NICE National Institute for Health and Care Excellence

Putting NICE guidance into practice

Resource impact report:
Lorlatinib for previously treated ALK-positive advanced non-small-cell lung cancer (TA628)

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Summary

NICE has recommended lorlatinib for previously treated ALK-positive advanced non-small-cell lung cancer.

We estimate that:

- 290 people with previously treated ALK-positive advanced non-small-cell lung cancer (NSCLC) are eligible for treatment with lorlatinib each year.
- People receive treatment for an average of 16 months. Due to the low rate of adverse events it is assumed that all people who start treatment will receive treatment for the full 16 months.
- 200 people will start treatment each year from year 2024/25 once uptake has reached 70%.
- 200 people will continue treatment from the previous year (for the remaining 4 months of treatment). This happens from year 2024/25. The total number of people receiving treatment is shown in table 1.

Table 1 Estimated number of people in England receiving lorlatinib

	2020/21	2021/22	2022/23	2023/24	2024/25
People starting lorlatinib each year	90	130	180	200	200
People continuing lorlatinib from previous year (for the remaining 4 months of treatment)		90	130	180	200
Total people receiving lorlatinib	**90**	**220**	**310**	**380**	**400**

This report is supported by a local resource impact template because the list price of lorlatinib has a discount that is commercial in confidence. The discounted price of lorlatinib and comparator treatments, as applicable, 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 Lorlatinib

1.1 NICE has recommended lorlatinib within its marketing authorisation as an option for treating anaplastic lymphoma kinase (ALK)-positive advanced NSCLC in adults whose disease has progressed after:

- alectinib or ceritinib as the first ALK tyrosine kinase inhibitor
- crizotinib and at least 1 other ALK tyrosine kinase inhibitor

1.2 Current treatment options after tyrosine kinase inhibitors (TKI's) for ALK-positive NSCLC are platinum doublet chemotherapy (PDC), atezolizumab in combination with baricitinib carboplatin and paclitaxel (ABCP) or best supportive care.

1.3 Clinical experts from the committee explained that current treatments have a relative lack of efficacy in people with brain metastases, which they estimated occur in 70% of people with ALK-positive NSCLC.

1.4 Lorlatinib is a third - generation ALK TKI that penetrates the central nervous system and is retained in the intracranial space. Therefore, it is expected to be used by people with ALK-positive NSCLC who have brain metastases.

2 Resource impact of the guidance

2.1 We estimate that:

- 290 people with previously treated ALK-positive advanced NSCLC are eligible for treatment with lorlatinib each year.
- People receive treatment for an average of 16 months. Due to the low rate of adverse events it is assumed that all people who start treatment will receive treatment for the full 16 months.

- 200 people will start treatment each year from year 2024/25 once uptake has reached 70%.

- 200 people will continue treatment from the previous year (for the remaining 4 months of treatment). This happens from year 2024/25. The total number of people receiving treatment each year is shown in table 2.

2.2 The current treatment and future uptake figure assumptions are based on Blueteq data and clinical expert opinion and are shown in the resource impact template. Table 2 shows the number of people in England who are estimated to have lorlatinib by financial year.

Table 2 Estimated number of people receiving lorlatinib using NICE assumptions

	2020/21	2021/22	2022/23	2023/24	2024/25
People starting lorlatinib each year	90	130	180	200	200
People continuing lorlatinib from previous year (for the remaining 4 months of treatment)		90	130	180	200
Total people receiving lorlatinib	**90**	**220**	**310**	**380**	**400**

2.3 This report is supported by a local resource impact template. The company has a commercial arrangement (a simple discount patient access scheme). This makes lorlatinib available to the NHS with a discount. The size of the discount is commercial in confidence. The discounted price of lorlatinib can be put into the template and other variables may be amended. For enquiries about the patient access scheme please contact (email): PfizerNICEaccount@pfizer.com

Savings and benefits

2.4 Current treatment options require people to attend acute care settings to receive intravenous infusions. Lorlatinib is a daily tablet which can be taken at home. This is likely to release capacity in acute settings to meet other demand.

2.5 There are environmental benefits from reduced use of consumables such as vials. These include reduced need for specialist disposal and lower greenhouse gas emissions and fossil fuel consumption needed to produce containers for vials.

3 Implications for commissioners

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

3.2 Lorlatinib falls within the programme budgeting category 2D 'Cancers and Tumours – Lung'.

4 How we estimated the resource impact

The population

4.1 Around 38,900 people were diagnosed with lung cancer in 2017 (Cancer research statistics 2017). Table 3 shows the population who have ALK-positive NSCLC who are estimated to be eligible for treatment.

Table 3 Number of people eligible for treatment in England

Population	Proportion of previous row (%)	Number of people
Total population		55,619,430
Adult population		43,752,473
People with lung cancer diagnosed in-year [1]	0.09	38,900
People who have NSCLC [2]	88.5	34,400
People with stage IIIB/IV NSCLC [3]	59	20,300
People with non-squamous (adenocarcinoma) histology [4]	68.12	13,800
People who have ALK mutation [5]	3	420
People whose disease has progressed in line with recommendation 1.1 [6]	70	290
Total number of people eligible for treatment with lorlatinib each year		290
Total number of people estimated to start treatment with lorlatinib each year from year 2023/24	70	200

[1] Cancer research statistics 2017

[2] Royal College of Physicians: National Lung Cancer audit 2016

[3] Royal College of Physicians: National lung cancer audit annual report 2018 – information sheet. Available [online] from: NCLA annual report 2018

[4] NHSE data – consistent with TA584

[5] NHSE submission – consistent with previous lung cancer topics

[6] 60-70% used in previous cancer topics. 70% consistent with TA395 resource impact template population information.

Assumptions

4.2 The resource impact template assumes that:

- All people whose disease has progressed in line with recommendation 1.1 receive further treatment. This is because targeted treatments are less toxic and there are further targeted options. The template allows users to assume some people are receiving only best supportive care if needed.
- 38% of people currently have ABCP; this is based on current registrations using Blueteq data.

- 29% of people currently receive pemetrexed plus carboplatin. This is based on the remaining population after ABCP usage being split between carboplatin and cisplatin pro rata (after considering people receiving ABCP) using the uptake per the resource impact template for TA529.
- 33% of people currently receive pemetrexed plus cisplatin (see bullet above), of whom around 58% go on to receive pemetrexed maintenance treatment.
- 70% of people are estimated to take up lorlatinib in the future, based on expert clinical opinion.
- 20% of people are estimated to receive ABCP in the future based on expert clinical opinion.
- 10% of people are estimated to receive pemetrexed and platinum therapies in the future because of contraindications with TKI inhibitors, based on expert clinical opinion.
- Mortality has not been adjusted for in the assumptions because an incident population is used.
- The number of people stopping treatment due to treatment related adverse events is low and does not significantly affect the resource impact.

About this resource impact report

This resource impact report accompanies the NICE guidance on Lorlatinib for previously treated ALK-positive advanced non-small-cell lung cancer (TA628) and should be read with it.