 organs	8.8%
I don’t recommend, or only rarely recommend MDT of all lesions	8.8%
Is imaging by CT and bone scintigraphy sufficient to define the oligometastatic state for treatment planning?	
Yes	50.0%

No	50.0%
2c. Imaging modalities in management of de-novo oligometastatic PCa (no prior metastatic disease or prior treatment for PCa)	
Does PET change your decision to treat the primary tumor in a patient originally classified as low-volume on conventional imaging now appears to be high-volume?	
Yes, in a minority of patients	38.0%
Yes, in the majority of patients	31.0%
No, or very rarely	31.0%
2d. Newly diagnosed oligorecurrent oligometastatic disease after local treatment (EBRT or RP ± EBRT) with curative intent (± salvage RT)	
What is your recommended treatment approach for the majority of patients with oligorecurrent oligometastatic disease, who is non-metastatic based on conventional imaging, but has low-volume, oligorecurrent, oligometastatic PCa on advanced imaging (PET or MRI)?	
MDT + ADT	41.4%
ARAT + ADT	37.9%
ADT alone	13.8%
ARAT+ MDT + ADT	6.9%
4. Management of mCRPC	
Is there a need for biomarker testing as an approach to select candidates who may potentially respond to a second AR pathway inhibitor at some point later in the treatment continuum?	
Yes, in the majority of cases	48.3%
Yes, in select cases	38.3%
No	3.4%
5. Molecular characterization: Tissue and blood	
Does the presence of a tumor BRCA1/2 germline aberration in patients with intermediate or high-risk localized prostate cancer influence your treatment decision?	

No, I make the standard treatment recommendation but more intense monitoring	48.0%
Yes, I recommend RP over RT	44.0%
No, I make the standard treatment recommendation	8.0%
What do you believe is the best way to test for BRCA 1/2 mutations in prostate cancer patients?	
I don't know enough about this topic to answer the question	41.4%
ctDNA	37.9%
Tissue biopsy	13.8%
Fresh biopsy	3.4%
Saliva testing	3.4%

*These questions allowed panelists to select multiple responses, and thus each possible recommendation does not preclude the other options. Therefore, level of agreement should be interpreted separately for each possible response. ADT: androgen deprivation therapy; ARAT: androgen receptor axis targeted agents; CSPC: castrate-sensitive prostate cancer; CRPC: castrate-resistant prostate cancer; CT: computed tomography; EBRT: external beam radiation therapy; MDT: metastasis-directed therapy; m: metastatic; MRI: magnetic resonance imaging; nm: non-metastatic; RP: radical prostatectomy; RT: radiation therapy; PCa: prostate cancer; PFS: progression-free survival; PSA: prostate-specific antigen.

Table 4. Areas of consensus (≥ 75%) in online component	
Locally advanced PCa	
For the majority of patients with newly diagnosed cN1 (pelvic lymph nodes), non-metastatic PCa, radical loco-regional treatment with systemic therapy is recommended	82.1%
For cN1, non-metastatic PCa, radiation therapy is recommended for primary loco-regional treatment	75.0%
Biochemical recurrence after local therapy	
Among patients with rising PSA after radical radiation therapy, CT and bone scintigraphy (± pelvic MRI) are the recommended imaging modalities	85.7%

An LHRH agonist or antagonist is recommended for use in combination with salvage radiation therapy	89.3%
Among men with non-metastatic disease on conventional imagining and confirmed rising PSA following or ineligible for salvage radiation therapy, long-term ADT (continuous or intermittent) is recommended for patients with PSA >10 ng/mL post radiation therapy (RT), PSA >5 ng/mL post- RP or PSADT ≤10 months	75.0%
Management of the primary tumor in the metastatic setting	
Local treatment of the primary tumor has an overall survival benefit only in low-volume/burden newly diagnosed mCSPC/mCNPC	92.9%
For patients with newly diagnosed low-volume/burden mCSPC/mCNPC, the recommended local treatment of the prostate is radiation therapy to the prostate	92.9%
Treatment of newly diagnosed mCSPC/mCNPC	
CRPC is the recommended terminology for describing patients with metastatic PCa who are progressing (testosterone level <50 ng/mL)	92.9%
In patients with high suspicion of metastatic PCa (based on PSA and imaging), histopathological confirmation of PCa (either before or after initiation of ADT) is recommended in most patients	85.7%
In the majority of patients with newly diagnosed mCSPC/mCNPC, a short course of a first-generation non-steroidal AR antagonist (NSAA) is recommended as flare protection when initiating GnRH antagonist therapy and AR targeted therapy	78.6%
Imaging modality to guide treatment	
For the majority of patients with newly diagnosed mCSPC/mCNPC based on conventional imaging, no further imaging beyond CT and bone scintigraphy should be required to guide selection of systemic treatment	96.4%
Management of mCRPC	
In patients with asymptomatic mCRPC treated with abiraterone acetate plus prednisone, it is recommended to switch the steroid from prednisone to dexamethasone at the time of PSA progression	85.7%
In patients with mCPRC, bicalutamide is not recommended as sole additional therapy to ADT	89.3%
Bone and bone metastases	

In the majority of patients with PCa starting on long-term ADT, measurement of bone mineral density is recommended	85.7%
In the majority of patients with CRPC and bone metastasis, or mCRPC patients treated with radium-223, osteoclast-targeted therapy (zoledronic acid or denosumab) is recommended at the higher dose and more frequent schedule for reducing the risk of skeletal-related events (SRE)	82.1%
Genetic counselling and germline testing in daily clinical practice	
Collecting a detailed family history of cancer is recommended for all patients with newly diagnosed mCSPC/mCNPC	89.3%
Heterogeneity of patients with PCa (ethnicity, elderly)	
mCRPC clinical trial data regarding efficacy can be extrapolated to the treatment of patients who are older than the majority of patients enrolled in these trials	85.7%
mCRPC clinical trial data regarding efficacy can be extrapolated to the treatment of patients of other ethnicities than the majority of patients enrolled in these trials	78.6%
mCRPC clinical trial data regarding toxicity can be extrapolated to the treatment of patients of other ethnicities than the majority of patients enrolled in these trials	82.1%
Side effects of hormonal treatments and their management	
Apart from therapy dose reduction, resistance and aerobic exercise are recommended for first management to reduce fatigue in patients receiving systemic therapy for PCa	96.4%

ADT: androgen deprivation therapy; CSPC: castrate-sensitive prostate cancer; CRPC: castrate-resistant prostate cancer; CT: computed tomography; GnRH: gonadotropin releasing hormone; LHRH: luteinizing hormone-releasing hormone; m: metastatic; MRI: magnetic resonance imaging; nm: non-metastatic; PCa: prostate cancer; RP: radical prostatectomy; PSA: prostate-specific antigen; PSADT: PSA doubling time.