Received: 2 November 2023 | Accepted: 20 March 2024

DOI: 10.1111/ajco.14064

ORIGINAL ARTICLE

WILEY

Management of advanced prostate cancer in the Asia-Pacific region: Summary of the Asia-Pacific Advanced Prostate Cancer Consensus Conference 2023

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Funding information
Bayer; Astellas; AstraZeneca; Pfizer

Abstract

Aim: The aim of the third Asia-Pacific Advanced Prostate Cancer Consensus Conference (APAC APCCC 2023) was to discuss the application in the Asia-Pacific (APAC) region of consensus statements from the 4th Advanced Prostate Cancer Consensus Conference (APCCC 2022).

Methods: The one-day meeting in July 2023 brought together 27 experts from 14 APAC countries. The meeting covered five topics: (1) Intermediate- and high-risk and locally advanced prostate cancer; (2) Management of newly diagnosed metastatic hormone-sensitive prostate cancer; (3) Management of non-metastatic castration-resistant prostate cancer; (4) Homologous recombination repair mutation testing; (5) Management of metastatic castration-resistant prostate cancer. Pre- and post-symposium polling gathered APAC-specific responses to APCCC consensus questions and insights on current practices and challenges in the APAC region.

Results: APAC APCCC highlights APAC-specific considerations in an evolving landscape of diagnostic technologies and treatment innovations for advanced prostate cancer. While new technologies are available in the region, cost and reimbursement continue to influence practice significantly. Individual patient considerations, including the impact of chemophobia on Asian patients, also influence decision-making.

Conclusion: The use of next-generation imaging, genetic testing, and new treatment combinations is increasing the complexity and duration of prostate cancer management. Familiarity with new diagnostic and treatment options is growing in the APAC region. Insights highlight the continued importance of a multidisciplinary approach that includes nuclear medicine, genetic counseling, and quality-of-life expertise. The APAC APCCC meeting provides an important opportunity to share practice and identify APAC-specific issues and considerations in areas of low evidence where clinical experience is growing.

KEYWORDS
Asia-Pacific, consensus, guideline, metastasis, prostate cancer

1 | INTRODUCTION

The biennial Advanced Prostate Cancer Consensus Conference (APCCC) brings together global experts to discuss the clinical management of advanced prostate cancer and develop consensus recommendations in areas of low-level evidence. Consensus voting assumes an 'ideal-world' situation without resource limitations or treatment contraindications. At APCCC 2022, 105 physician experts voted on 198 questions, with a consensus threshold of 75%.[1,2]

The purpose of the Asia-Pacific (APAC) APCCC satellite symposia is to discuss the application of APCCC consensus statements in the APAC region, identify practice variation, and consider opportunities for APAC-specific research. APAC APCCC symposia cover similar low-level evidence topics to APCCC but take a real-world view to understand regional influences of practice. Previous symposia provided an insight into APAC-specific drivers of practice variation including availability and cost of tests and treatments, access to generic drugs, and cultural differences in the approach to diagnosis and treatment.[3,4]

2 | METHODS

APAC APCCC 2023 was held in Singapore in July 2023. The one-day multidisciplinary symposium was hosted by ANZUP Cancer Trials Group and involved 27 prostate cancer experts from 14 APAC countries (Table 1).

Panelists reviewed APCCC topics selected as most relevant for the APAC region:

1. Intermediate- and high-risk and locally advanced prostate cancer
2. Management of newly diagnosed metastatic hormone-sensitive prostate cancer (mHSPC)
3. Management of non-metastatic castration-resistant prostate cancer (nmCRPC)
4. Homologous recombination repair (HRR) mutation testing
5. Management of metastatic castration-resistant prostate cancer (mCRPC).

TABLE 1 Asia-Pacific Advanced Prostate Cancer Consensus Conference (APAC APCCC) 2020 panelists and survey respondents: Disciplines and countries ($n = 27$).

	Urology	Medical oncology	Radiation oncology	Clinical oncology	Uro- oncology	Nuclear medicine	Nursing	Total
Australia	1	1	1				1	4
China					1			1
Hong Kong	1			1				2
India				1	1			2
Indonesia					1			1
Japan					1			1
Malaysia	1			1				2
New Zealand	1							1
Philippines					1			1
Singapore	2	1	2			1	2	8
Taiwan	1							1
Thailand	1							1
Turkey					1			1
Vietnam	1							1
Total	**9**	**2**	**3**	**3**	**6**	**1**	**3**	**27**

Each topic included quality-of-life considerations.

Before the symposium, presenters collated evidence reviewed APCCC 2022 consensus statements, and identified APAC-specific questions. A survey was circulated to gather panelist insights.

During the symposium, evidence and survey insights were presented, and local practices and challenges were discussed. Priority-specific and overarching themes and areas for future research were identified. Post-symposium polling and synthesis of responses completed the insight-gathering process.

3 | RESULTS

3.1 | Availability of drugs and technologies in the APAC region

The landscape for the management of advanced prostate cancer has evolved significantly in recent years. Availability of and reimbursement for drugs and technologies varies across the APAC region and is indication-specific (Figure 1).

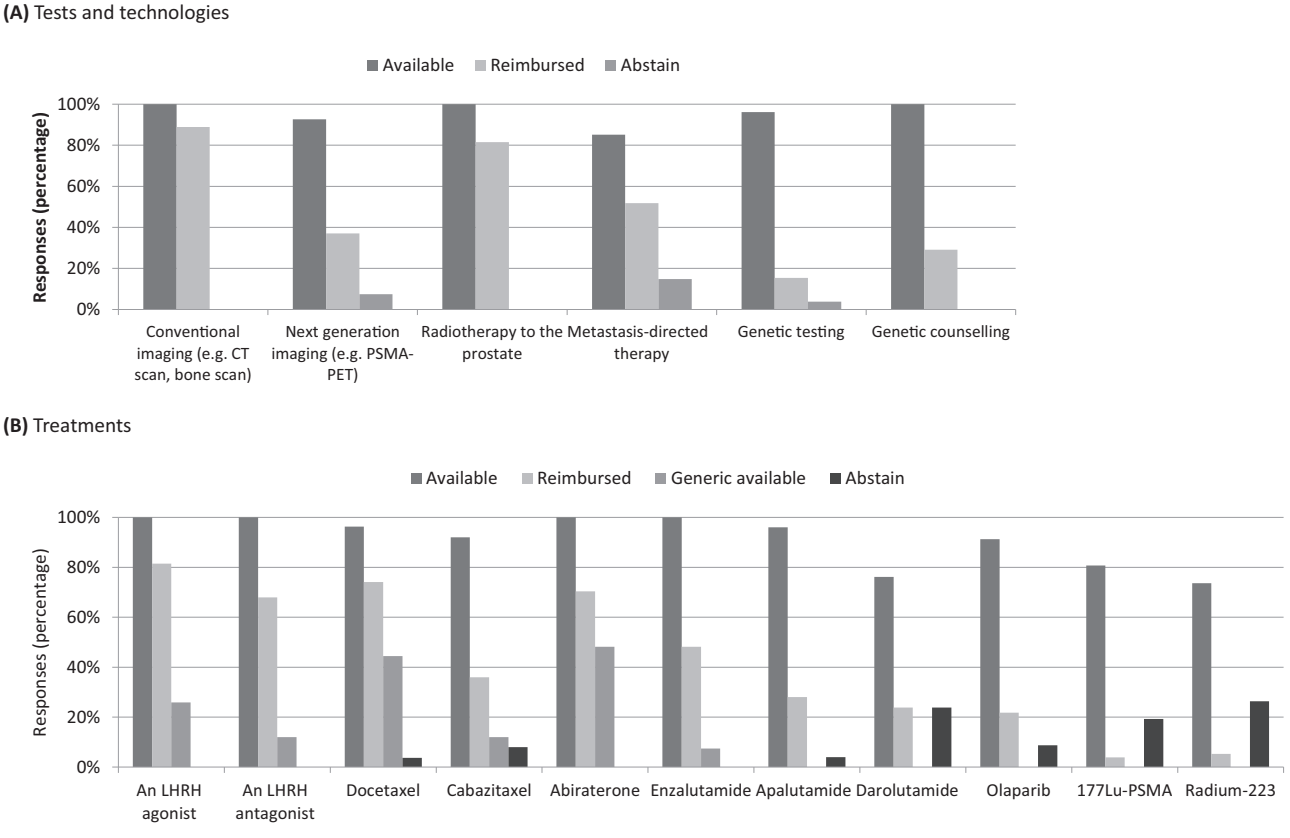
3.2 | Use of next-generation imaging

Next-generation imaging (NGI) technologies, including positron emission tomography (PET)- computed tomography (CT), and whole-body magnetic resonance imaging (MRI), are more sensitive and specific for prostate cancer staging than conventional imaging, particularly in the setting of apparently localized prostate cancer planned for definitive therapy.[5–8] Evidence is especially strong for the use of prostate-specific membrane antigen (PSMA) PET-CT to detect metastases, with the benefit of lower radiation exposure and less inter-observer variability.[9,10] This has led to international guideline updates[11,12] and calls for a molecular imaging TNM staging system (miTNM) for metastatic prostate cancer.[10] The majority of APAC APCCC panelists (84%; $n = 21$) agreed with APCCC 2022 consensus to adopt miTNM for metastatic prostate cancer.

Discussions highlight that PSMA PET-CT use in the APAC region is influenced by the risk of metastatic disease and availability. More panelists use PSMA PET-CT in high-risk patients with clinically localized disease (76%; $n = 19$) than in those at intermediate* (60%; $n = 15$) or indeterminate* risk (20%; $n = 5$) (*National Comprehensive Cancer Network [NCCN] definition). While 64% of panelists ($n = 16$) would choose PSMA PET-CT instead of conventional imaging for locally advanced prostate cancer, use is influenced by reimbursement. Cost and availability also influence tracer selection, with some panelists using lower resolution single photon emission CT (SPECT) radioactive ligands (e.g., technetium-99). Panelists agreed that tracer choice is not a significant issue, and it is appropriate to use available tracers for which local experience exists.

Reflecting on the risk of false positive results with PSMA PET-CT, panelists emphasized the importance of interpretation by an experienced nuclear physician. The choice of additional imaging to understand discordant PSMA PET-CT and conventional imaging results is influenced, at least partly, by access and cost. Depending on the location of equivocal findings (e.g., small lymph node vs. extra-pelvic bone metastasis) some panelists consider ongoing follow-up instead of additional imaging.

Views differed about appropriate management on finding evidence of metastasis using NGI but not conventional imaging. The risk of



CT: computed tomography; LHRH: luteinising hormone-releasing hormone; PET: positron emission tomography; PSMA: prostate-specific membrane antigen

FIGURE 1 Access, approval, and reimbursement of technologies and treatments in the APAC region ($n = 27$). Individual panelist responses, not country-specific responses; includes multiple responses from the same country. (A) Tests and technologies. (B) Treatments. CT: computed tomography; LHRH: luteinizing hormone-releasing hormone; PET: positron emission tomography; PSMA: prostate-specific membrane antigen.

over- and under-treatment of metastatic sites and the primary tumor was noted. A key reflection was the critical importance of not denying beneficial treatment to the primary tumor based on PSMA PET-CT identification of small lymph nodes.

Panelists also discussed NGI use for distant staging, including whole-body MRI and fludeoxyglucose PET-CT. Most panelists would not use whole-body MRI for clinically localized high-risk (72%; $n = 18$) or intermediate-risk (76%; $n = 19$) prostate cancer.

3.3 | Management of intermediate- and high-risk locally advanced prostate cancer

Discussions highlighted the nuanced management of intermediate- and high-risk locally advanced prostate cancer, noting this is distinct from intermediate- and high-risk localized disease. At APCCC, panelists discussed the role of local therapy, systemic therapy plus radiation therapy, adjuvant versus salvage radiation therapy, and the use of additional systemic therapy (Table 2). Practice varies based on individual patient needs and local resource availability.

3.4 | Management of Newly Diagnosed mHSPC

Most panelists (85%; $n = 22$) agreed with the APCCC consensus that disease volume (assessed with conventional imaging using the CHAARTED definition[13]) influences treatment selection for mHSPC, particularly docetaxel use. Most panelists (69%; $n = 18$) also agreed that the timing of metastatic disease presentation (synchronous or metachronous) affects management, including treatment sequencing, use of metastasis-directed therapy, choice of triplet therapy, and radiation therapy to the primary tumor.

Panelists discussed the management of high- and low-volume mHSPC, noting the increasing availability of androgen receptor signaling inhibitors (ARSis). For high-volume disease, 84% of panelists would use androgen deprivation therapy (ADT) combined with an ARSi and/or docetaxel (ADT + ARSi: 42%, $n = 11$; ADT + docetaxel: 15%, $n = 4$; ADT + docetaxel + ARSi: 27%, $n = 7$). For low-volume disease, 69% of panelists would use combination therapy (ADT+ ARSi, ARSi + docetaxel, or ADT + ARSi + docetaxel) and 15% ($n = 4$) would use ADT monotherapy. Considerations influencing the decisions included patient factors (age, frailty, co-morbidities) and treatment factors (access, reimbursement,

TABLE 2 Management of intermediate- and high-risk locally advanced prostate cancer.

Management strategy	APCCC	APAC APCCC
Radiation therapy to the primary tumor	No consensus was reached on the fractionation schedule	No agreement on the fractionation schedule
		Discussions highlight the importance of a radical dose of radiation therapy for people with low-volume mHSPC given >10-year survival
Systemic therapy with radiation therapy	Consensus for use of ADT + abiraterone in high-risk / very high-risk localized disease	Preference for ADT 2–3 years plus abiraterone for 2 years for high-risk localized disease (60%; $n = 15$) and very high-risk localized disease (64%; $n = 16$)
		24% ($n = 6$)/20% ($n = 5$) would use ADT alone for 2 years in high-risk / very high-risk localized disease, respectively
		Two ongoing ANZUP trials noted: ENZARAD (ANZUP 1303, NCT02446444) and DASL-HiCaP (ANZUP 1801, NCT04136353)
Salvage versus adjuvant radiation therapy	A range of scenarios discussed	Preference for early salvage (ideally before PSA exceeds 0.2 ng/mL)
		Adjuvant radiation therapy is considered in select high-risk patients, especially if urine continence has recovered, and for pN1 patients (quality of life consideration)
Additional systemic therapy	No consensus	No agreement on the addition of systemic therapy
		Access and reimbursement influence practice
		Quality-of-life considerations (treatment side effects and financial toxicity) are also important

Abbreviations: ADT, androgen deprivation therapy; mHSPC, metastatic hormone-sensitive prostate cancer; PSA, prostate-specific antigen.

cost, and toxicities). Discussions covered evidence of benefit for addition of docetaxel,[14,15] AAP (abiraterone acetate and prednisone),[16] apalutamide,[17] or enzalutamide[18,19] to ADT for mHSPC, and for addition of enzalutamide,[18] AAP,[20] or darolutamide[21] to ADT plus docetaxel in high-volume synchronous mHSPC.

Cost continues to influence the treatment of mHSPC in the APAC region, with similar approaches to those reported by APCCC in the context of limited resources.[2] A minority of panelists (15%; $n = 4$) reported using ADT alone for low-volume mHSPC due to reimbursement policies for ARSis, despite evidence that this is sub-optimal if an ARSi is available. In some APAC countries, generic ARSi availability allows wider access. However, around half of panelists (54%; $n = 14$) use low-dose abiraterone with food to reduce costs (although this practice is changing with the introduction of the 500 mg tablet).

Treatment toxicities also affect mHSPC management. Panelists noted the influence of patient age, comorbidities, and current medications. In particular, docetaxel use is influenced by chemophobia, which is reported to be a significant issue for some Asian populations.[22,23]

Evidence for the use of local[15,20] and metastasis-directed[24,25] radiation therapy for mHSPC was discussed. Most APAC panelists (88%; $n = 23$) would add local radiation therapy to ADT in patients with low-volume synchronous mHSPC, noting that radiation therapy is a cheaper alternative to ARSis. There was also strong support for adding metastasis-directed therapy to ADT ± local therapy to the primary tumor, for selected patients with low-volume mHSPC (85%; $n = 22$). By comparison, around half of APCCC panelists voted to reserve resources for other cancer types in settings with limited radiation therapy units.[2] This was not a strong consideration among APAC APCCC panelists, suggesting that radiation therapy is readily available in the region for prostate- and metastasis-directed therapy.

As at APCCC, practice variation was apparent for the management of high-volume mHSPC, with an even split between ADT + ARSi (42%; $n = 11$) and ADT + docetaxel with or without an ARSi (42%; $n = 11$). Doublet therapy appears more common than triplet systemic therapy in the APAC region. Panelists reflected on the lack of a head-to-head comparison of triplet versus doublet therapy. A recent meta-analysis of five trials (ARASENS, PEACE-1, ENZAMET, ARCHES, and TITAN) suggested that triplet therapy may not prolong survival over ARSi-based doublet therapy.[26] Concerns were expressed about the cumulative toxicity of triplet therapy, with use reserved for selected patients (those with high-volume disease and a poor prognosis who are 'chemo-fit' based on performance status, age, and comorbidities). Panelists noted they cannot justify adding docetaxel to ADT and an ARSi if patients are responding to doublet therapy and feeling well. They also highlighted the need to balance timely treatment intensification with the risk of overtreatment for patients with the worst prognostic indicators, noting that for some patients ADT may be enough and de-escalation may be beneficial.

3.5 | Management of nmCRPC

3.5.1 | Risk stratification in nmCRPC

Panelists discussed the comparative utility of prostate-specific antigen (PSA) doubling time and NGI for risk stratification in nmCRPC. Baseline PSA and PSA doubling time are determinants of metastasis and

survival in nmCRPC.[27–29] RADAR III guidelines recommend NGI only for patients with a PSA doubling time of less than 6 months for whom M1 therapies would be appropriate.[30]

Panelists agreed that PSA doubling time is a more important prognostic indicator than NGI in the nmCRPC setting. However, APAC panelists appear more likely to use PSMA PET-CT for risk stratification than was reported at APCCC. Almost three-quarters of APAC panelists (73%; $n = 19$) would consider PSMA PET-CT for patients with non-metastatic disease and a consecutive rise in PSA > 2 ng/mL, suggesting castration resistance; 65% ($n = 17$) would use PSMA PET-CT where there is no evidence of metastasis on conventional imaging. Factors influencing NGI use included access to and cost of PSMA PET-CT, access to a baseline scan for interpreting findings, and reimbursement indications for preferred treatments for individual patients. Patient preference was also highlighted as important, given that asymptomatic patients may be reluctant to have a scan.

3.5.2 | Management of nmCRPC

Panelists discussed evidence from three randomized controlled trials of ARSis in nmCRPC.[31–33] Around half of the panelists (54%; $n = 14$) would consider an ARSi for patients with a PSA doubling time < 10 months and no prior history of local therapy. However, views varied about optimal management for patients with a PSA doubling time > 10 months and no prior history of local therapy (even split between observation until more rapid PSA increase; prostate-directed radiation therapy; or local therapy + ARSi). Panelists noted that patient preference is a factor; low PSA and a lack of symptoms can give a false sense of security, with asymptomatic patients often opting to defer treatment escalation.

Panelists discussed the use of NGIs versus PSA monitoring for patients with nmCRPC receiving an ARSi. Over half (58%; $n = 15$) use serial PSA monitoring alone, even though clinical trials of ARSis in nmCRPC mandated imaging and PSA monitoring. Retrospective analysis has shown that disease progression can occur without rising PSA levels.[34–36] Panelists noted insufficient evidence that NGI findings would lead to a change in management resulting in improved overall survival. They also described the pragmatic benefits of PSA monitoring compared with the cost and inconvenience of PSMA PET-CT.

3.6 | HRR mutation testing

Genetic testing is becoming more routine in clinical practice, providing useful prognostic and risk assessment information, and guiding certain treatment decisions. Up to 23% of people with mCRPC have actionable mutations that may influence management.[37] BRCA mutations are most common, with about half germline derived.[38–42] ATM mutations are also relatively common, but treatment response rates in people with ATM mutations are lower.[43–45]

PARP inhibitors (PARPis) such as olaparib have shown benefit for people with prostate cancers carrying BRCA mutations.[44,46] However, almost half of APAC panelists (46%; $n = 12$) would prefer comprehensive genetic/molecular analysis over a narrower focus when considering mCRPC treatment options. Discussions highlighted the importance of cascade testing, including a review of personal and familial risk, outcomes on standard-of-care therapies, prognostic markers for aggressive disease, and predictive biomarkers for PARPi.

Genetic testing is influenced by access and reimbursement. Panelists also questioned whether, with currently available treatments, management would change based on genetic testing results.

Feedback highlights that experience and confidence in the use of genetic testing are building in the APAC region. Factors discussed included:

- tissue source, age, and quality (archived biopsies of primary tumor samples are often used for HRRm testing, which brings challenges in sample size, DNA yield, and quality)
- variable quality of testing platforms
- role of alternative tests (e.g. biopsy of other sites, ctDNA, germline) in selected patients
- ethical dilemmas for patients and their family members.

Panelists discussed the need to improve genetic testing knowledge and experience to ensure optimal timing of testing. An algorithm developed for use in Singapore was presented.[47] It was agreed that testing should be considered as the clinical setting approaches mCRPC. At a minimum, this should involve taking a family history. Genetic counseling by a specialist cancer genetics service should occur before germline testing or when somatic testing shows pathogenic HRR mutations.

3.7 | Management of mCRPC

Combination therapies comprising ARSi and PARPi are approved as first-line therapy for people with mCRPC and a BRCA mutation in some APAC countries. Panelists discussed preferences for the management of mCRPC based on genetic information and prior mHSPC treatment:

- 50% ($n = 13$) use PARPi alone in patients with BRCA mutations
- 73% ($n = 19$) use chemotherapy in patients who have previously received ADT and an ARSi
- 50% ($n = 13$) use Lutetium-177 PSMA (^{177}Lu-PSMA) in people who previously received ADT, an ARSi, and docetaxel.

A range of management options were discussed for mCRPC without HRR or BRCA mutations. While APCCC achieved consensus not to switch to another ARSi if cancer progresses with no actionable mutations, 27% of APAC panelists ($n = 7$) indicated that they do switch. This decision is driven by cost and patient preference for oral/non-chemotherapy-based treatments. It was noted that ARSi are 'expensive, toxic placebos' if used as comparators in this setting, and patient education is important to advise against switching.

Panelists discussed preferences for first-line treatment of mCRPC in the absence of a DNA damage response and repair mutation, based on prior treatment of mHSPC:

- ARSi were preferred for people who previously received ADT (65%; $n = 17$) or ADT + docetaxel (77%; $n = 20$)
- docetaxel was preferred for people who previously received ADT + an ARSI (73%; $n = 19$)
- ^{177}Lu-PSMA was preferred for people who previously received ADT + an ARSi + docetaxel (50%; $n = 13$)
- 62% of panelists ($n = 16$) would consider rechallenge with docetaxel in patients with mCRPC if there has been a reasonable period since docetaxel for mHSPC.

The option of cabazitaxel was also discussed. However, concerns about chemophobia and myelosuppression risk mean some prefer to use ^{177}Lu-PSMA where available.

The APAC region is building experience in radionuclide therapy use. Cost is a significant influencer, particularly for ^{177}Lu-PSMA. Discussions highlighted the complex needs of patients and the importance of a multidisciplinary approach that includes nuclear physicians experienced in radionuclide therapy.

Some panelists use immune checkpoint inhibitors to treat cancers with mismatch repair deficient/high microsatellite instability (dMMR/MSI high) phenotypes or high tumor mutational burden. However, these treatments are not commonly funded; in some APAC countries, they are only available via clinical trials or a compassionate access scheme.

The discussion highlighted a range of treatment monitoring approaches for mCRPC. The most common view was not to undertake imaging until PSA or clinical progression.

3.8 | Patient-centered considerations for the management of advanced prostate cancer

Discussions referenced a range of patient factors that influence treatment choice and compliance: age, frailty, co-morbidities, financial toxicity, and impact on quality of life. While 77% of panelists ($n = 20$) recommend using geriatric assessments for older patients, this was typically only if 'red flag issues' were raised during consultations. Most panelists do not routinely undertake the assessment themselves (65% ($n = 17$) for patients ≥ 75 years and 88% ($n = 23$) for patients < 75 years). Comments highlighted a lack of geriatric oncology expertise in some countries.

The need to balance oncologic outcomes with quality of life was flagged. Panelists discussed the importance of recognizing and addressing treatment side effects, highlighting "chemophobia" for Asian patients. It was noted that side effects are not limited to chemotherapy and that even a 6-month course of ADT can be arduous. Supportive care strategies discussed included bone protection (used in some settings but not standardized), detection and prevention of metabolic syndrome, and exercise physiology. It was noted that, while important, these strategies can add to the cost of treatment.

Financial toxicity is increasing with the increasing complexity of diagnostic technologies and the complexity and duration of treatments. While most panelists always discuss the costs of investigations and treatments with patients (65%; $n = 17$ and 73%; $n = 19$, respectively), fewer than half (46%; $n = 12$) always ask patients about the impact of costs on them and their families. However, 85% ($n = 22$) offer alternative options based on the patient's financial capacity. It was suggested that innovative approaches are needed to balance costs across the treatment pathway (e.g., use lower-cost early investigations and interventions such as orchiectomy to save money for second-/third-/fourth-line treatment).

4 | DISCUSSION

Prostate cancer is a significant and growing health issue in the Asia-Pacific (APAC) region.[48] While lower than in the US and Europe, the incidence in Asia is increasing, and the risk of death is higher than in many Western countries.[49]

APAC APCCC symposia provide the opportunity to consider the application of low-level evidence in emerging areas of advanced prostate cancer management in a real-world context. Survey responses and discussion provide valuable insights into current practices and challenges. A consistent message throughout APAC APCCC 2023 was the ongoing influence of cost and reimbursement of tests and treatments in the region. Cost influences the use of NGI, treatment with ARSi and PARPi, genetic testing, and some quality-of-life strategies.

NGI is changing the categorization of metastatic prostate cancer. Panelists strongly support the use of a miTNM category for mHSPC, noting that greater use will allow prospective validation. Panelists also reflected on whether nmCRPC will continue to exist as an entity in the era of NGI noting that, with NGI, ARSi, and PARPi, disease volume is likely to become less relevant over time with respect to treatment decision-making.

Discussions highlight the need for further data to establish robust endpoints for patients treated on the basis of PSMA PET-CT findings. As familiarity and use increase, the role of PSMA PET-CT in determining prognosis, monitoring disease progression, and informing decisions about treatment intensification will become more apparent. The use of PSMA PET-CT is also likely to influence reimbursement decisions, highlighting the importance of policy keeping pace with clinical developments.

While cost was a recurring theme, panelists were pragmatic, noting that a single high-cost test, such as PSMA PET-CT, may be more cost-effective than the accumulative cost of multiple tests. As NGIs become more available, clinical application must be carefully considered. It is unrealistic to expect routine PSMA PET-CT use in patients with low-risk disease, and results may be a distraction rather than beneficial if false positives are observed or expert interpretation is not applied. A central tenet in discussions was that tests should only be undertaken if the management plan will change based on findings. However, it was

noted that it is difficult to 'unsee' metastatic sites detected using PSMA PET-CT.

The treatment landscape for mHSPC and mCRPC is evolving, with the increasing availability of ARSi, the introduction of PARPi and radionuclide therapies, and ongoing trials of PSMA-targeted therapies. Combined with more detailed imaging and genetic information, these treatments present opportunities for more individualized treatment. However, in an era of increasing molecularly targeted therapies, the need for reliable companion diagnostic assays is growing.

The APAC region is learning how to incorporate new therapies into practice. Variation is apparent in treatment sequencing and combinations. Choices reflect access, cost, familiarity with the use of PARPi, and approved indications. Management of advanced prostate cancer will evolve globally as agents become more available, experience increases, and more information is gathered about the clinical settings in which novel agents will be most useful. Decision-making, especially for mHSPC, continues to be driven in the APAC region by clinical factors rather than biomarkers.

Discussions highlight the continued importance of multidisciplinary management of advanced prostate cancer, including nuclear medicine and genetic counseling/testing expertise, and psychosocial and supportive care. It is important to optimize care and reduce the treatment burden for patients, and to involve other disciplines such as geriatrics and exercise physiology.

The evolution of advanced prostate cancer management highlights the value of local, national, and regional research. Examples of APAC-specific research (Table 3) include:

- optimal PSA doubling time threshold to be used for risk stratification in CRPC in Asian people with prostate cancer
- optimal treatment sequencing and combinations for mHSPC and mCRPC in Asian people with prostate cancer
- optimal dosing of PARPi in Asian people with prostate cancer.

Despite issues of cost, the APAC region has world-leading experience with some treatments and technologies, including PSMA PET-CT. This experience represents an opportunity for the APAC region to generate evidence guiding future practice (Supporting Information).

TABLE 3 Research ideas arising from the Asia-Pacific Advanced Prostate Cancer Consensus Conference (APAC APCCC).

Topic	Research questions
Impact of NGIs	• Establishment of robust endpoints (including survival) for patients treated on the basis of PSMA PET-CT findings • PSMA PET-CT sub-divisions are appropriate to determine prognosis and decide on treatment intensification • Impact of PSMA PET-CT use on reimbursement decisions for treatment • Role of PSMA PET-CT for monitoring patients on treatment
Disease stratification	• Prospective validation of the use of miTNM • The optimal threshold for PSA doubling time for Asian men to be used for risk stratification in CRPC (is the 10-month threshold appropriate?) • Impact of next-generation imaging and increasing availability of ARSi on disease stratification and decision-making based on volume • Role of PSMA PET-CT in defining nmCRPC
Treatment	• Benefits of adding local therapy / metastasis-directed therapy in nmCRPC • Optimal treatment sequence and combinations in Asian patients • Optimal dose/tolerance of PARPis in Asian patients • Option for generic abiraterone or reduced dose abiraterone with food in combination with PARPis • Management of oligo-progression
Quality of life	• Optimal care for older patients to reduce treatment burden
Genetic testing	• APAC-specific guidance/programs for genetic testing

Abbreviations: APAC, Asia-Pacific; ARSi, Androgen-receptor signaling inhibitor; CT, computed tomography; nmCRPC, non-metastatic castration-resistant prostate cancer; PARPi, PARP inhibitor; PET, positron emission tomography; PSA, prostate-specific antigen; PSMA, prostate-specific membrane antigen.

ACKNOWLEDGMENTS

The authors gratefully acknowledge the Australian and New Zealand Urogenital and Prostate (ANZUP) Cancer Trials Group for hosting and coordinating the symposium, with particular thanks to Margaret McJannett, Nicole Tankard, and Lucy Byers for their input. We also thank Alison Evans for her assistance in manuscript preparation.

We acknowledge meeting sponsorship from Bayer (platinum sponsor), Astellas, AstraZeneca, and Pfizer. Meeting sponsors did not contribute to the APAC APCCC 2023 discussions and were not involved in the development or review of this manuscript.

CONFLICT OF INTEREST STATEMENT

- Edmund Chiong reports: (a) honoraria from Amgen, Astellas, AstraZeneca, Bayer, DCH Auriga, Ferring, Ipsen, Janssen, Novartis; (b) support for meeting attendance from Astellas; (c) participation in a Data Safety Monitoring Board or Advisory Board for AstraZeneca, Bayer, Ferring, Janssen outside the submitted work.
- Declan Murphy reports consulting fees and speaker honoraria from Astellas, AstraZeneca, Bayer, Janssen, and Mundipharma outside the submitted work.
- Nicholas Buchan reports membership as an unremunerated Board member of ANZUP Cancer Trials Group.
- Kenneth Chen reports: (a) honoraria from AstraZeneca and Bayer (paid to Singapore General Hospital); (b) support for meeting attendance from Hinotori and Olympus outside the submitted work. Kenneth Chen reports membership of the Executive Committee of the Singapore Urological Association and Chair of Urofair 2023 (local urological conference).

- Melvin Chua reports: (a) grants/contracts from Bayer, BeiGene, Decipher Biosciences, Immunoscape; (b) consulting fees from AstraZeneca, Immunoscape, Janssen, MSD, Telix pharmaceuticals; (c) honoraria from AstraZeneca, Astellas, Bayer, BeiGene, Janssen, MSD; (d) support for meeting attendance from IQVIA and Varian outside the submitted work. Melvin Chua is Chair of the ASCO Asia Pacific Regional Council, Chair of the ASCO Breakthrough Program Committee, member of the Board of Trustees for Alice's Arc UK Charity, and member of the Board of Directors for Digital Life Line. Melvin Chua reports holding stock options for Digital Life Line.
- Ravindran Kanesvaran reports: (a) consulting fees from Astellas, AstraZeneca, Bayer, Bristol Myers Squibb, Eisai, Ipsen, Johnson & Johnson, Merck, MSD, Novartis, Ipsen; (b) honoraria from Astellas, AstraZeneca, Bayer, Bristol Myers Squibb, Eisai, Ipsen, Johnson & Johnson, Merck, MSD, Novartis; (c) support for meeting attendance from AstraZeneca and Ipsen outside the submitted work.
- Ng Chi Fai (Anthony) reports: (a) grants/contracts from Janssen, Olympus, Takeda; (b) consulting fees from Ferring, MSD; (c) honoraria from Boston Scientific, Cornerstone, Ferring, Janssen, Medtronic; (d) support for meeting attendance from Boston Scientific, Janssen, Olympus; (e) participation in a Data Safety Monitoring Board or Advisory Board for Jiangsu outside the submitted work.
- Teng Aik Ong reports: (a) honoraria from Amgen, Astellas, AstraZeneca, Ferring, Ipsen, Johnson & Johnson, and Merck; (b) support for meeting attendance from Auriga outside the submitted work. Teng Aik Ong is a Board member of the Societe Internationale d'Urologie (SIU) and a Board member of the Urological Association of Asia (UAA).
- Marniza Saad reports: (a) institutional and individual research grant funding from Johnson & Johnson, MSD; (b) consulting fees from Bristol Myers Squibb, Ipsen, Johnson & Johnson, Merck, MSD; (c) honoraria from Amgen, Astellas, Eisai, Ipsen, Johnson & Johnson, Merck, MSD; (d) support for meeting attendance from Cipla, Ipsen, MSD; (e) membership of advisory boards for Bristol Myers Squibb, Ipsen, Johnson & Johnson, Merck, MSD; (f) receipt of drugs for patients from Ipsen and Pfizer outside the submitted work.
- Ian Davis reports (a) a grant from the National Health and Medical Research Council and (b) unremunerated participation on an Advisory Board for AstraZeneca and Bayer outside the submitted work. Ian Davis is the unremunerated Director and Chair of ANZUP Cancer Trials Group.

The other authors declare no conflict of interest.

FUNDING INFORMATION

The meeting was made possible with sponsorship from Bayer, Astellas, AstraZeneca, and Pfizer. Sponsors did not contribute to the APAC APCCC 2020 discussions and were not involved in the development or review of this manuscript.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

How to cite this article: Chiong E, Murphy DG, Buchan N, et al. Management of advanced prostate cancer in the Asia-Pacific region: Summary of the Asia-Pacific Advanced Prostate Cancer Consensus Conference 2023. *Asia-Pac J Clin Oncol*. 2024;1-10. https://doi.org/10.1111/ajco.14064