

Dabrafenib plus trametinib for treating BRAF V600 mutation-positive advanced non-small-cell lung cancer

Technology appraisal guidance

Published: 14 June 2023

www.nice.org.uk/guidance/ta898

Your responsibility

The recommendations in this guidance represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, health professionals are expected to take this guidance fully into account, alongside the individual needs, preferences and values of their patients. The application of the recommendations in this guidance is at the discretion of health professionals and their individual patients and do not override the responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or their carer or guardian.

All problems (adverse events) related to a medicine or medical device used for treatment or in a procedure should be reported to the Medicines and Healthcare products Regulatory Agency using the [Yellow Card Scheme](#).

Commissioners and/or providers have a responsibility to provide the funding required to enable the guidance to be applied when individual health professionals and their patients wish to use it, in accordance with the NHS Constitution. They should do so in light of their duties to have due regard to the need to eliminate unlawful discrimination, to advance equality of opportunity and to reduce health inequalities.

Commissioners and providers have a responsibility to promote an environmentally sustainable health and care system and should [assess and reduce the environmental impact of implementing NICE recommendations](#) wherever possible.

Contents

1 Recommendations	4
Why the committee made these recommendations	4
2 Information about dabrafenib plus trametinib	6
Marketing authorisation indication	6
Dosage in the marketing authorisation	6
Price	6
3 Committee discussion	7
Clinical management	7
Clinical effectiveness	8
Economic model	13
Costs	13
Utility values	14
Cost-effectiveness estimates	16
Conclusion	19
4 Implementation	20
5 Evaluation committee members and NICE project team	21
Evaluation committee members	21
Chair	21
NICE project team	21

This guidance replaces TA564.

1 Recommendations

- 1.1 Dabrafenib plus trametinib is recommended as an option for treating BRAF V600 mutation-positive advanced non-small-cell lung cancer (NSCLC) in adults, only if:
- it is used as first-line treatment of advanced stage cancer, and
 - the company provides it according to the [commercial arrangement](#).
- 1.2 This recommendation is not intended to affect treatment with dabrafenib plus trametinib that was started in the NHS before this guidance was published. People having treatment outside this recommendation may continue without change to the funding arrangements in place for them before this guidance was published, until they and their NHS clinician consider it appropriate to stop.

Why the committee made these recommendations

Standard treatment options for BRAF V600 mutation-positive advanced NSCLC include pembrolizumab plus platinum chemotherapy. During the COVID-19 pandemic, dabrafenib plus trametinib has also been available in the NHS as an interim treatment.

The results of a clinical trial of dabrafenib plus trametinib suggest that it shrinks tumours and increases how long people live and how long they live before their condition gets worse. But the results are uncertain because the number of people in the trial was small. Because dabrafenib plus trametinib was not directly compared with any other treatment, several potential sources of evidence for the comparator, pembrolizumab plus chemotherapy, were assessed. But the clinical-effectiveness results from all these sources are uncertain.

Because the clinical-effectiveness results are uncertain, the cost-effectiveness estimates are also uncertain. Also, there was no cost-effectiveness evidence provided for dabrafenib plus trametinib used after other treatments have not worked in people with advanced NSCLC.

After taking into account the available evidence and impact of the uncertainty, the cost-effectiveness estimates are likely to be within the range that NICE considers an acceptable use of NHS resources in people with untreated advanced NSCLC. So, dabrafenib plus trametinib is recommended for this group.

2 Information about dabrafenib plus trametinib

Marketing authorisation indication

- 2.1 Dabrafenib (Tafinlar, Novartis) in combination with trametinib (Mekinist, Novartis) is indicated for 'the treatment of adult patients with advanced non-small cell lung cancer with a BRAF V600 mutation'.

Dosage in the marketing authorisation

- 2.2 The dosage schedule is available in the [summary of product characteristics for dabrafenib](#).

Price

- 2.3 Dabrafenib costs £1,400 per 28-pack of 75 mg capsules and trametinib costs £4,800 per 30-pack of 2 mg tablets (excluding VAT; BNF online accessed February 2023).
- 2.4 The company has a [commercial arrangement](#). This makes dabrafenib available to the NHS with a discount. The size of the discount is commercial in confidence. It is the company's responsibility to let relevant NHS organisations know details of the discount.

3 Committee discussion

The [evaluation committee](#) considered evidence submitted by Novartis, a review of this submission by the external assessment group (EAG), and responses from stakeholders. See the [committee papers](#) for full details of the evidence.

Clinical management

Clinical need

- 3.1 People with advanced non-small-cell lung cancer (NSCLC) generally have a poor prognosis. The symptoms can be hard to treat and distressing for the person with the condition and their family members. There are targeted treatments for NSCLC that have other specific driver mutations. But there is currently no NICE-recommended option specifically for NSCLC that is positive for a BRAF V600 mutation. A BRAF mutation is present in around 1% to 3% of lung cancers. Around half of all BRAF mutations are V600 mutations, and most BRAF V600 mutations are V600E mutations. BRAF V600 mutations are commonly found in older people and in people with a history of smoking. The clinical expert submission explained that chemotherapy and immunotherapy may not be tolerated in this group of people. The clinical expert said that existing treatment options (see [section 3.2](#)) are associated with substantial healthcare resource use, and many chemotherapy day units have long waiting times. The committee considered that BRAF V600 mutation-positive advanced NSCLC has a substantial effect on quality of life, and that there is an unmet need for a new treatment option.

Treatment options

- 3.2 There are several NICE-recommended first-line treatments for advanced NSCLC. These include immunotherapy or chemotherapy alone, and immunotherapy plus platinum chemotherapy. Some treatment options depend on the PD-L1 status of the cancer. Dabrafenib plus trametinib has been available in the NHS since 2020 as a COVID-19 interim treatment, and the NHS England Cancer Drugs Fund

clinical lead (from here, the Cancer Drugs Fund lead) explained that it was being used first line and second line. It was made available because having an oral therapy reduces the need to travel to chemotherapy day centres, and because existing chemotherapy regimens carried a risk of immunosuppression. People with BRAF V600 mutation-positive advanced NSCLC would generally have it first line (see [section 3.15](#)). Second-line treatment options for advanced disease include chemotherapy or immunotherapy alone. What is used depends on previous treatment, as well as tumour PD-L1 status. If people have not had dabrafenib plus trametinib first line, they can have it second line. The committee noted the various treatment options available.

Comparators

- 3.3 The company selected pembrolizumab plus platinum chemotherapy as the only comparator at first line. It said that this is the most common treatment used when dabrafenib plus trametinib is not available or cannot be used because of delays in BRAF V600 mutation testing results. This was confirmed by the clinical expert. They also noted that pembrolizumab or atezolizumab alone may be used first line when the cancer has a high PD-L1 status, or when chemotherapy is not suitable. The Cancer Drugs Fund lead agreed and said that only a relatively small proportion of people would have pembrolizumab or atezolizumab alone. The committee noted that the company had submitted clinical efficacy evidence for dabrafenib plus trametinib second line. But it had not provided a comparison of cost effectiveness of dabrafenib plus trametinib with standard care second line. The committee concluded that pembrolizumab plus platinum chemotherapy was the most appropriate comparator for dabrafenib plus trametinib first line.

Clinical effectiveness

BRF113928 clinical trial

- 3.4 The clinical-effectiveness evidence for dabrafenib plus trametinib came from BRF113928. This was a single-arm trial with 6 years of follow up. It included people with stage 4 NSCLC with a BRAF V600E mutation. Trial outcomes

included overall response rate, progression-free survival and overall survival. The trial was done across a range of sites in 11 countries, including 5 sites in England. There were 3 cohorts, with cohorts B and C having dabrafenib plus trametinib. Cohort C included 36 people who had had no anticancer therapies for metastatic disease. In cohort C, the overall response rate was 64%, comprising a complete response rate (cancer not detectable) of 6%, and a partial response rate (cancer had shrunk by 30% and not spread) of 58%. The median progression-free survival in cohort C was 11 months (95% confidence interval [CI] 7 to 15 months) and the median overall survival was 17 months (95% CI 12 to 40 months). The clinical-effectiveness evidence from cohort C was used to inform the cost-effectiveness evidence for dabrafenib plus trametinib as first-line treatment (see [section 3.5](#) and [sections 3.7](#) and [3.8](#)). Cohort B included 57 people whose cancer had relapsed after at least 1 previous line of platinum-based chemotherapy. The company did not submit any cost-effectiveness evidence for using dabrafenib plus trametinib at second line, so the clinical-effectiveness evidence for cohort B was not discussed in detail at the committee meeting (see [section 3.15](#)). The EAG noted that the median progression-free survival and overall survival was similar in cohorts B and C of the trial. The committee acknowledged the evidence on the clinical effectiveness of dabrafenib plus trametinib but noted that it was from a single-arm trial with few people.

FLATIRON database

3.5 There were no studies directly comparing dabrafenib plus trametinib with pembrolizumab plus platinum chemotherapy in BRAF V600 mutation-positive advanced NSCLC. So, the company explored various sources of clinical-effectiveness evidence for pembrolizumab plus platinum chemotherapy in this population. FLATIRON is a large cancer database in the US that collects survival data on a range of cancers and their mutations. The company's initial analysis compared cohort C of BRF113928 (see [section 3.4](#)) with a subpopulation from FLATIRON who had BRAF V600E mutation-positive advanced NSCLC and had had first-line pembrolizumab plus platinum chemotherapy. The number of people in this population is considered to be academic in confidence by the company and cannot be reported here. The FLATIRON population was adjusted using the inverse probability of treatment weighting method to better match the cohort C population. The EAG noted that the FLATIRON data was from a BRAF V600

mutation-positive population, which is the target population for this appraisal. But it also noted that the estimates of comparative efficacy from this analysis were uncertain, and the committee considered that it was not possible to draw robust conclusions from the comparison. This was because the populations in both FLATIRON and cohort C of BRF113928 were small, and FLATIRON had limited follow up. The committee considered that the comparison of cohort C from BRF113928 with the BRAF V600E population from FLATIRON was one of a range of plausible evidence sources to inform clinical efficacy in the model. But, after considering other sources (see [sections 3.7 to 3.9](#)) it concluded that FLATIRON was not its preferred evidence source for decision making.

Assumption of clinical equivalence

- 3.6 The company also presented an analysis in which it assumed clinical equivalence between dabrafenib plus trametinib and pembrolizumab plus platinum chemotherapy. It said that, in the absence of trial evidence, this was a conservative assumption. The EAG considered that this assumption was not supported by any evidence. It also noted that it would ignore the effects of subsequent treatments, which would differ between the 2 treatments. The committee concluded that assuming clinical equivalence between dabrafenib plus trametinib and pembrolizumab plus chemotherapy was one of a range of plausible assumptions to inform clinical efficacy in the model. But without evidence to support it, this was not its preferred assumption for decision making.

KEYNOTE-189

- 3.7 The company also presented data from KEYNOTE-189. This was a phase 3 double-blind randomised controlled trial comparing pembrolizumab plus pemetrexed plus platinum chemotherapy with pemetrexed plus platinum chemotherapy. It included 616 people with advanced or metastatic NSCLC not specific to any driver mutation. Also, KEYNOTE-189 did not collect data on BRAF mutation status. The EAG suggested that KEYNOTE-189 could be used to inform the efficacy of the pembrolizumab plus platinum chemotherapy comparator in the model. The company presented analyses using BRF113928 to inform efficacy of dabrafenib plus trametinib, and KEYNOTE-189 to inform efficacy of

pembrolizumab plus platinum chemotherapy. The committee questioned whether the KEYNOTE-189 data was generalisable to this appraisal because most people in the trial would not have had a BRAF V600 mutation. It asked if there was any prognostic value of BRAF V600 mutations. The clinical expert explained that BRAF V600 mutations can be associated with poorer prognosis after surgery or chemotherapy, but it is less certain if this is the case after immunotherapy. The Cancer Drugs Fund lead considered that BRAF mutations were unlikely to be a strong prognostic factor. Both they and the clinical expert agreed that people in BRF113928 would have been eligible for inclusion in KEYNOTE-189. Also, they considered that KEYNOTE-189 was an appropriate data source to inform comparator efficacy in the model. The committee considered that there was mixed evidence on the prognostic value of BRAF mutation status. But it agreed that it had not seen any strong evidence to suggest that it was a strong prognostic factor for progression-free or overall survival. It considered that it would have preferred to see evidence taken from a BRAF V600-specific population for both arms. It noted that KEYNOTE-189 was one of a range of plausible evidence sources to inform clinical efficacy in the model. The committee concluded that KEYNOTE-189 was an acceptable source of comparator clinical efficacy evidence and was its preferred evidence source for decision making.

Matching-adjusted indirect comparison with KEYNOTE-189

3.8 The company did a matching-adjusted indirect comparison (MAIC) to compare the clinical effectiveness of dabrafenib plus trametinib, using data from cohort C of BRF113928, with pembrolizumab plus platinum chemotherapy, using data from KEYNOTE-189. In the MAIC, the BRF113928 population was statistically adjusted to better resemble the KEYNOTE-189 population. This was to predict the treatment effect if dabrafenib plus trametinib had been evaluated in the KEYNOTE-189 population. The results of the MAIC are considered to be confidential by the company and cannot be reported here. The EAG noted that the MAIC reduced the effect of cross-trial differences. But it noted that it also reduced the effective sample size of BRF113928 and so increased the uncertainty around the effect estimates. It also observed that the relative effects generated by the MAIC applied to the KEYNOTE-189 population rather than to the BRF113928 population, which was not representative of the target population for this appraisal. So, the results from the MAIC may not be generalisable to the

target population. Finally, the EAG noted that the MAIC was unanchored (which means that the trials had no common comparator). So, the results assumed that all effect modifiers and prognostic factors had been identified. Because the company presented no evidence on potential unidentified covariates, the EAG considered that the results of the MAIC were uncertain. For these reasons, the EAG presented 2 base cases, 1 informed by the MAIC and 1 informed by a naive (no adjustments made) unanchored comparison between BRF113928 and KEYNOTE-189. The committee understood that a naive comparison would include a larger sample size. But it acknowledged that any estimates of comparative efficacy would still be uncertain because of cross-trial differences and possible confounding. It also recalled that it had seen no strong evidence that BRAF mutation status had prognostic value (see [section 3.7](#)). The committee considered that the results of the MAIC were uncertain, and noted that there were other plausible sources of clinical evidence (see [sections 3.5 and 3.6](#)). But it concluded that, despite the limitations of the MAIC, it was an acceptable source of comparator clinical efficacy evidence and was the committee's preferred source for decision making.

Covariates included in the MAIC

- 3.9 The company did a sensitivity analysis to explore the impact of adjusting for different covariates on the results of the MAIC. The base-case analysis adjusted for covariates that were found to be statistically significantly associated with either progression-free or overall survival. It also included covariates that were used in MAICs in [NICE's technology appraisal guidance on tepotinib, osimertinib, lorlatinib and ceritinib](#). The company also did a sensitivity analysis that only adjusted for the covariates found to be statistically significantly associated with progression-free or overall survival, and that did not adjust for the covariates identified in the previous appraisals. Both the company and the EAG selected the base-case MAIC for their base-case analyses. The committee understood that the sensitivity MAIC had a larger effective sample size and less uncertain effect estimates than the base-case MAIC. It noted that the sample size of the BRF113928 trial was already small. So, it concluded that it was preferable to use the sensitivity MAIC of BRF113928 with KEYNOTE-189 to inform the clinical efficacy of dabrafenib plus trametinib and pembrolizumab plus platinum chemotherapy.

Economic model

Company's modelling approach

3.10 The company used a partitioned survival model with 3 health states: progression free, progressed disease and death, to model the cost effectiveness of dabrafenib plus trametinib and pembrolizumab plus platinum chemotherapy. The efficacy of the intervention and comparator was informed by the base-case MAIC (see [sections 3.8 and 3.9](#)). In the model, health state utilities were taken from [NICE's technology appraisal guidance on pralsetinib](#) and adverse event disutilities from [NICE's technology appraisal guidance on tepotinib](#). The committee considered that this approach was in line with other similar appraisals in the same disease area, but noted that there was uncertainty around the modelling of an intravenous infusion disutility (see [section 3.13](#)). The committee concluded that the model was acceptable for decision making.

Costs

Costs of BRAF V600 mutation testing

3.11 The company did not include the costs of genomic testing of tumours for a BRAF V600 mutation in its base case because it said this test is already done in routine practice. The EAG questioned whether BRAF V600 mutation testing was routine practice, given that its continued use would depend on NICE recommending dabrafenib plus trametinib. The Cancer Drugs Fund lead explained that dabrafenib plus trametinib has been widely used in practice to treat advanced NSCLC since 2020 (see [section 3.2](#)) and that the BRAF V600 test is in NHS England's National Genomic Test Directory and is considered part of routine testing. But the Cancer Drugs Fund lead and the clinical expert noted that there is some variation in access to the testing, and delays in some areas (see [section 3.3](#)). The committee concluded that BRAF V600 mutation testing is routine practice and that, in line with NICE methodology, it was not appropriate to include the costs of these tests in the cost-effectiveness analysis.

Discounting

- 3.12 The company chose to model discounting of future costs discretely from the beginning of the second year of the model. The EAG adopted a different approach, choosing to discount costs continuously from the outset of the model. The committee questioned why the company and the EAG had taken different approaches. The EAG explained that, in its approach, the discount rate was updated every cycle. In the company's approach the discount rate was updated annually and no discounting was applied until a full year had elapsed. This placed a greater weight on short-term costs and benefits. The EAG noted that both methods were valid. The company agreed that both methods were appropriate. The committee understood that the choice of discounting method only had a small effect on the cost-effectiveness estimates. It also noted that the EAG's method had been used more frequently in previous NICE technology appraisal models. The committee concluded that it was preferable to model discounting of future costs continuously from the outset of the model.

Utility values

Modelling intravenous disutility

- 3.13 The company modelled a disutility decrement for intravenous infusion of 0.023 per cycle for people having pembrolizumab plus platinum chemotherapy. This value came from a study that assessed the negative effect of having an intravenous infusion on quality of life. The EAG noted that this value was double that which had been applied in the model for a person being hospitalised with pneumonia. It also explained that the study used a method of obtaining a utility estimate that was not in line with NICE's reference case, which specifies that the EQ-5D should be used. The EAG also noted that it was done in the UK general population, not a NSCLC-specific population. It considered that this decrement was too high and should either be removed completely or reduced. The company modified the decrement so that it was only incurred in every model cycle in which people had had an intravenous infusion, instead of in every model cycle. The EAG did not include a disutility decrement in its base case. The clinical expert considered that it is plausible that intravenous infusions can have a negative

effect on health-related quality of life, especially considering the additional appointments that people would need. Also, capacity issues in NHS chemotherapy centres mean that some people may have to wait before having a scheduled intravenous infusion of pembrolizumab plus chemotherapy. This wait could also have a negative effect on health-related quality of life. The Cancer Drugs Fund lead noted that people having an oral treatment would usually still need to travel to the hospital pharmacy to collect the treatment. The patient organisation submission noted that intravenous infusions have a negative impact on quality of life. But it noted that the perceived effect on quality of life was reduced by the anticancer effects of the treatments. The patient organisation submission explained that most people would prefer an oral treatment but also noted that some people may prefer to have an intravenous infusion because this allows them to have a month's treatment in 1 day. The committee considered that most people would be more likely to prefer an oral treatment, but that there would be a smaller number who would choose intravenous treatment options. It noted that in previous appraisals in NSCLC that compared an oral drug with an intravenous-administered comparator, disutility associated with intravenous infusion was rarely modelled explicitly. The committee understood that previous committees had sometimes considered such effects qualitatively when coming to conclusions on cost-effectiveness thresholds. It considered that, while it was plausible that there was a disutility associated with intravenous infusion, the size of the effect was difficult to quantify. It also noted that some people may prefer to have an intravenous infusion. So, the committee concluded that it preferred not to include an explicit modelling of disutility in the base case, but noted that it would consider this as a potentially uncaptured health benefit in its decision making.

Adherence to oral therapies

- 3.14 The EAG noted that there are possible drawbacks to oral therapies when compared with intravenous infusions, such as non-adherence. It noted that these could have a negative and unmodelled effect on efficacy. The company considered that any effect of non-adherence would be included in the model through its effect on progression-free and overall survival in the trial. It considered that it would also be included in the cost calculations, which take into account relative dose intensity. It noted that most instances of non-adherence in

the trial were because of dose escalation, or interruption or reduction in response to adverse events. The clinical expert commented that there were minimal drawbacks to oral therapies compared with intravenous infusion, and they expected adherence to be high in practice. The committee concluded that any non-adherence to an oral therapy was adequately accounted for in the cost-effectiveness modelling.

Cost-effectiveness estimates

Using dabrafenib plus trametinib second line

3.15 The committee noted that the company had not submitted any cost-effectiveness modelling for using dabrafenib plus trametinib second line. The company said that most people with advanced NSCLC with a BRAF V600 mutation would have dabrafenib plus trametinib first line. It explained that the main reason for people with a BRAF V600 mutation not having dabrafenib plus trametinib at first line is a delay in getting their genomic screening results (see [section 3.3](#)). It said that only a few people with a BRAF V600 mutation have delayed screening results and start a treatment other than dabrafenib plus trametinib first line. The company said that delays in testing are being resolved, so it expects that the number of people affected will decrease. The committee noted that the NHS England Blumetq data showed there are some people who are eligible for dabrafenib plus trametinib but who have other therapies for untreated NSCLC. The exact numbers are considered confidential and cannot be reported here. The clinical expert agreed with the company that many of these people would have had other therapies because of genomic testing delays, and that these delays are likely to fall substantially in the coming years. So, they agreed that the second-line population would fall over time. The clinical expert also noted that, for untreated NSCLC, some clinicians may prefer to use immunotherapy and some people may not be able to have dabrafenib plus trametinib because of technical errors. The Cancer Drugs Fund lead confirmed that, at the time of writing, most eligible people have dabrafenib plus trametinib first line. They also noted that dabrafenib plus trametinib appeared to be as effective when used second line as when used first line. The company presented hazard ratios and Kaplan–Meier graphs that compared cohort B (previously

treated cancer) of BRF113928 with a subgroup of the FLATIRON database that had a BRAF V600E mutation (see [section 3.5](#)) and had chemotherapy second line. The EAG said that the results from cohort B of BRF113928 were broadly similar to those of cohort C. So, it considered that it was feasible that dabrafenib plus trametinib had similar effectiveness when used first or second line. But it noted that the sample numbers included in this analysis were very small and that cohort B had previous treatment with chemotherapy, not immunochemotherapy. So, it considered that the second-line effectiveness of dabrafenib plus trametinib was uncertain. The committee considered that the size of the population having previous treatment was likely to fall substantially. It also noted that it was plausible that dabrafenib plus trametinib was similarly effective when used first and second line. But it had not seen any cost-effectiveness evidence to support using dabrafenib plus trametinib in previously treated NSCLC, so was unable to consider this population further.

Acceptable ICER

3.16 [NICE's health technology evaluations manual](#) states that, above a most plausible incremental cost-effectiveness ratio (ICER) of £20,000 per quality-adjusted life year (QALY) gained, decisions about the acceptability of the technology as an effective use of NHS resources will consider the degree of uncertainty around the ICER and any benefits of the technology that were not captured in the QALY calculations. The committee will be more cautious about recommending a technology if it is less certain about the evidence presented. The committee recalled that the results of the MAIC that informed the cost-effectiveness estimates were very uncertain (see [section 3.8](#)). It also recalled that clinicians and people with NSCLC may prefer oral therapies and that there were potential disadvantages associated with an intravenous therapy when compared with an oral therapy, which were not captured in the QALY calculations (see [section 3.13](#)). After taking these into account, the committee considered that the maximum acceptable ICER would be at the lower end of the £20,000 to £30,000 range normally considered a cost-effective use of NHS resources.

Committee's preferred assumptions

3.17 The committee considered a range of plausible evidence sources to inform clinical efficacy in the model and all of these were associated with substantial uncertainty (see [sections 3.5 to 3.9](#)). It concluded that its preferred assumptions for the cost-effectiveness modelling of dabrafenib plus trametinib compared with pembrolizumab plus platinum chemotherapy were to:

- use KEYNOTE-189 to inform the efficacy of pembrolizumab plus chemotherapy (see [section 3.7](#))
- use the sensitivity MAIC with KEYNOTE-189 to inform the efficacy of dabrafenib plus trametinib and pembrolizumab plus platinum chemotherapy (see [section 3.9](#))
- model discounting continuously from the model outset (see [section 3.12](#))
- not include the cost of BRAF V600 mutation testing in the model (see [section 3.11](#))
- not explicitly model a disutility decrement for intravenous infusion (see [section 3.13](#)).

Cost-effectiveness estimates

3.18 The committee considered the cost-effectiveness estimates generated by its preferred assumptions. Because there are confidential commercial arrangements for the treatments and comparators, the exact ICERs cannot be reported here. But the committee noted that, after considering the uncertainty in the cost-effectiveness analysis, the most plausible ICER is within the range that NICE usually considers a cost-effective use of NHS resources.

Conclusion

Recommendation

- 3.19 The committee concluded that there was substantial uncertainty in the cost-effectiveness estimates, so considered that the maximum acceptable ICER would be at the lower end of the £20,000 to £30,000 range normally considered a cost-effective use of NHS resources. It considered that when its preferred assumptions are incorporated, the cost-effectiveness estimates for dabrafenib plus trametinib are within what NICE considers a cost-effective use of NHS resources. So, dabrafenib plus trametinib is recommended as an option for treating BRAF V600 mutation-positive advanced NSCLC that has not been treated at the advanced stage.

4 Implementation

- 4.1 Section 7 of the [National Institute for Health and Care Excellence \(Constitution and Functions\)](#) and the [Health and Social Care Information Centre \(Functions\) Regulations 2013](#) requires integrated care boards, NHS England and, with respect to their public health functions, local authorities to comply with the recommendations in this evaluation within 3 months of its date of publication.
- 4.2 Chapter 2 of [Appraisal and funding of cancer drugs from July 2016 \(including the new Cancer Drugs Fund\) – A new deal for patients, taxpayers and industry](#) states that for those drugs with a draft recommendation for routine commissioning, interim funding will be available (from the overall Cancer Drugs Fund budget) from the point of marketing authorisation, or from release of positive draft guidance, whichever is later. Interim funding will end 90 days after positive final guidance is published (or 30 days in the case of drugs with an Early Access to Medicines Scheme designation or cost comparison evaluation), at which point funding will switch to routine commissioning budgets. The [NHS England Cancer Drugs Fund list](#) provides up-to-date information on all cancer treatments recommended by NICE since 2016. This includes whether they have received a marketing authorisation and been launched in the UK.
- 4.3 The Welsh ministers have issued directions to the NHS in Wales on implementing NICE technology appraisal guidance. When a NICE technology appraisal guidance recommends the use of a drug or treatment, or other technology, the NHS in Wales must usually provide funding and resources for it within 2 months of the first publication of the final draft guidance.
- 4.4 When NICE recommends a treatment 'as an option', the NHS must make sure it is available within the period set out in the paragraphs above. This means that, if a person has BRAF V600 mutation-positive non-small-cell lung cancer which is untreated at advanced stage and the doctor responsible for their care thinks that dabrafenib plus trametinib is the right treatment, it should be available for use, in line with NICE's recommendations.

5 Evaluation committee members and NICE project team

Evaluation committee members

The 4 technology appraisal committees are standing advisory committees of NICE. This topic was considered by [committee D](#).

Committee members are asked to declare any interests in the technology being evaluated. If it is considered there is a conflict of interest, the member is excluded from participating further in that evaluation.

The [minutes of each evaluation committee meeting](#), which include the names of the members who attended and their declarations of interests, are posted on the NICE website.

Chair

Megan John

Chair, technology appraisal committee D

NICE project team

Each evaluation is assigned to a team consisting of 1 or more health technology analysts (who act as technical leads for the evaluation), a technical adviser and a project manager.

Samuel Slayen

Technical lead

Lizzie Walker and Louise Crathorne

Technical advisers

Kate Moore

Project manager

ISBN: 978-1-4731-5236-6