

Putting NICE guidance into practice

**Resource impact report:**

**Cabozantinib with nivolumab for untreated advanced renal cell carcinoma (TA964)**

Published: April 2024

# Summary

NICE has recommended cabozantinib with nivolumab as an option for untreated advanced renal cell carcinoma in adults, only if:

• their disease is intermediate or poor risk as defined in the International Metastatic Renal Cell Carcinoma Database Consortium criteria, and

• nivolumab with ipilimumab or lenvatinib with pembrolizumab would otherwise be offered, and

• the companies provide cabozantinib and nivolumab according to their commercial arrangements.

We estimate, after adjusting for population growth, by 2028/29 around:

* 1,154 adults with untreated advanced renal cell carcinoma are eligible for treatment with cabozantinib with nivolumab. 404 adults will start treatment with cabozantinib with nivolumab each year. This is based on consultant nephrologist opinion.

**Table 1 Estimated number of people in England starting treatment with cabozantinib with nivolumab each year**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **2024/25** | **2025/26** | **2026/27** | **2027/28** | **2028/29** |
| Uptake % | 25 | 35 | 35 | 35 | 35 |
| People starting treatment with cabozantinib with nivolumab after adjusting for population growth | 278 | 392 | 396 | 400 | 404 |
| **Total number of people** | **278** | **392** | **396** | **400** | **404** |
| It is anticipated people continue treatment for 16.6 months on average and therefore there will also be people receiving treatment who started treatment in previous years**.** |

This report is supported by a local resource impact template. The companies have commercial arrangements. These make cabozantinib and nivolumab available to the NHS with discounts. The size of the discounts are commercial in confidence. It is the companies’ responsibility to let relevant NHS organisations know details of the discount.

This technology is commissioned by NHS England. Providers are NHS hospital trusts.

1. Cabozantinib with nivolumab for untreated advanced renal cell carcinoma
	1. Untreated advanced renal cell carcinoma is treated based on risk status (favourable, intermediate and poor risk). For all risk statuses, treatment includes sunitinib, pazopanib or tivozanib. For intermediate- and poor-risk cancer, people may also be offered cabozantinib alone, nivolumab with ipilimumab, or lenvatinib with pembrolizumab.
	2. An indirect comparison suggests that cabozantinib with nivolumab works as well as nivolumab with ipilimumab and lenvatinib with pembrolizumab. But these results are uncertain because of the evidence and methods used in the indirect comparison.
	3. Patient experts explained that advanced renal cell carcinoma is life changing. It is difficult for people with renal cell carcinoma to continue with daily life even after successful treatment, because of the fear of recurrence. Patient experts said that people with advanced renal cell carcinoma are frequently hospitalised, may have to take early retirement and have uncertainty about the future.
	4. Clinical experts explained that cabozantinib with nivolumab would likely displace nivolumab with ipilimumab and lenvatinib with pembrolizumab.
2. Resource impact of the guidance
	1. The current treatment uptake figures are based on approximations of current usage from NHS England. Future uptake figure assumptions are based on estimates by consultant nephrologists and are shown in the resource impact template.
	2. This report is supported by a local resource impact template. The companies have commercial arrangements. These make cabozantinib and nivolumab available to the NHS with discounts. The size of the discounts are commercial in confidence. It is the companies’ responsibility to let relevant NHS organisations know details of the discount.
3. Implications for commissioners and providers
	1. Cabozantinib with nivolumab is commissioned by NHS England. Providers are NHS hospital trusts.
	2. Cabozantinib with nivolumab falls within the programme budgeting category 02H cancer, Urological.
	3. There may be a capacity impact on chemotherapy units for people who receive cabozantinib with nivolumab. The resource impact template allows providers to assess this impact.
4. How we estimated the resource impact

## The population

* 1. In 2019, around 11,574 adults were diagnosed with kidney cancer in England [[Office for National Statistics 2021 - cancer registration statistics England 2019 data release].](https://digital.nhs.uk/data-and-information/publications/statistical/cancer-registration-statistics/england-2019)
	2. Of these, [Cancer Research UK](https://www.cancerresearchuk.org/about-cancer/kidney-cancer/stages-types-grades/types-grades) estimate around 80% have kidney cancer that is renal cell carcinoma and the [National disease registration service – stage at diagnosis](https://digital.nhs.uk/ndrs/data/data-outputs/cancer-data-hub/cancer-stage-at-diagnosis) estimate 42.6% would be advanced or metastatic renal cell carcinoma.
	3. Using assumptions from the company submission from technology appraisal 780 where the advisory board (January 2016) estimated that 75% of these patients will receive first line systemic therapy. [Kidney Cancer UK](https://www.kcuk.org.uk/kidneycancer/what-is-kidney-cancer/) estimates that 75% will have clear cell disease and the [Nivolumab plus Ipilimumab versus Sunitinib in Advanced Renal-Cell Carcinoma](https://www.nejm.org/doi/full/10.1056/NEJMoa1712126) study estimates 75% will have disease that is intermediate or poor risk.
	4. NHS England clinical expert estimated that around 1,100 people are currently be offered nivolumab with ipilimumab or lenvatinib with pembrolizumab.
	5. Table 2 shows the number of people eligible for treatment with cabozantinib with nivolumab.

### Table 2 Number of people eligible for treatment in England

|  |  |  |
| --- | --- | --- |
| **Population** | **Proportion of previous row (%)** | **Number of people in 2028/29**  |
| Adult population (adjusted for predicted growth each year) |  | 48,417,016 |
| Incidence of kidney cancer in adults1 | 0.03 | 12,143 |
| Proportion of kidney cancer that is renal cell carcinoma2 | 80 | 9,714 |
| Proportion with advanced or metastatic renal cell carcinoma3 | 42.6 | 4,138 |
| Proportion of patients who will receive first line systemic therapy4 | 75 | 3,104 |
| Proportion with advanced renal cell carcinoma with clear cell disease5 | 75 | 2,328 |
| Proportion with advanced renal cell carcinoma with clear cell disease who are intermediate or poor risk6 | 75 | 1,746 |
| Proportion where nivolumab with ipilimumab or lenvatinib with pembrolizumab would otherwise be offered7  | 66 | 1,154 |
| 1 [Office for National Statistics 2021 - cancer registration statistics England 2019 data release](https://digital.nhs.uk/data-and-information/publications/statistical/cancer-registration-statistics/england-2019) (ICD code C64-66)2 [Cancer Research UK](https://www.cancerresearchuk.org/about-cancer/kidney-cancer/stages-types-grades/types-grades)3 [National disease registration service – stage at diagnosis](https://digital.nhs.uk/ndrs/data/data-outputs/cancer-data-hub/cancer-stage-at-diagnosis)4 TA780 Company advisory board (Jan 2016)5 [Kidney Cancer UK What Is Kidney Cancer (kcuk.org.uk)](https://www.kcuk.org.uk/kidneycancer/what-is-kidney-cancer/)6 [Nivolumab plus Ipilimumab versus Sunitinib in Advanced Renal-Cell Carcinoma](https://www.nejm.org/doi/full/10.1056/NEJMoa1712126)7 NHSE clinical expert opinion |

## Assumptions

* 1. The resource impact template assumes that:
* The main comparators for this recommendation include nivolumab with ipilimumab or lenvatinib with pembrolizumab.
* The median progression free survival (PFS) for nivolumab with cabozantinib was 16.6 months.
* The recommended dose of cabozantinib is 40 mg daily and nivolumab either 240 mg every 2 weeks over 30 minutes or 480 mg every 4 weeks over 60 minutes.
* For nivolumab the 480 mg every 4 weeks over 60 minutes dosage is used.
* Compared with established clinical practice in England, cabozantinib with nivolumab will not require any additional monitoring.
* Administration costs in clinic are based on the [2023-25 NHS Payment Scheme, 2023/24 prices workbook](https://www.england.nhs.uk/publication/2023-25-nhs-payment-scheme/).

# About this resource impact report

This resource impact report accompanies the NICE guidance on [Cabozantinib with nivolumab for untreated advanced renal cell carcinoma](https://www.nice.org.uk/guidance/ta964)  and should be read with it. See [terms and conditions](http://www.nice.org.uk/terms-and-conditions) on the NICE website.

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