

**SUPPLEMENTAL MATERIAL FOR THE ISPOR EUROPE 2024 CONFERENCE POSTER:
SYSTEMATIC LITERATURE REVIEW ON ECONOMIC EVALUATIONS AND HEALTH ECONOMIC MODELS
IN THE FIELD OF METASTATIC CASTRATION-SENSITIVE PROSTATE CANCER**

The PRISMA flow diagram of the literature search and selection process

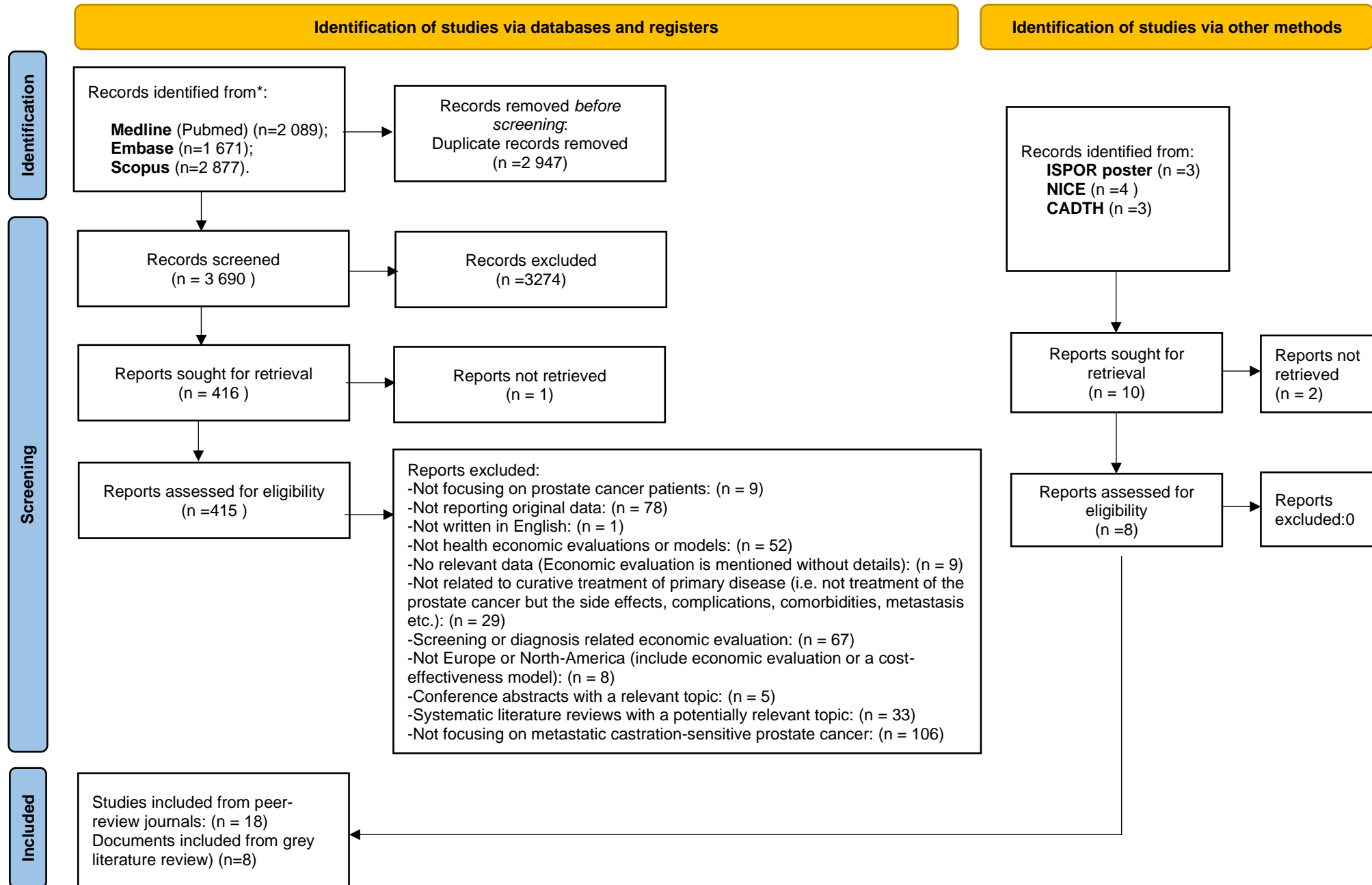


Table 1: Technology appraisal documents identified in the NICE database

Reference	Investigated therapies	Modelling approach	Study outcome	Time horizon
TA903, 2023	ADT + Darolutamide + docetaxel vs. ADT + Docetaxel vs. ADT + Enzalutamide vs. ADT alone	<ul style="list-style-type: none"> • Partitioned survival model • Pre-progression (with 2 sub-health states: on treatment, off treatment), Post-progression (with 3 sub-health states: 1st line, 2nd line, 3rd line), death 	Cost / QALY	Lifetime
TA741, 2021	ADT + Apalutamide vs. ADT + Docetaxel vs. ADT alone	<ul style="list-style-type: none"> • Partitioned survival model • Progression free, progressed disease (with 3 sub-health states: 1st line, 2nd line, 3rd line), death 	Cost / QALY	Lifetime
TA721, 2021	ADT + Abiraterone acetate plus prednisone vs. ADT + Docetaxel vs. ADT alone	<ul style="list-style-type: none"> • Partitioned survival model • mHSPC (progression-free), mHSPC (progressive disease), mCRPC 1st line, mCRPC 2nd line, mCRPC 3rd line, death 	Cost / QALY	20 years
TA712, 2021	ADT + Enzalutamide vs. ADT + Docetaxel vs. ADT alone	<ul style="list-style-type: none"> • Partitioned survival model • Stable disease (with 2 sub-health states: on treatment, off treatment), progressed disease (with 3 sub-health states: 1st line, 2nd line, 3rd line), death 	Cost / QALY	Lifetime

ADT: androgen deprivation therapy; QALY: quality-adjusted life years; LHRH: luteinising hormone-releasing hormone; mHSPC: metastatic hormone-sensitive prostate cancer; mCRPC: metastatic castration-resistant prostate cancer

Table 2: Technology appraisal documents identified in the CADTH database

Document number	Investigated therapies	Modelling approach	Study outcome	Time horizon
PC0294-000	ADT + Darolutamide + docetaxel vs. ADT + Docetaxel vs. ADT + Abiraterone and prednisone vs. ADT + Apalutamide vs. ADT + Enzalutamide vs. ADT alone	<ul style="list-style-type: none"> • Partitioned survival model • mCSPC, mCRPC, death 	Cost / QALY	Lifetime
PC0209-000	ADT + Enzalutamide vs. ADT + Docetaxel vs. ADT + Apalutamide vs. ADT + Abiraterone acetate plus prednisone vs. ADT alone	<ul style="list-style-type: none"> • Markov cohort • No mention about health state 	Cost / QALY	15 years
PC0200-000	ADT + Apalutamide vs. Docetaxel + ADT vs. ADT + Abiraterone acetate plus prednisone vs. ADT alone	<ul style="list-style-type: none"> • Partitioned survival model • No mention about health state 	Cost / QALY	20 years

ADT: androgen deprivation therapy; QALY: quality-adjusted life years; mHSPC: metastatic hormone-sensitive prostate cancer; mCRPC: metastatic castration-resistant prostate cancer

18 included peer-reviewed papers in this systematic review

1. Iannazzo, S., Pradelli, L., Carsi, M., & Perachino, M. (2011). Cost-effectiveness analysis of LHRH agonists in the treatment of metastatic prostate cancer in Italy. *Value in health: 14*(1), 80–89.
2. Hird, A. E., Magee, D. E., Cheung, D. C., Matta, R., Kulkarni, G. S., & Nam, R. K. (2020). Abiraterone vs. docetaxel for metastatic hormone-sensitive prostate cancer: A microsimulation model. *Canadian Urological Association journal = Journal de l'Association des urologues du Canada, 14*(9), E418–E427.
3. Lester-Coll, N. H., Ades, S., Yu, J. B., Atherly, A., Wallace, H. J., 3rd, & Sprague, B. L. (2021). Cost-effectiveness of Prostate Radiation Therapy for Men With Newly Diagnosed Low-Burden Metastatic Prostate Cancer. *JAMA network open, 4*(1), e2033787.
4. Lu, L., Peters, J., Roome, C., & Stein, K. (2012). Cost-effectiveness analysis of degarelix for advanced hormone-dependent prostate cancer. *BJU international, 109*(8), 1183–1192.
5. Barbier, M. C., Tomonaga, Y., Menges, D., Yebyo, H. G., Haile, S. R., Puhan, M. A., & Schwenkglenks, M. (2022). Survival modelling and cost-effectiveness analysis of treatments for newly diagnosed metastatic hormone-sensitive prostate cancer. *PloS (11), e0277282 one, 17*.
6. De Bleser, E., Willems, R., Decaestecker, K., Annemans, L., De Bruycker, A., Fonteyne, V., ... & Bultijnck, R. (2020). A trial-based cost-utility analysis of metastasis-directed therapy for oligorecurrent prostate cancer. *Cancers, 12*(1), 132.
7. Parikh, N. R., Chang, E. M., Nickols, et al. (2020). Cost-Effectiveness of Metastasis-Directed Therapy in Oligorecurrent Hormone-Sensitive Prostate Cancer. *International journal of radiation oncology, biology, physics, 108*(4), 917–926.
8. Pelloux-Prayer, R., Schiele, P., Oudard, S., Gravis, G., Kleinclauss, F., Crehange, G., Hennequin, C., Morgans, A. K., Geoffrois, L., Limat, S., Thiery-Vuillemin, A., & Nerich, V. (2021). Cost-effectiveness Analysis of Innovative Therapy for Patients with Newly Diagnosed Hormone-Sensitive Metastatic Prostate Cancer. *Clinical genitourinary cancer, 19*(5), e326–e333
9. Ramamurthy, C., Handorf, E. A., Correa, A. F., Beck, J. R., & Geynisman, D. M. (2019, October). Cost-effectiveness of abiraterone versus docetaxel in the treatment of metastatic hormone naïve prostate cancer. In *Urologic Oncology: Seminars and Original Investigations* (Vol. 37, No. 10, pp. 688-695). Elsevier.
10. Saad, F., Chilelli, A., Hui, B., Muratov, S., Ganguli, A., North, S., & Shayegan, B. (2022). Cost-effectiveness of enzalutamide versus apalutamide versus androgen deprivation therapy alone for the treatment of metastatic castration-sensitive prostate cancer in Canada. *Journal of Medical Economics, 25*(1), 583-590.
11. Sathianathan, N. J., Alarid-Escudero, F., Kuntz, K. M., Lawrentschuk, N., Bolton, D. M., Murphy, D. G., ... & Konety, B. R. (2019). A cost-effectiveness analysis of systemic therapy for metastatic hormone-sensitive prostate cancer. *European urology oncology, 2*(6), 649-655.
12. Sung, W. W., Choi, H. C., Luk, P. H., & So, T. H. (2021). A cost-effectiveness analysis of systemic therapy for metastatic hormone-sensitive prostate cancer. *Frontiers in Oncology, 11*, 627083.
13. Zhang, P. F., Xie, D., & Li, Q. (2021). Adding Enzalutamide to First-Line Treatment for Metastatic Hormone-Sensitive Prostate Cancer: A Cost-Effectiveness Analysis. *Frontiers in public health, 9*, 608375.

14. Beca, J., Majeed, H., Chan, K. K. W., Hotte, S. J., Loblaw, A., & Hoch, J. S. (2019). Cost-effectiveness of docetaxel in high-volume hormone-sensitive metastatic prostate cancer. *Canadian Urological Association journal = Journal de l'Association des urologues du Canada*, 13(12), 396–403
15. Parmar, A., Timilshina, N., Emmenegger, U., Smoragiewicz, M., Sander, B., Alibhai, S., & Chan, K. K. W. (2022). A cost-utility analysis of apalutamide for metastatic castration sensitive prostate cancer. *Canadian Urological Association journal = Journal de l'Association des urologues du Canada*, 16(3), E126–E131.
16. Yoo, M., Nelson, R. E., Haaland, B., Dougherty, M., Cutshall, Z. A., Kohli, R., ... & Kohli, M. (2023). Cost-effectiveness analysis of 7 treatments in metastatic hormone-sensitive prostate cancer: a public-payer perspective. *JNCI: Journal of the National Cancer Institute*, 115(11), 1374-1382.
17. Wang, L., Hong, H., Alexander, G. C., Brawley, O. W., Paller, C. J., & Ballreich, J. (2022). Cost-Effectiveness of Systemic Treatments for Metastatic Castration-Sensitive Prostate Cancer: An Economic Evaluation Based on Network Meta-Analysis. *Value in health : the journal of the International Society for Pharmacoeconomics and Outcomes Research*, 25(5), 796–802.
18. de Paredes Esteban, J. C. G., Del Rey, E. J. A., & Díez, R. A. (2017). Docetaxel in hormone-sensitive advanced prostate cancer; GENESIS-SEFH evaluation report. *Farmacia Hospitalaria*, 41(4), 550-558.

3 included ISPOR poster in this systematic review

1. Katta, A., & Hansen, R. N. (2023). EE47 Cost-Effectiveness of Abiraterone, Enzalutamide, and Apalutamide in Metastatic Castration-Sensitive Prostate Cancer (MCSPC): A Partitioned-Survival Model. *Value in Health*, 26(6), S68.
2. Madani, O. (2023). HTA157 Reflection on Medicines That Have Recently Come Off Patent and Have Been Rejected by NICE in the Past 20 Years: A Case Study of Abiraterone for Treating Newly Diagnosed Metastatic Hormone Sensitive Prostate Cancer (MHSPC). *Value in Health*, 26(12), S349.
3. Nwogu, I. B., Nedzesky, J., & Carlson, J. J. (2023). EE261 Cost-Effectiveness of Adding Darolutamide to Docetaxel and Androgen Deprivation Therapy in the Treatment of Metastatic Hormone-Sensitive Prostate Cancer. *Value in Health*, 26(6), S106.