NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Health Technology Evaluation

Darolutamide with androgen deprivation therapy for treating hormone-sensitive metastatic prostate cancer

Final scope

Remit/evaluation objective

To appraise the clinical and cost effectiveness of darolutamide with androgen deprivation therapy within its marketing authorisation for treating hormone-sensitive metastatic prostate cancer.

Background

Prostate cancer is a condition in which tumours develop in the prostate, a gland in the male reproductive system.

The incidence of prostate cancer mainly affects people over 50, with the risk increasing with age, and is higher in people of black African-Caribbean family origin or people with a family history of the condition.[1] Additional risk factors for developing prostate cancer include HOXB13 or BRCA1/2 genetic mutations as well as lifestyle factors such as obesity, weight and smoking. [1,2] In 2022, 50,702 people in England were diagnosed with prostate cancer.[3] Of those, 19% of people diagnosed had metastatic disease, that is, disease that has spread to other parts of the body (for example, the bones).[3] The prostate cancer incidence rates are projected to increase by 15% between 2023-2025 and 2038-2040 in the UK due to an aging population, increased life expectancy and increased prostate screening.[1,4] The age standardised mortality rate for prostate cancer in 2021 was 43 for every 100,000 persons.[5] Overall, more than 8 in 10 men diagnosed with prostate cancer today are predicted to survive their disease for at least 10 years, attributable to increased prostate screening and earlier diagnosis as well as the improvements of treatment.[1]

For newly diagnosed metastatic prostate cancer, NICE clinical guideline 131 recommends starting docetaxel chemotherapy within 12 weeks of starting androgen deprivation therapy. For metastatic prostate cancer, the guideline recommends offering bilateral orchidectomy as an alternative to continuous luteinising hormone-releasing hormone agonist therapy. For people who are willing to accept the adverse impact on overall survival and gynaecomastia (breast swelling) in the hope of retaining sexual function, the guideline recommends offering anti-androgen monotherapy with bicalutamide. NICE technology appraisal 404 recommends degarelix, a gonadotrophin-releasing hormone antagonist, for treating advanced hormone-dependent (hormone-sensitive) prostate cancer in people with spinal metastases. In addition, NICE technology appraisal 712 recommends enzalutamide plus androgen deprivation therapy as an option for treating hormone-sensitive metastatic prostate cancer in adults, and NICE technology appraisal 741 recommends apalutamide plus androgen deprivation therapy as an option for treating hormone-sensitive metastatic prostate cancer in adults, if docetaxel is not suitable. NICE technology appraisal 903 recommends darolutamide with androgen deprivation therapy and docetaxel as another option for treatment of hormone-sensitive metastatic prostate cancer in adults. NICE technology appraisal 995 recommends

relugolix as another option for treating prostate cancer in adults with advanced hormone-sensitive prostate cancer.

The description 'hormone-sensitive metastatic prostate cancer' refers to a population that includes people with metastatic prostate cancer who have not had androgen deprivation therapy, or whose disease is continuing to respond to androgen deprivation therapy.

The technology

Darolutamide (Nubeqa, Bayer) in combination with androgen deprivation therapy (ADT) does not currently have a marketing authorisation in the UK for treating hormone-sensitive metastatic prostate cancer. It has been studied in a Phase 3 clinical trial in combination with ADT compared with placebo in combination with ADT in people with metastatic hormone sensitive prostate cancer.

Darolutamide does have a marketing authorisation in the UK for treating non-metastatic hormone relapsed prostate cancer in adults at high risk of developing metastatic disease and for treating hormone-sensitive metastatic prostate cancer in combination with docetaxel.

Intervention(s)	Darolutamide with androgen deprivation therapy
Population(s)	People with hormone-sensitive metastatic prostate cancer
Subgroups	If the evidence allows, the following subgroups of people will be considered: • people with newly diagnosed metastatic prostate cancer • people with high-risk metastatic prostate cancer
Comparators	For people in whom docetaxel is not suitable: • Apalutamide and androgen deprivation therapy • Enzalutamide and androgen deprivation therapy

Outcomes	The outcome measures to be considered include: • overall survival • progression-free survival • response rate • time to hormone relapsed prostate cancer • time to subsequent treatment • prostate-specific antigen undetectable rate • time to prostate-specific antigen progression • time to pain progression • adverse effects of treatment • health-related quality of life.
Economic analysis	The reference case stipulates that the cost effectiveness of treatments should be expressed in terms of incremental cost per quality-adjusted life year. If the technology is likely to provide similar or greater health benefits at similar or lower cost than technologies recommended in published NICE technology appraisal guidance for the same indication, a cost comparison may be carried out. The reference case stipulates that the time horizon for estimating clinical and cost effectiveness should be sufficiently long to reflect any differences in costs or outcomes between the technologies being compared. Costs will be considered from an NHS and Personal Social Services perspective. The availability of any commercial arrangements for the intervention, comparator and subsequent treatment technologies will be taken into account. The availability and cost of biosimilar and generic products should be taken into account.
Other considerations	Guidance will only be issued in accordance with the marketing authorisation. Where the wording of the therapeutic indication does not include specific treatment combinations, guidance will be issued only in the context of the evidence that has underpinned the marketing authorisation granted by the regulator.
Related NICE recommendations	**Related technology appraisals:** 'Relugolix for treating hormone-sensitive prostate cancer' (2024). NICE Technology appraisal guidance [TA995].

	'Darolutamide with androgen deprivation therapy and docetaxel for treating hormone-sensitive metastatic prostate cancer' (2023). NICE Technology appraisal guidance [TA903]. Review date 2026. 'Apalutamide with androgen deprivation therapy for treating hormone-sensitive metastatic prostate cancer' (2021). NICE Technology appraisal guidance [TA741]. Review date 2024. 'Enzalutamide for treating hormone-sensitive metastatic prostate cancer' (2021). NICE Technology appraisal guidance [TA712]. Review date 2024. 'Darolutamide with androgen deprivation therapy for treating hormone-relapsed non-metastatic prostate cancer' (2020). NICE Technology appraisal guidance [TA660]. Review date 2023. 'Degarelix for treating advanced hormone-dependent prostate cancer' (2016). NICE Technology appraisal guidance [TA404]. **Related NICE guidelines:** 'Prostate cancer: diagnosis and management' (2019). NICE guideline [NG131]. **Related Quality Standards:** 'Prostate cancer' (2015). NICE quality standard [QS91].
Related National Policy	The NHS Long Term Plan (2019) NHS Long Term Plan NHS England (2023) Manual for prescribed specialist services (2023/2024) NHS Long Term Plan NHS England (2018/2019) NHS manual for prescribed specialist services (2018/2019) NHS England (2021) Clinical Commissioning Policy: External beam radiotherapy for patients presenting with hormone sensitive, low volume metastatic prostate cancer at the time of diagnosis NHS England (2016) Clinical Commissioning Policy Statement: Docetaxel in combination with androgen deprivation therapy for the treatment of hormone naïve metastatic prostate cancer NHS England (2013) 2013/14 NHS standard contract for cancer: chemotherapy (adult)

References

1. Cancer Research UK (2024). Prostate cancer statistics. Accessed December 2024.

2. Macmillan Cancer Support (2021). Causes and risk factors of prostate cancer. Accessed December 2024.

3. National Prostate Cancer Audit (2024). NPCA State of the Nation Report 2023. Accessed December 2024.

4. Prostate Cancer Foundation (2024). Prostate cancer cases expected to double worldwide between 2020 and 2040, new analysis suggests | Prostate Cancer Foundation. Accessed December 2024.

5. NHS Digital (2024). Cancer registration statistics, England 2021. Accessed December 2024.