

NATIONAL INSTITUTE FOR HEALTH AND CLINICAL EXCELLENCE

Pemetrexed for the treatment of relapsed non-small cell lung cancer

Note on calculations performed at Committee Meeting

In response to discussion by Appraisal Committee, some simple calculations around the cost effectiveness of pemetrexed were performed to further inform the Committee’s discussion. The calculations were intended to be illustrative in order to assess the impact on the estimates of cost effectiveness of altering some assumptions included in the analyses submitted during the appraisal. In order to promote transparency and understanding of the guidance, these calculations are replicated below.

A) Cost effectiveness of pemetrexed compared to BSC: varying quality adjusted life years (QALY) estimates (see FAD section 4.11)

The ERG reported a revised ICER of pemetrexed compared to BSC of £59,431 based on the revised cost estimates as reported in the ERG report and revised QALY estimates (see Table 1 and Table A1 of the Addendum to the ERG Report).

Table 1: Costs, QALYs and ICER reported in ERG addendum

	Pemetrexed	BSC	Incremental
Costs	£14,651	£5,533	£9,118
QALYs	0.4396	0.2862	0.1534
ICER (incremental cost per QALY)			£59,431

If the ERG’s revised estimates of costs and the estimates of QALYs gained from the manufacturer’s submission (see Manufacturer’s submission p.130) are included in the analysis, the ICER would be over £40,000 per additional QALY gained as shown in Table 2.

Table 2: Costs, QALYs and ICER including manufacturer’s QALY estimates

	Pemetrexed	BSC	Incremental
Costs	£14,651	£5,533	£9,118
QALYs	0.4915	0.2862	0.2053
ICER (incremental cost per QALY)			£44,413

B) Cost effectiveness of pemetrexed compared to BSC with reduction in BSC costs (see FAD section 4.12).

The ERG reported that the cost of pemetrexed was approximately £14,651. based on its revised cost estimates (see Table A1 of the Addendum to the ERG Report and Table 1). This included an assumption that non-treatment related/BSC costs for patients receiving pemetrexed would be incurred at the same rate as for patients receiving BSC.

If the non-treatment/BSC costs of patients receiving pemetrexed are incurred at half the rate as for patients receiving BSC, the cost of pemetrexed would be £13,500 as shown in Table 3. This results in an incremental cost per additional QALY gained of approximately £50,000 as shown in Table 4.

Table 3: Revised costs of pemetrexed varying assumption regarding costs of supportive care

	Pemetrexed cost (ERG addendum)	Pemetrexed cost (BSC costs incurred at 50% rate)
Drug acquisition/admin	£8,678	£8,678
Non-treatment/BSC	£2,303	£1,152
Adverse event treatment	£71	£71
Palliative care	£3,599	£3,599
Total cost	£14,651	£13,500

Table 4: Costs, QALYs and ICER of pemetrexed compared to docetaxel varying assumption regarding costs of supportive care

	Pemetrexed	BSC	Incremental
Costs	£13,500	£5,533	£7,967
QALYs	0.4396	0.2862	0.1534
ICER (incremental cost per QALY)			£51,936

Louise Longworth

Technical Adviser