

Putting NICE guidance into practice

Resource impact report: Pembrolizumab with platinum- and fluoropyrimidine-based chemotherapy for untreated advanced oesophageal and gastro-oesophageal junction cancer (TA737)

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Summary

NICE has recommended pembrolizumab with platinum and fluoropyrimidine-based chemotherapy as an option for treating untreated locally advanced unresectable or metastatic carcinoma of the oesophagus or HER-2 negative gastro-oesophageal junction adenocarcinoma in adults whose tumours express PD-L1 with a combined positive score of 10 or more.

We estimate that:

- 990 people with untreated locally advanced unresectable or metastatic carcinoma of the oesophagus or HER-2 negative gastro-oesophageal junction adenocarcinoma are eligible for treatment with pembrolizumab with platinum and fluoropyrimidine-based chemotherapy each year.
- 495 people will receive pembrolizumab with platinum and fluoropyrimidine-based chemotherapy from year 3 onwards once uptake has reached 51% as shown in table 1.

Table 1 Estimated number of people in England receiving pembrolizumab with platinum and fluoropyrimidine-based chemotherapy

	2021/22	2022/23	2023/24	2024/25	2025/26
Uptake rate for pembrolizumab (%)	20%	40%	51%	51%	51%
Population receiving pembrolizumab each year	200	400	495	495	495

This report is supported by a local resource impact template because the list price of pembrolizumab has a discount that is commercial in confidence. The discounted price of pembrolizumab 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 Pembrolizumab

- 1.1 NICE has recommended pembrolizumab with platinum and fluoropyrimidine-based chemotherapy as an option for treating untreated locally advanced unresectable or metastatic carcinoma of the oesophagus or HER-2 negative gastro-oesophageal junction adenocarcinoma in adults whose tumours express PD-L1 with a combined positive score of 10 or more.
- 1.2 Currently there are a range of existing platinum-based chemotherapy regimens available to people undergoing palliative treatment. Standard NHS practice is for a platinum-based agent such as cisplatin or oxaliplatin to be given in combination with fluoropyrimidine or capecitabine as a dual therapy.
- 1.3 Pembrolizumab with platinum and fluoropyrimidine-based chemotherapy is an alternative to these existing options.

2 Resource impact of the guidance

- 2.1 We estimate that:
- 990 people with untreated locally advanced unresectable or metastatic carcinoma of the oesophagus or HER-2 negative gastro-oesophageal junction adenocarcinoma are eligible for treatment with pembrolizumab each year.
 - 495 people will receive pembrolizumab from year 3 onwards once uptake has reached 51%.
- 2.2 The current treatment and future uptake figure assumptions are based on clinical expert opinion and are shown in the resource impact template. Table 2 shows the number of people in England who are estimated to receive pembrolizumab by financial year.

Table 2 Estimated number of people receiving pembrolizumab using NICE assumptions

	2021/22	2022/23	2023/24	2024/25	2025/26
Uptake rate for pembrolizumab (%)	20%	40%	51%	51%	51%
Population receiving pembrolizumab each year	200	400	495	495	495

2.3 This report is supported by a local resource impact template. Pembrolizumab has an agreed patient access scheme which makes it available with a commercial-in-confidence discount to the list price. The discounted price of pembrolizumab can be put into the template and other variables may be amended.

2.4 Pembrolizumab-based regimens have a longer average treatment duration than other chemotherapy regimens and so there are more administrations for these regimens and this will have an impact on outpatient activity in services.

3 Implications for commissioners

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

3.2 Pembrolizumab falls within the programme budgeting category 02B cancers and tumours, upper GI.

4 How we estimated the resource impact

The population

4.1 Around 7,830 people are diagnosed with oesophageal cancer each year in England, of these 5,480 (70%) will have stage 3 or stage 4 disease on diagnosis. Around 2,780 (50.7%) of people with stage 3 or 4 disease will have unresectable or metastatic disease which is

unresectable and of these around 1,890 (68%) people will have palliative treatment and be eligible for pembrolizumab.

Table 3 Number of people eligible for treatment in England

Population	Proportion of previous row (%)	Number of people
Total population		56,286,961
Adult population		44,263,393
Incidence of oesophageal cancer ¹	0.02	7,830
Proportion of people with stage 3 or 4 disease ²	70	5,480
Proportion of people who have unresectable disease ²	50.7	2,780
People receiving palliative treatment who are eligible for treatment with pembrolizumab ²	68	1,890
Total number of people estimated to receive pembrolizumab each year from year 3	51	960
¹ Source: Cancer registration statistics: England 2018 final release - table 1 - ICD10 code C15 ² Source: Company estimate based on National Oesophago-Gastric Cancer Audit 2019		

Assumptions

4.2 The resource impact template assumes that:

- Pembrolizumab has an average treatment duration of 12 cycles.
- Fluoropyrimidine has an average treatment duration of 12 cycles when given with pembrolizumab, 10 cycles without.
- Cisplatin and oxaliplatin have a treatment duration of 6 cycles whichever regimen they are given with.
- Capecitabine and epirubicin have an average treatment duration of 10 cycles in all regimens.
- Intravenous drugs have administration costs based on SB14Z Deliver Complex Chemotherapy, including Prolonged Infusional

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Treatment, at First Attendance ([national tariff payment system 2021/22](#)) except flouoropyrimidine which has a continuous infusion via portable pump.

- Oral drugs have administration costs based on SB11Z deliver exclusively oral chemotherapy ([national tariff payment system 2021/22](#)).
- When multiple intravenous drugs are given in a chemotherapy regimen, the administration cost is only incurred once as it is assumed that services will organize to ensure administrations can be given simultaneously.
- When intravenous and oral drugs are given in a chemotherapy regimen it is assumed that the cost of delivering the oral chemotherapy is included within the administration of the intravenous drug and oral costs are only incurred when the oral drug has a longer treatment duration than the intravenous drugs.

About this resource impact report

This resource impact report accompanies the NICE guidance on [insert guidance title and embed hyperlink, for example <http://www.nice.org.uk/guidance/TA/DG/MTXXX>] and should be read with it.

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