NICE National Institute for Health and Care Excellence

NICE guidance

Sunitinib for the treatment of gastrointestinal stromal tumours

Technology appraisal guidance
Published: 23 September 2009

www.nice.org.uk/guidance/ta179

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.

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1 Recommendations

1.1 Sunitinib is recommended, within its licensed indication, as a treatment option for people with unresectable and/or metastatic malignant gastrointestinal stromal tumours if imatinib treatment has failed because of resistance or intolerance.

1.2 The use of sunitinib should be supervised by cancer specialists with experience in treating people with unresectable and/or metastatic malignant gastrointestinal stromal tumours after failure of imatinib treatment because of resistance or intolerance.

2 The technology

2.1 Sunitinib (Sutent, Pfizer) is one of a group of closely related tyrosine kinase inhibitors. It inhibits vascular endothelial growth factor (VEGF) and platelet-derived growth factor (PDGF) receptors on cancer cells, vascular endothelial cells and pericytes. This reduces tumour cell proliferation and tumour blood vessel development. Sunitinib has a UK marketing authorisation for the treatment of people with unresectable and/or metastatic malignant gastrointestinal stromal tumour (GIST) after failure of imatinib mesilate treatment due to resistance or intolerance.

2.2 Sunitinib is contraindicated in people who have hypersensitivity to sunitinib malate or to any of the excipients. The summary of product characteristics (SPC) lists the following conditions that may be associated with sunitinib treatment: cardiovascular events, skin and tissue problems, gastrointestinal events, haemorrhage, hypertension, haematological problems, venous thromboembolic events, pulmonary embolism and hypothyroidism. For full details of side effects and contraindications, see the SPC.

2.3 Sunitinib is administered orally. The recommended dosage is 50 mg once daily, for 4 consecutive weeks, followed by a 2-week rest period (that is, a complete treatment cycle of 6 weeks). The dose may be adjusted in steps of 12.5 mg according to tolerability (within the dose range 25 to 75 mg). The price for a 28-capsule pack of 50-mg capsules is £2,730.76 (excluding VAT; Pfizer). This updated list price was confirmed by the manufacturer in September 2025 and replaces the previously agreed patient access scheme for sunitinib. Costs of subsequent treatment cycles may vary in different settings because of negotiated procurement discounts.

3 The manufacturer's submission

The appraisal committee considered evidence submitted by the manufacturer of sunitinib and a review of this submission by the evidence review group (ERG).

3.1 In the submission, the manufacturer presented evidence on the clinical effectiveness of sunitinib for the treatment of unresectable and/or metastatic malignant GIST that was within the marketing authorisation for sunitinib and in line with the appraisal scope. The main clinical-effectiveness evidence came from one randomised controlled trial (RCT). The RCT, A6181004, compared the effect of sunitinib plus best supportive care (n=207) with placebo plus best supportive care (n=105). Best supportive care was defined as symptom control, palliative care without active treatment and monitoring of progression. The trial was conducted in people with a good performance status (Eastern Cooperative Oncology Group [ECOG] status 0 or 1). Approximately 4% of people in the trial had initial imatinib intolerance and approximately 80% had received more than 400 mg of imatinib daily before trial entry. People in the trial were stratified according to:

- best outcome of prior imatinib treatment (progressive disease within 6 months of starting imatinib treatment [primary resistance] or progressive disease after 6 months of starting imatinib treatment [secondary resistance] or imatinib intolerance) and
- baseline McGill pain questionnaire score (0 versus 1 or more).

3.2 The primary outcome in the study was time to tumour progression, which was defined as the time from the first dose of study drug to first documentation of progressive disease. The blinded phase of the RCT was stopped early when the first planned interim analysis demonstrated that the time to tumour progression in people randomised to receive sunitinib was statistically significantly longer than in people randomised to receive placebo. A total of 84% of people randomised to receive placebo plus best supportive care crossed over and received sunitinib plus best supportive care. Median time to tumour progression in the intention-to-treat (ITT) population was 27.3 weeks in the sunitinib arm and 6.4 weeks in the placebo arm (hazard ratio [HR] 0.33; 95% confidence interval [CI] 0.23 to 0.47,

p<0.0001). The median time to tumour progression for the group that crossed over from placebo to sunitinib was similar to that for the group originally randomised to receive sunitinib.

3.3 During the blinded phase of the study, more than half of the people in both study arms of the trial were alive. However, the interim ITT analysis showed that overall survival was significantly longer for those who received sunitinib compared with those who received placebo (HR 0.491; 95% CI 0.290 to 0.831, p=0.007). The ITT analysis of the entire study (that is, blinded plus open-label phase) showed that there was no statistically significant difference in overall survival for people who received sunitinib plus best supportive care (overall survival 73 weeks) compared with people who received placebo plus best supportive care (overall survival 65 weeks; HR 0.876; 95% CI 0.679 to 1.129, p=0.306).

3.4 The manufacturer also presented analyses of overall survival using a rank preserved structural failure time (RPSFT) model. This model was a 'post-hoc' approach taken by the manufacturer to control for the crossover from the placebo arm to the sunitinib arm. The RPSFT method estimated the overall survival of people randomised to receive placebo assuming that they had not crossed over; that is, as if they had remained on placebo for the duration of the trial. This method was therefore based on a comparison of the groups according to the way they were randomised. The RPSFT method proportionally 'shrinks' the estimated amount of additional survival conferred to people who crossed over to receive sunitinib, thereby changing the estimate of the hazard ratio in the ITT analysis used later in the economic analyses.

3.5 The initial RPSFT analysis suggested a statistically significantly longer overall survival for people who received sunitinib plus best supportive care (overall survival 73 weeks) compared with those who received placebo plus best supportive care (overall survival 39 weeks; HR 0.505; 95% CI 0.388 to 0.658, p<0.0001) for the entire study. However, following a recommendation from an independent statistician, the manufacturer revised the 95% confidence interval associated with the hazard ratio derived from the RPSFT approach. The revised RPSFT method did not change the significance, which remained that of the unadjusted ITT analysis (p=0.306). It did, however, provide a lower estimate of the hazard ratio adjusted for crossover and a revised 95% confidence interval for the hazard ratio which, naturally, included one (that is, unity). The revised 95%

confidence interval was 0.262 to 1.134.

3.6 Quality of life was measured in the RCT using the European quality of life (EuroQoL) health state questionnaire (EQ-5D). More than 75% of people completed the EQ-5D questionnaire at each time point and there were no statistically significant differences reported between the treatment groups. Treatment-related adverse events and serious adverse events were more common in the sunitinib arm than in the placebo arm. A total of 83% of people in the sunitinib arm and 59% of people in the placebo arm experienced treatment-related adverse events of any severity. The manufacturer stated that the adverse events reported were generally of mild to moderate intensity and were easily managed by dose reduction, dose interruption or standard supportive medical treatments. A total of 9% of people randomised to sunitinib and 8% of people randomised to receive placebo discontinued treatment because of adverse events.

3.7 The manufacturer also provided details of an ongoing, open-label expanded access programme (EAP). This cohort study (A6181036) was set up to allow people with GIST, who might not have access to the drug because of study inclusion criteria or lack of regulatory approval where they live, to receive sunitinib. As of December 2007, 1,126 people were enrolled in the EAP and the ITT population comprised 1,117 people. People in the EAP were of ECOG performance status 0 to 4 and 68% of people had received dosages of more than 400 mg of imatinib daily before joining the study. In the EAP, sunitinib treatment was given for as long as there was evidence of disease control according to the investigator. The EAP is scheduled to end in December 2009. At the time of data analysis, 50% of the ITT population were alive. The median time to tumour progression was 41 weeks (95% CI 36 to 47) and the median overall survival was 75 weeks (95% CI 68 to 84).

3.8 The manufacturer developed a Markov model to assess the cost effectiveness of sunitinib compared with best supportive care in people with unresectable and/or metastatic malignant GIST after failure of imatinib therapy because of resistance or intolerance. The model had 3 distinct health states: progression free, progressive disease (no active therapy) and death. All people entered the progression-free state of the model, assuming that imatinib therapy had failed. The model had a cycle length of 6 weeks and the time horizon was 6 years; the

manufacturer stated that this reflected the maximum life expectancy of the population in the model. No subgroup analyses were conducted by the manufacturer.

3.9 The model used effectiveness data from the RCT (A6181004) described in section 3.1. For progression-free survival, Weibull curves were fitted to the ITT data from the placebo plus best supportive care and sunitinib plus best supportive care arms independently. For overall survival, Weibull curves were fitted to the ITT data from the sunitinib plus best supportive care arm and to the RPSFT-adjusted data from the placebo plus best supportive care arm independently. In a sensitivity analysis, the manufacturer fitted a Weibull curve to the unadjusted ITT data for overall survival with placebo plus best supportive care.

3.10 The utility values used in the model were taken from the EQ-5D questionnaire used in the RCT. In the progression-free health state, a utility value of 0.731 was assigned to people receiving sunitinib plus best supportive care and a utility value of 0.781 was assigned to people receiving placebo plus best supportive care. In the progressive disease health state, a utility value of 0.577 was assigned to both arms. The manufacturer did not model the effect of adverse events on utility, and stated that the reduced utility values assigned to the sunitinib plus best supportive care arm would account for disutility from adverse events.

3.11 Resource use was not measured directly in the RCT, although the drug use and relative dose intensity estimates were derived from the RCT. In the model, the manufacturer assumed a relative dose intensity of 88.6% for sunitinib and cost data were taken from the BNF 56. The manufacturer had agreed a patient access scheme with the Department of Health, in which the first cycle of sunitinib is free to the NHS.

3.12 With discounting at 3.5% per year, sunitinib compared with best supportive care produced a base-case incremental cost-effectiveness ratio (ICER) of £27,365 per QALY gained. One-way sensitivity analyses demonstrated that the ICER was most sensitive to the source of overall survival data for the best supportive care arm. When the ITT data were used to model the placebo plus best supportive care overall survival curve, the ICER increased to £77,107 per QALY gained. Probabilistic sensitivity analyses suggested that sunitinib had a 50% probability

of being cost effective compared with best supportive care at a willingness-to-pay threshold of £30,000 per QALY gained.

3.13 The ERG stated that the manufacturer's submission was generally of good quality and appropriate to the decision problem. Although the clinical-effectiveness evidence was derived from only 1 RCT, this RCT was of good quality and demonstrated that sunitinib plus best supportive care significantly improved time to tumour progression compared with placebo plus best supportive care. The ERG stated that the economic model developed by the manufacturer was appropriate for the decision problem and appeared to contain no logical errors or internal inconsistencies.

3.14 The ERG highlighted the following key areas of concern with the manufacturer's submission:

- the use of the RPSFT method
- the uncertainty surrounding the cost-effectiveness estimate provided by the manufacturer
- the cost of sunitinib for people who continued to receive it after disease progression.

3.15 The ERG stated that the RPSFT method used by the manufacturer to control for the effects of crossover was uncommon and could not determine whether the method had been applied correctly. The ERG also highlighted a number of errors and omissions in the probabilistic sensitivity analyses. In particular, the ERG stated that the uncertainties in the progression-free and overall survival states were not modelled fully, as only the certainty of fit of the Weibull curves was assessed in sensitivity analyses for these parameters. The ERG also noted that the manufacturer had used standard deviations rather than standard errors for the utility values in the sensitivity analyses. The ERG was concerned, given the wide confidence interval around the estimate for the overall survival hazard ratio using the RPSFT method, that the uncertainty in the base-case ICER was substantial and likely to be higher than that presented by the manufacturer in the probabilistic sensitivity analyses. The ERG also highlighted a number of other, more minor, errors and omissions in the manufacturer's probabilistic sensitivity analyses.

3.16 The ERG noted that the economic model developed by the manufacturer assumed that sunitinib was only given until disease progression. In the RCT, from which the effectiveness of sunitinib was derived, 54 people (22%) received sunitinib after disease progression. The additional cost of sunitinib for these people, as estimated by the ERG, was £2,237. This increased the base-case ICER from £27,400 to £31,800 per QALY gained. When the additional costs of sunitinib were incorporated into the sensitivity analyses that used the ITT data, the ICER increased from £77,100 to £90,500 per QALY gained. The ERG also noted that median progression-free survival in the RCT (and thus the progression-free survival used in the manufacturer's economic model) and the EAP differed markedly. When the ERG increased the median progression-free survival to equal that of the EAP (41 weeks), the ICER increased the base-case from £27,400 to £46,300 per QALY gained. The ERG noted that the ICER increased substantially when the progression-free survival was taken from the EAP. It stated that this was because people who experienced longer progression-free survival received more sunitinib, which increased the acquisition costs.

3.17 After the first appraisal committee meeting, the manufacturer presented updated cost-effectiveness analyses incorporating the sunitinib costs after disease progression, as requested by the committee. The manufacturer confirmed that in the base-case cost-effectiveness estimate, only sunitinib costs incurred in the progression-free health state were taken into account, but that in the RCT a total of 22% of participants randomised to the sunitinib arm did receive sunitinib after disease progression. The manufacturer highlighted that there was insufficient evidence to know whether people with unresectable and/or metastatic malignant GIST would continue to receive sunitinib after disease progression in clinical practice. The manufacturer accepted the ERG's estimate of the additional sunitinib costs incurred after disease progression, and agreed that including these costs increased the base-case ICER from £27,365 to £31,817 per QALY gained.

3.18 The manufacturer also presented an updated cost-effectiveness analysis incorporating the sunitinib costs based on the sunitinib treatment duration in the EAP, as requested by the committee. The manufacturer stated that the main value of the EAP was that it confirmed the safety and efficacy of sunitinib as demonstrated in the RCT. The manufacturer highlighted that the rationale for the difference in treatment duration between the EAP and RCT was unclear, pointing

to the following factors:

- The people in the EAP had not been followed up for as long as the people in the RCT.
- Tumour measurements in the EAP were performed according to local standards of care, and treatment was continued for as long as there was evidence of disease control, unlike the study protocol for the RCT.
- The EAP included participants who were ineligible for the RCT.

The manufacturer's updated cost-effectiveness estimates incorporating the sunitinib treatment duration and costs from the EAP differed slightly from the ERG and increased the base-case ICER from £27,365 to £47,628 per QALY gained.

3.19 The manufacturer clarified the RPSFT method used to control for crossover and presented updated cost-effectiveness estimates using censoring to control for crossover, as requested by the committee. The manufacturer restated that the RPSFT method was appropriate as it preserved the randomisation of the trial. However, as the RPSFT method was based on randomisation, it did not change the level of evidence against the null hypothesis and so the 95% confidence interval around the revised RPSFT hazard ratio was wide. The manufacturer also stated that the methods used had been corroborated by an independent statistical expert. The manufacturer highlighted that because of the high level of crossover, which occurred very early in the trial, and the fact that crossover was informative (that is, participants who did not crossover were likely to be different from those who did crossover), traditional approaches to account for crossover were inappropriate. The manufacturer highlighted that censoring the participants at the point at which they crossed over was unreliable because there were only 15 participants who did not crossover to receive sunitinib. Censoring the participants who crossed over to receive sunitinib resulted in an ICER in which best supportive care dominated sunitinib. An additional analysis incorporating data from the 15 participants who did not crossover to sunitinib resulted in an ICER of £20,618 per QALY gained.

3.20 The manufacturer also presented updated probabilistic sensitivity analyses on all scenarios; these corrected for the errors and omissions that were identified by

the ERG. At willingness-to-pay thresholds of £20,000 and £30,000 per QALY gained, the manufacturer's base-case ICER of £27,365 had a 17% and 57% probability of being cost effective, respectively. Incorporating the costs of sunitinib incurred after disease progression from the RCT resulted in a 7% and 42% probability of it being cost effective at willingness-to-pay thresholds of £20,000 and £30,000 per QALY gained, respectively. All the other updated cost-effectiveness analyses (except the £20,618) had a 0% probability of being cost effective at willingness-to-pay thresholds of £20,000 and £30,000 per QALY gained.

3.21 The ERG considered the updated analyses and clarification provided by the manufacturer. It agreed that the RPSFT method appeared appropriate. The ERG confirmed that the RPSFT method applied a multiplicative factor to the time spent after crossover rather than to the whole of overall survival. The ERG highlighted that the hazard ratio for overall survival produced using the RPSFT method (0.505) was similar to the hazard ratio for overall survival produced at the interim ITT analyses before crossover had occurred (0.49). It stated that this strengthened the confidence it had in the results derived using the RPSFT method. Additionally, the ERG agreed with the manufacturer that censoring the participants at crossover in this instance was an unreliable method for controlling for crossover. The ERG also noted that the first 4 months of the overall survival curve for people who received best supportive care, who were then censored at the point at which they crossed over, was similar to the RPSFT overall survival curve. The ERG stated that this gave further credibility to the results derived using the RPSFT method because there would have been minimal censoring during the first 4 months.

3.22 Full details of all the evidence are in the manufacturer's submission and the ERG report.

4 Consideration of the evidence

4.1 The appraisal committee reviewed the data available on the clinical and cost effectiveness of sunitinib for the treatment of GIST, having considered evidence on the nature of the condition and the value placed on the benefits of sunitinib by people with unresectable and/or metastatic malignant GIST, those who represent them, and clinical specialists. It was also mindful of the need to take account of the effective use of NHS resources.

4.2 The committee first considered the clinical-effectiveness data presented by the manufacturer. It noted that there were statistically significant improvements in time to tumour progression and progression-free survival for people taking sunitinib plus best supportive care compared with people taking placebo plus best supportive care. The committee noted that the estimates of time to tumour progression and progression-free survival were obtained at the first interim analysis and so were not confounded by any crossover. The committee heard from clinical specialists and patient experts that the observed benefits in time to tumour progression and progression-free survival were clinically meaningful. The committee was aware that, after the interim analysis, people were offered open-label sunitinib and that the ITT analysis was confounded by the crossover. The committee accepted that the benefits seen in time to tumour progression and progression-free survival were such that a substantial improvement in overall survival with sunitinib treatment was probable. The committee therefore concluded that sunitinib was a clinically effective treatment for unresectable and/or metastatic malignant GIST which is resistant or intolerant to imatinib. Additionally, the committee understood that the use of sunitinib should be supervised by cancer specialists with experience in treating people with unresectable and/or metastatic malignant gastrointestinal stromal tumours after failure of imatinib treatment because of resistance or intolerance.

4.3 The committee then discussed the cost-effectiveness estimate of sunitinib compared with best supportive care submitted by the manufacturer. The committee considered the ERG comments that the model structure was appropriate for the decision problem. It also noted the concern raised by the ERG that the utility data supplied by the manufacturer in clarification could not be reconciled with data originally submitted. However, the committee agreed that

the cost-effectiveness estimate was relatively insensitive to variations in the utility values and therefore the utility values used in the base case were appropriate.

4.4 The committee discussed the best supportive care effectiveness data that were used in the economic model. It agreed that the high level of crossover in the RCT confounded the ITT data for the best supportive care arm. The committee therefore agreed that it was appropriate to adjust the best supportive care effectiveness data for the crossover that had occurred. The committee considered that as censoring of the participants at the point at which they crossed over was based on very early data, the results would be unreliable. The committee discussed the RPSFT method used by the manufacturer and the clarification provided after the first appraisal committee meeting and agreed that it was an acceptable approach. The committee then discussed the best supportive care costs that were included in the economic model. The committee noted that the base-case estimate did not include imatinib as part of best supportive care. The committee heard from clinical specialists that in practice it may be possible that a person would benefit from imatinib as part of best supportive care because there may be newly formed tumour cells or metastases that could respond to further imatinib therapy. However, the committee was aware that in the RCT, from which the effectiveness data were derived, no further imatinib therapy was given. The committee therefore concluded that it was appropriate not to include imatinib as part of best supportive care and that the best supportive care costs in the base case were appropriate.

4.5 The committee next discussed the source of the sunitinib effectiveness data and costs. The committee noted that the median progression-free survival in the sunitinib arm of the RCT was shorter than that of the EAP. The committee acknowledged the manufacturer's response that the EAP results should be viewed principally as confirmation of the safety and efficacy of sunitinib. The committee agreed that the source of the sunitinib effectiveness data and costs should, if possible, be consistent with the effectiveness data and concluded that the sunitinib effectiveness data and costs should come from the RCT.

4.6 The committee then considered the difference between sunitinib costs that were included in the economic model and those that could be inferred from the RCT. The committee noted that 22% of people assigned to sunitinib continued to

receive it after disease progression. The costs of this continued treatment were not included in the original economic model, which assumed sunitinib was given only until disease progression. The committee acknowledged that the effectiveness data came from the RCT and that it was possible that people who received sunitinib after disease progression could have experienced additional benefits. It also heard from clinical specialists that, in practice, sunitinib could be given after disease progression because it was possible that some of the tumour might still respond to sunitinib. Also, many people might experience 'tumour flare' if sunitinib treatment was completely withdrawn. Therefore the committee agreed that it was important to incorporate the costs of sunitinib given after disease progression, as in the RCT, into the cost-effectiveness estimate. It therefore concluded that the most plausible ICER for sunitinib compared with best supportive care was £31,800 per QALY gained.

4.7 The committee next discussed the uncertainty surrounding the cost-effectiveness estimates. The committee acknowledged the revised probabilistic sensitivity analysis presented by the manufacturer after the first committee meeting. The committee noted that at a willingness-to-pay threshold of £30,000 per QALY gained, then the most plausible ICER (£31,800) had around 42% probability of being cost effective.

4.8 The committee considered supplementary advice from NICE that should be taken into account when appraising treatments that may extend the life of patients with a short life expectancy and that are licensed for indications that affect small numbers of people with incurable illnesses. For this advice to be applied, all the following criteria must be met:

- The treatment is indicated for patients with a short life expectancy, normally less than 24 months.
- There is sufficient evidence to indicate that the treatment offers an extension to life, normally of at least an additional 3 months, compared with current NHS treatment.
- No alternative treatment with comparable benefits is available through the NHS.
- The treatment is licensed or otherwise indicated for small patient populations.

In addition, when taking these criteria into account, the committee must be persuaded that the estimates of the extension to life are robust and that the assumptions used in the reference case economic modelling are plausible, objective and robust.

4.9 The committee then discussed whether sunitinib for unresectable and/or metastatic malignant GIST, given after intolerance or resistance to imatinib, fulfilled the criteria for consideration as a life-extending, end-of-life treatment. It was aware that in England and Wales the total number of people concerned was between 90 and 150, which clearly did not materially influence the numbers of people who might be eligible for sunitinib treatment across all indications. The committee noted from the clinical trial that the life expectancy for unresectable and/or metastatic malignant GIST, following intolerance or resistance to imatinib, with best supportive care alone was unlikely to be greater than 24 months and was potentially as low as 9 months. The committee also noted that the evidence from the RPSFT analysis of the trial suggested that sunitinib increased survival by more than 3 months compared with best supportive care. It was further persuaded that sunitinib provided a marked change in the treatment of unresectable and/or metastatic malignant GIST that is intolerant or resistant to imatinib. In addition, the committee noted the comments from patient experts and clinical specialists highlighting the important benefits of sunitinib. In summary, the committee was satisfied that sunitinib met the criteria for being a life-extending, end-of-life treatment, and that the evidence presented for this consideration was sufficiently robust.

4.10 The committee then considered the most plausible cost-effectiveness estimate of £31,800 per QALY gained in light of the appraisal of a life-extending, end-of-life treatment, although this would probably be somewhat higher if the treatment entry criteria widened beyond ECOG performance status 0 to 1. It considered the impact of giving a greater weight to QALYs achieved in the later stages of terminal diseases, using the assumption that the extended survival period is experienced at the full quality of life anticipated for a healthy person of the same age. The committee also considered the magnitude of additional weight that would need to be assigned to the original QALY benefits in this patient group for the cost effectiveness of the drug to fall within the current threshold range. The committee concluded that the QALY weighting needed would be acceptable even

accommodating the small minority of patients with poorer performance status than were entered (before crossover) into the pivotal trial. The committee concluded that sunitinib as a treatment for unresectable and/or metastatic GIST that is resistant or intolerant to imatinib could be recommended as a cost-effective use of NHS resources.

4.11 In summary, the committee concluded that sunitinib could be recommended, within its licensed indication, as a treatment option for people with unresectable and/or metastatic malignant GIST after failure of imatinib treatment because of resistance or intolerance. Additionally, the committee concluded that the use of sunitinib should be supervised by cancer specialists with experience in treating people with unresectable and/or metastatic malignant gastrointestinal stromal tumours after failure of imatinib treatment because of resistance or intolerance.

5 Implementation

5.1 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.

5.2 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 fast track appraisal), at which point funding will switch to routine commissioning budgets. The NHS England and NHS Improvement 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.

5.3 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.

5.4 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 patient has a gastrointestinal stromal tumour and the doctor responsible for their care thinks that sunitinib is the right treatment, it should be available for use, in line with NICE's recommendations.

6 Recommendations for further research

6.1 A trial comparing 37.5 mg sunitinib with 800 mg imatinib is currently recruiting participants.

6.2 The committee considered that rigorous data collection is needed on the life-extending benefits of sunitinib.

7 Appraisal committee members and NICE project team

Appraisal committee members

The appraisal committee is a standing advisory committee of NICE. Its members are appointed for a 3-year term. A list of the committee members who took part in the discussions for this appraisal appears below. The appraisal committee meets 3 times a month except in December, when there are no meetings. The committee membership is split into 3 branches, each with a chair and vice chair. Each branch considers its own list of technologies, and ongoing topics are not moved between the branches.

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

The minutes of each appraisal committee meeting, which include the names of the members who attended and their declarations of interests, are posted on the NICE website.

Professor David Barnett
Professor of Clinical Pharmacology, University of Leicester

Dr David W Black
Director of Public Health, Derbyshire County PCT

Mr Mark Campbell
Director of Standards, Bury PCT

Professor Mike Campbell
Professor of Medical Statistics, University of Sheffield

Mr David Chandler
Lay Member

Mr Peter Clarke
Consultant Medical Oncologist, Clatterbridge Centre for Oncology, Merseyside

Dr Christine Davey
Senior Researcher, North Yorkshire Alliance R & D Unit

Mr Richard Devereaux-Phillips
Public Affairs Manager, Medtronic Limited

Professor Rachel A Elliott
Lord Trent Professor of Medicines and Health, the University of Nottingham

Dr Catherine Jackson
Professor of Primary Care Medicine, University of St Andrews

Dr Peter Jackson
Clinical Pharmacologist, the University of Sheffield

Professor Peter Jones
Pro Vice Chancellor for Research & Enterprise, Keele University Professor of Statistics, Keele University

Mr Henry Marsh
Consultant Neurosurgeon, St Georges Hospital, London

Professor Jonathan Michaels
Professor of Vascular Surgery, University of Sheffield

Dr Eugene Milne
Deputy Medical Director, North East Strategic Health Authority

Dr Simon Mitchell
Consultant Neonatal Paediatrician, St Mary's Hospital, Manchester

Dr Richard Alexander Nakielny
Consultant Radiologist, Royal Hallamshire Hospital, Sheffield

Mrs Ruth Oliver-Williams

Head of Nursing / Quality Improvement Lead Surgical Services, Royal Derby Hospital, Derby

Dr Katherine Payne
Health Economics Research Fellow, The University of Manchester

Dr Danielle Preedy
Lay Member

Dr Martin J. Price
Head of Outcomes Research, Janssen-Cilag Ltd

Dr Philip Rutledge
Consultant in Medicines Management, NHS Lothian

Mr Miles Scott
Chief Executive, Bradford Teaching Hospitals NHS Foundation Trust

Dr Surinder Sethi
Consultant in Public Health Medicine, North West Specialised Services Commissioning Team

Professor Andrew Stevens (Chair)
Professor of Public Health, Department of Public Health and Epidemiology, University of Birmingham

Dr Matt Stevenson
Technical Director, School of Health and Related Research, University of Sheffield

Dr Cathryn Thomas
Associate Professor and General Practitioner, University of Birmingham

NICE project team

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

Fay McCracken
Technical Lead

Joanna Richardson and Rebecca Trowman
Technical Adviser

Laura Malone
Project Manager

8 Sources of evidence considered by the committee

The evidence review group (ERG) report for this appraisal was prepared by Peninsula Technology Assessment Group (PenTAG):

- Bond M, et al. (2009) The clinical and cost effectiveness of sunitinib for the treatment of gastrointestinal stromal tumours: a critique of the submission from Pfizer.

The following organisations accepted the invitation to participate in this appraisal. They were invited to comment on the draft scope, the ERG report and the appraisal consultation document (ACD). The manufacturer/sponsor was also invited to make written submissions. The professional/specialist and patient/carer groups and other consultees had the opportunity to give their expert views and, along with the manufacturer or sponsor, also have the opportunity to appeal against the final appraisal determination.

- Manufacturer or sponsor:
  - Pfizer (sunitinib)
- Professional or specialist and patient or carer groups:
  - Association of Upper GI Surgeons
  - Rarer Cancers Forum
  - Royal College of Nursing
  - Royal College of Pathologists
  - Royal College of Physicians, Medical Oncology Joint Special Committee
  - Royal College of Radiologists
  - Sarcoma UK
- Other consultees
  - Department of Health

  - Plymouth Teaching PCT
  - Welsh Assembly Government
- Commentator organisations (did not provide written evidence and without the right of appeal)
  - Department of Health, Social Services and Public Safety for Northern Ireland
  - National Collaborating Centre for Cancer
  - NHS Quality Improvement Scotland
  - Peninsula Technology Assessment Group, University of Exeter (PenTAG)

The following individuals were selected from clinical specialist and patient advocate nominations from the non-manufacturer/sponsor consultees and commentators. They gave their expert personal view on sunitinib by attending the initial committee discussion and providing written evidence to the committee. They are invited to comment on the ACD.

- Professor Ian Judson, nominated by Royal College of Physicians – clinical specialist
- Professor Marco Novelli, nominated by Royal College of Pathologists
- Ms Stella Pendleton, nominated by Rarer Cancers Forum – patient expert
- Mrs Judith Robinson, nominated by GIST Support UK – patient expert.

Update information

Minor changes since publication

September 2025: We updated sections 1.1 and 2.3 to reflect the updated list price of sunitinib and the removal of the patient access scheme.

February 2014: We updated the implementation section to clarify that sunitinib is recommended as an option for treating gastrointestinal stromal tumours.

ISBN: 978-1-4731-5669-2