

Putting NICE guidance into practice

**Resource impact report:  
Nivolumab for previously treated advanced  
renal cell carcinoma (TA417)**

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## Summary

NICE guidance on [nivolumab for previously treated advanced renal cell carcinoma](#) has recommended nivolumab as a treatment option in adults, when the company provides nivolumab with the discount agreed in the patient access scheme.

Nivolumab provides an option for previously treated advanced renal cell carcinoma in adults at second line or third line. The current treatment options are axitinib or best supportive care from routine commissioning or everolimus available via the Cancer drugs fund (CDF).

Before the marketing authorisation was granted (May2016), nivolumab was available in the NHS through the early access to medicines scheme. Because nivolumab was made available in the NHS through the early access to medicines scheme, NHS England has indicated that this guidance will be implemented 30 days after final publication.

Across England, it is estimated that around 800 people with previously treated advanced renal cell carcinoma are eligible for treatment with nivolumab. From 2020/21, it is estimated that around 330 people will have second line treatment with nivolumab and around 30 people will have third line treatment with nivolumab, after treatment with axitinib or everolimus at second line.

The number of people in England estimated to have nivolumab each year based on the uptake in the resource impact assumptions is shown in table 1.

**Table 1 Estimated number of people in England having nivolumab each year**

	2016/17	2017/18	2018/19	2019/20	2020/21
Population having second –line treatment with nivolumab each year	20	130	200	260	330
Population having third-line treatment with nivolumab each year	7	10	20	25	30

This report is supported by a local resource impact template because the list price of nivolumab has a discount that is commercial in confidence. The comparator, axitinib, has a patient access scheme that is also commercial in confidence. The discounted prices of nivolumab and axitinib can be put into the template and other variables may be amended.

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

# 1 Introduction

- 1.1 This report looks at the resource impact of implementing the NICE guidance on [nivolumab for previously treated advanced renal cell carcinoma](#) in England.
- 1.2 The guidance states that:
- Nivolumab is recommended, within its marketing authorisation, as an option for treating previously treated advanced renal cell carcinoma in adults, when the company provides nivolumab with the discount agreed in the patient access scheme.
- 1.3 The Department of Health and Bristol–Myers Squibb have agreed that nivolumab will be available to the NHS with a patient access scheme which makes it available with a discount. The size of the discount is commercial in confidence. It is the responsibility of the company to communicate details of the discount to the relevant NHS organisations. Any enquiries from NHS organisations about the patient access scheme should be directed to Bristol-Myers Squibb (01244 586250, email [mg-ukpasadmin@bms.com](mailto:mg-ukpasadmin@bms.com)).
- 1.4 This report is supported by a resource impact template. The template aims to help organisations in England, Wales and Northern Ireland plan for the financial implications of implementing the NICE guidance by amending the variables.
- 1.5 This technology is commissioned by NHS England. Providers are NHS hospital trusts.

## 2 Background and epidemiology of renal cell carcinoma

- 2.1 Renal cell carcinoma is a type of kidney cancer that usually starts in the lining of the tubules of the kidney (the smallest tubes inside the nephrons) that help filter the blood and make urine. It is the

most common type of kidney cancer, responsible for about 90% of all cases of kidney cancer diagnosed in the UK.

2.2 The aim of treatment is to stop the growth of new blood vessels within a tumour. NICE technology appraisal guidance on [axitinib for treating advanced renal cell carcinoma after failure of prior systemic treatment](#) recommends axitinib after failure of previous systemic treatment with a tyrosine kinase inhibitor or cytokine. The only other active treatment option available for people with advanced renal cell carcinoma who have received previous therapy in England is everolimus. While NICE does not recommend everolimus, it is currently available through the Cancer Drugs Fund.

2.3 For people who have had 1 previous treatment, nivolumab is a potential alternative to:

- axitinib (which is offered to most people)
- everolimus (which is offered to people who cannot have axitinib)
- best supportive care (which is offered to people who cannot have axitinib or everolimus).

2.4 For people who have had 2 previous treatments, nivolumab is a potential alternative to best supportive care.

2.5 In 2014, around 9,000 cases of adults with kidney cancer were recorded in England ([Office for National Statistics](#), 2016). Table 2 shows the number of people eligible for treatment with nivolumab.

**Table 2 Number of people eligible for treatment with nivolumab in England**

<b>Population</b>	<b>Proportion</b>	<b>Number of people</b>
Adult population in England		42,724,917
Incidence of kidney cancer in England <sup>a</sup>	0.021%	9,000
People with kidney cancer who have renal cell carcinoma <sup>b</sup>	80.00%	7,200
People with renal cell carcinoma diagnosed as advanced or metastatic <sup>b</sup>	30.00%	2,200
People with advanced or metastatic renal cell carcinoma previously treated with systemic therapy <sup>b</sup>	75.00%	1,600
People with previously treated advanced or metastatic renal cell carcinoma likely to have second-line treatment <sup>b</sup>	50.00%	800
Number of people estimated to have axitinib each year from year 2020/21 <sup>b</sup>	13.00%	100
Number of people estimated to have everolimus each year from year 2020/21 <sup>b</sup>	3.00%	20
Number of people estimated to be on best supportive care each year from year 2020/21 <sup>b</sup>	44.00%	350
Total number of people estimated to have second line nivolumab each year from year 2020/21 <sup>b</sup>	40.00%	330
Number of people estimated to have third-line nivolumab each year from 2020/21 (after treatment with axitinib and everolimus)		30
<p>a. <a href="#">Cancer Registration Statistics, England, 2014:</a></p> <p>b. Bristol-Myers Squibb Company submission</p>		

2.6 Therefore it is estimated that approximately 800 people are eligible for treatment with nivolumab each year.

2.7 From year 2020/21 it is estimated that around 330 people will have second-line treatment with nivolumab each year once uptake has reached 40%. It is also estimated that around 30 will have third line treatment with nivolumab after second-line treatment with axitinib or everolimus.

### **3 Assumptions made**

3.1 The resource impact template makes the following assumptions:

- Axitinib, everolimus and best supportive care are the comparators. While NICE does not recommend everolimus, it is currently available through the Cancer Drug Fund.
- Best supportive care is the comparator at third line.
- Based on the company submission, the uptake of nivolumab may reach 40% by year 2020/21.
- Axitinib is given orally; therefore no drug administration costs have been included.
- Treatment costs for everolimus will include oral chemotherapy delivery tariff of: Health resource group code SB11Z: Deliver exclusively oral chemotherapy. The tariff is £120 and is applied on day 1 of every 28 day cycle.
- The treatment cost of nivolumab includes an intravenous delivery cost of £152 per cycle ([NHS national tariff, 2016/17](#): Health resource group SB12Z: Deliver simple parenteral chemotherapy at first attendance).
- The use of nivolumab does not need additional tests or investigations outside of those needed for the diagnosis of advanced renal cell carcinoma that are needed for treatment with nivolumab.

### **4 Resource impact**

4.1 The list price of nivolumab has a discount that is commercial in confidence. The discounted price of nivolumab can be put into the template to calculate the resource impact of the guidance.

4.2 The current treatment and future uptake figure assumptions are based on company submission and are shown in the resource impact template. Table 3 shows the number of people that are estimated to have nivolumab by financial year.

**Table 3 Population estimated to have nivolumab in England using NICE assumptions**

	2016/17	2017/18	2018/19	2019/20	2020/21
Population having second –line treatment with nivolumab each year	20	130	200	260	330
Population having third-line treatment with nivolumab each year	1	10	15	20	30

## **5 Savings and benefits**

5.1 Nivolumab extends life compared with everolimus.

## **6 Other considerations**

6.1 The average treatment duration is 22 weeks. However, the summary of product characteristics allows nivolumab treatment to continue after disease progression.

6.2 Around 10% of people have nivolumab for a short time after disease progression. These costs have not been factored into the resource impact template.

## **7 Implications for commissioners**

7.1 Treatment with nivolumab must be started and supervised by physicians experienced in the treatment of cancer.

7.2 Because nivolumab was made available in the NHS through the early access to medicines scheme, commissioners are required to implement the guidance recommendations within 30 days after the date of publication.

7.3 Nivolumab for previously treated advanced renal cell carcinoma falls within the programme budgeting category 2H: Cancer, Urological.



## 8 About this resource impact report

This resource impact report accompanies the NICE guidance on [nivolumab for previously treated advanced renal cell carcinoma](#) and should be read in conjunction with it. See [terms and conditions](#) on the NICE website.

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