Economic evidence profiles for review question: For adults with a new episode of more severe depression, what are the relative benefits and harms of psychological, psychosocial, pharmacological and physical interventions alone or in combination?

Table 61. Economic evidence profile for computerised cognitive behavioural therapy (CBT) with support versus treatment as usual

Study and country	Limitations	Applicability	Other comments	Incremental costs[1]	Incremental effects	ICER[1]	Uncertainty
Gilbody 2015 / Littlewood 2015 UK	Minor limitations[2]	Directly applicable[3]	Outcome: QALY 2 computerised CBT programmes assessed: one commercially produced (cCBT1), the other freely available (cCBT2)	£117 -£119 (depending on package)	-0.044 -0.015 (depending on package)	cCBT1 dominated cCBT2 less costly, less effective £7,798	Probability of each intervention being cost effective at WTP £20,000/QALY: cCBT1 0.038; cCBT2 0.417; TAU: 0.545 Using SF-6D QALYs: cCBT1 dominated by TAU; cCBT2 dominant Probability of each intervention being cost-effective at WTP £20,000/QALY: cCBT1 0.007; cCBT2 0.756; TAU: 0.237 Results robust to inclusion of depression-related costs only and to consideration of completers' data only (instead of imputed data analysis) Little evidence of an interaction effect between preference and treatment allocation on outcomes

ICER: incremental cost effectiveness ratio; QALY: quality-adjusted life year; WTP: willingness to pay
1. Costs uplifted to 2020 UK pounds using the NHS cost inflation index (Curtis 2020).
2. Time horizon 2 years; analysis conducted alongside RCT (N=691; at 24 months EQ-5D data available for n=416 and NHS cost data available for n=580); national unit costs used; statistical analyses including regression analysis to control for covariates conducted; Cholesky decomposition conducted to account for covariance in costs and QALYs; CEACs presented; deterministic sensitivity analysis conducted
3. UK study; NHS & PSS perspective; QALY estimated based on EQ-5D ratings (UK tariff)

Table 62. Economic evidence profile for counselling versus antidepressants

Study and country	Limitations	Applicability	Other comments	Incremental costs[1]	Incremental effects	ICER[1]	Uncertainty
Miller 2003 UK	Potentially serious limitations[2]	Partially applicable[3]	Outcome: % of people with good 'global outcome', reflecting response to treatment within 8 weeks and remaining well	RCT: -£83 Preference trial: £145	RCT: -16% Preference trial: 8%	RCT: AD vs counselling £524 Preference trial: counselling vs AD £1,816	RCT: probability of counselling being cost-effective 0.25 and 0.10 at WTP £995 and £3,983/extra person with good global outcome, respectively Assuming missing data reflected good outcomes, probability of counselling being cost-effective increased at any WTP Assuming missing data represented poor outcomes, probability of counselling being cost-effective slightly increased for WTP < £2,755 /good global outcome and decreased for WTP> £2,755 /good global outcome

ICER: incremental cost effectiveness ratio; QALY: quality-adjusted life year; WTP: willingness to pay
1. Costs uplifted to 2020 UK pounds using the NHS cost inflation index (Curtis 2020).
2. Time horizon 12 months; analysis conducted alongside RCT (N=103, at 12 months efficacy data for n=81 and resource data for n=103) and preference trial (N=220; at 12 months efficacy data for n=163 and resource use data n=215); only depression-related costs considered; national unit costs used except for counsellors, where local costs were used; statistical analyses conducted including bootstrapping, CEACs presented.
3. UK study; NHS perspective; QALY not used as an outcome 3. UK study; NHS & PSS perspective; QALY estimated based on EQ-5D ratings (UK tariff)

Table 63. Economic evidence profile for sertraline versus placebo

Study and country	Limitations	Applicability	Other comments	Incremental costs[1]	Incremental effects	ICER[1]	Uncertainty
Hollingworth 2020 UK	Minor limitations[2]	Directly applicable[3]	Outcome: QALY Subgroup analysis by	Moderate depression: £4 (−£152 to £159) Severe depression: −£43 (−£114 to £28)	Moderate depression: 0.007 (0 to 0.014) Severe depression:	Moderate depression: £597/QALY	Probability of sertraline being cost-effective at WTP £20,000/QALY:

Study and country	Limitations	Applicability	Other comments	Incremental costs[1]	Incremental effects	ICER[1]	Uncertainty
			severity level conducted		0.005 (−0.002 to 0.011)	Severe depression: sertraline dominant	>0.70 in each level of severity

ICER: incremental cost effectiveness ratio; QALY: quality-adjusted life year; WTP: willingness to pay
1. Costs uplifted to 2020 UK pounds using the NHS cost inflation index (Curtis 2020).
2. Time horizon 12 weeks; analysis conducted alongside RCT (N=655; utility data available for n=505; cost data available for n=381); national unit costs used; imputation of missing data undertaken; statistical analyses including PSA conducted; cost effectiveness acceptability curve presented.
3. UK study; NHS & personal social services perspective; QALY estimates based on EQ-5D (UK tariff)

Table 64. Economic evidence profile for escitalopram versus citalopram

Study and country	Limitations	Applicability	Other comments	Incremental costs[1]	Incremental effects	ICER[1]	Uncertainty
Wade 2005b UK	Potentially serious limitations[2]	Directly applicable[3]	Population: adults with severe depression • Outcome: % of remission	-£48	5%	Escitalopram dominant	Results robust to changes in drug-specific probabilities and cost data PSA: Escitalopram dominant in >99.8% of iterations

ICER: incremental cost effectiveness ratio
1. Costs uplifted to 2020 UK pounds using the NHS cost inflation index (Curtis 2020).
2. UK study; NHS perspective; QALY not used as an outcome but intervention dominant (so no further judgements on cost effectiveness required)
3. Time horizon 26 weeks; analysis based on economic modelling, efficacy data from pooled RCTs; resource use data based on a general practice database, expert opinion and published studies; national unit costs used; statistical analyses conducted including PSA, funded by industry.SSRIs versus SNRIs

Table 65. Economic evidence profile for escitalopram versus citalopram versus venlafaxine

Study and country	Limitations	Applicability	Other comments	Incremental costs[1]	Incremental effects	ICER[1]	Uncertainty
Wade 2005a UK	Potentially serious limitations[2]	Directly applicable[3]	Population: adults with moderate-to-	Escitalopram: -£117 versus citalopram	Escitalopram: 5.3% versus citalopram	Escitalopram dominant	Results robust under different scenarios (changes

Study and country	Limitations	Applicability	Other comments	Incremental costs[1]	Incremental effects	ICER[1]	Uncertainty
			severe depression • Outcome: % of remission	-£57 versus venlafaxine	0.4% versus venlafaxine		in rates of remission, relapse, discontinuation, unit costs)

ICER: incremental cost effectiveness ratio
1. Costs uplifted to 2020 UK pounds using the NHS cost inflation index (Curtis 2020).
2. Time horizon 26 weeks; analysis based on economic modelling, efficacy data from pooled RCTs; resource use data based on a general practice database, expert opinion and published studies; national unit costs used; statistical analyses conducted including PSA, funded by industry, side effects not considered in estimation of costs
3. UK study; NHS perspective; QALY not used as an outcome but intervention dominant (so no further judgements on cost effectiveness required)

Table 66. Economic evidence profile for escitalopram versus duloxetine

Study and country	Limitations	Applicability	Other comments	Incremental costs[1]	Incremental effects	ICER[1]	Uncertainty
Wade 2008 UK	Potentially serious limitations[2]	Directly applicable[3]	Outcomes: • SAS change in score • MADRS change in score • Response • Remission	Total sample: −£191 (−£510 to -£55)	2.4 (0.4 to 4.1) 1.7 (-0.1 to 3.4) 5.0% (-2.8% to 12.7%) 3.3% (-5.7% to 11.8%)	Escitalopram dominant	Difference in costs and SAS change in score statistically significant

ICER: incremental cost effectiveness ratio; MADRS: Montgomery-Asberg Depression Rating Scale; SAS: Sheehan Disability Scale
1. Costs uplifted to 2020 UK pounds using the NHS cost inflation index (Curtis 2020).
2. UK study; NHS perspective; no QALY used but intervention dominant
3. Time horizon 24 weeks; analysis conducted alongside RCT (N=295; health economic data for n=223); national unit costs used; imputation of missing data undertaken; no probabilistic sensitivity analysis conducted; cost effectiveness acceptability curves not presented.

Table 67. Economic evidence profile for paroxetine versus mirtazapine

Study and country	Limitations	Applicability	Other comments	Incremental costs[1]	Incremental effects	ICER[1]	Uncertainty
Romeo 2004 UK	Potentially serious limitations[2]	Directly applicable[3]	Outcomes: • Response	£185 (-£580 to £1,154)	7% -4	Paroxetine dominated by mirtazapine	Probability of mirtazapine being cost-effective 80% and 89%, at WTP zero

Study and country	Limitations	Applicability	Other comments	Incremental costs[1]	Incremental effects	ICER[1]	Uncertainty
			• Change in QLDS				and £1000 for a point improvement in HAMD17

Results robust to changes in costs |

HAMD: Hamilton Depression rating scale; ICER: incremental cost effectiveness ratio; QLDS: Quality of Life in Depression Scale
1. Costs uplifted to 2020 UK pounds using the NHS cost inflation index (Curtis 2020).
2. UK study; NHS perspective; no QALY used but intervention dominated
3. Time horizon 24 weeks; analysis conducted alongside RCT (N=197; health economic data for n=177); national unit costs used; imputation of missing data undertaken; probabilistic sensitivity analysis conducted; cost effectiveness acceptability curves presented; potential conflicts of interest as study funded by industry

Table 68. Economic evidence profile for SSRIs versus duloxetine versus venlafaxine versus mirtazapine

Study and country	Limitations	Applicability	Other comments	Incremental costs[1]	Incremental effects	ICER[1]	Uncertainty
Benedict 2010 UK	Potentially serious limitations[2]	Directly applicable[3]	• Outcome: QALY	Duloxetine versus: SSRIs: £88 Venlafaxine: -£65 Mirtazapine £42	Duloxetine versus: SSRIs 0.009 Venlafaxine 0.002 Mirtazapine 0.011	Duloxetine dominant over venlafaxine. SSRIs dominant over mirtazapine ICER of duloxetine versus SSRIs: £9,700/QALY	Probability of duloxetine being cost-effective at WTP £20,000/QALY: approximately 70%

Results sensitive to changes in efficacy (response / relapse) and utility values. |

ICER: incremental cost effectiveness ratio; QALY: quality-adjusted life year
1. Costs uplifted to 2020 UK pounds using the NHS cost inflation index (Curtis 2020).
2. Time horizon 48 weeks; analysis based on decision-analytic modelling; efficacy data derived from meta-analyses of clinical trials with randomisation possibly broken; disutility and costs due to side effects not considered; resource use estimates based on expert opinion; national unit costs used; funded by industry
3. UK study; Scottish NHS perspective; QALYs based on EQ-5D (UK tariff)

Table 69. Economic evidence profile for fluoxetine versus venlafaxine versus amitriptyline

Study and country	Limitations	Applicability	Other comments	Incremental costs[1]	Incremental effects	ICER[1]	Uncertainty
Lenox-Smith 2009 UK	Very serious limitations[2]	Partially applicable[3]	Outcome: QALY	Venlafaxine versus: Fluoxetine -£12 Amitriptyline -£37	Venlafaxine versus: Fluoxetine 0.008 Amitriptyline 0.013	Venlafaxine dominant	Results robust to changes in costs. Results sensitive to the value of the utility gain associated with a depression-free day

ICER: incremental cost effectiveness ratio; QALY: quality-adjusted life year
1. Costs uplifted to 2020 UK pounds using the NHS cost inflation index (Curtis 2020).
2. Time horizon 24 weeks; analysis based on decision-analytic modelling; method of synthesis of efficacy data unclear, but randomisation likely broken; disutility and costs due to side effects not considered; resource use estimates based on expert opinion; national unit costs used; funded by industry
3. UK study; NHS perspective; QALYs estimated based on the presumed utilities of a depression-free day and a severely depressed day

Table 70. Economic evidence profile for combined CBT and antidepressant versus antidepressant alone

Study and country	Limitations	Applicability	Other comments	Incremental costs[1]	Incremental effects	ICER[1]	Uncertainty
Simon 2006 UK	Minor limitations[2]	Partially applicable[3]	Population: adults with moderate or severe depression Outcomes: • % of successful treatment (remission and no relapse over 12 months) • QALY	£947	% successful treatment: 16% QALYs - moderate depression 0.04 - severe depression 0.11	£6,031/ successfully treated person £21,617/QALY for moderate depression £8,589/QALY for severe depression	95% CIs: £2,081 to £27,209/successsfully treated person £7,136 to £118,054/QALY for moderate depression £2,825 to 483,873/QALY for severe depression Results sensitive to changes in relative efficacy (remission, relapse). Probability of Combo being cost-effective at WTP £44,000/QALY: 0.88 for moderate depression and 0.97 for severe depression

ICER: incremental cost effectiveness ratio; QALY: quality-adjusted life year
1. Costs uplifted to 2020 UK pounds using the NHS cost inflation index (Curtis 2020).

2. Time horizon 18 months; analysis based on economic modelling, efficacy data from systematic review and meta-analysis; resource use data based on expert opinion and published studies; national unit costs used; PSA conducted, CEACs presented; side effects not considered in estimation of costs or QALYs
3. UK study; NHS perspective; QALYs generated based on vignettes valued by service users using standard gamble techniques

Table 71. Economic evidence profile for combined CBT and antidepressant versus CBT alone versus antidepressant alone

Study and country	Limitations	Applicability	Other comments	Incremental costs[1]	Incremental effects	ICER[1]	Uncertainty
Koeser 2015 UK	Minor limitations[2]	Directly applicable[3]	Population: adults with moderate or severe depression Outcome: QALY	Vs citalopram: CBT £869 Combo £1,591	Vs citalopram: CBT 0.038 Combo 0.038	Combo dominated by CBT CBT vs citalopram: £22,538	Probability of CBT, citalopram, Combo being cost-effective at WTP £28,000/QALY: 0.43, 0.37 and 0.20, respectively Results sensitive to changes in inclusion criteria for RCTs for acute and follow-up treatment Using SF-6D values: ICER of CBT vs citalopram £36,646/QALY

ICER: incremental cost effectiveness ratio; QALY: quality-adjusted life year
1. Costs uplifted to 2020 UK pounds using the NHS cost inflation index (Curtis 2020).
2. Time horizon 27 months; analysis based on economic modelling, efficacy data from systematic review and network meta-analysis; resource use data based on published estimates of expert opinion and analysis of RCT data; PSA conducted, CEACs presented; side effects not considered in estimation of costs or QALYs
3. UK study; NHS perspective; QALYs generated based EQ-5D ratings (UK tariff)

Table 72. Economic evidence profile for various pharmacological, psychological, physical and combined interventions

Study and country	Limitations	Applicability	Other comments	Incremental cost / 1000 people (£)[1]	Incremental effect / 1000 people	NMB (£) per person[1]	Uncertainty
Guideline economic analysis UK	Minor limitations[2]	Directly applicable[3]	Outcome: QALY Bias-adjusted analysis, using discontinuation and response in completers data after adjusting for bias due to small study size	Versus GP care: Escitalopram 117,987 Lofepramine 324,417 Duloxetine 131,915 Mirtazapine 115,955 Trazodone 134,755 cCBT 182,164 cCBT with support 202,467 BA individual 998,237 CBT individual 1,289,809 CBT group 437,628 Problem solving 196,894 Counselling 1,022,415 IPT 1,414,450 Short-term PDPT 1,247,280 Exercise individual 1,078,612 Exercise group 297,122 Acupuncture 826,761 CBT individual + escitalopram 1,307,809 Acupuncture + escitalopram 760,064	Versus GP care: Escitalopram 49.82 Lofepramine 57.26 Duloxetine 58.76 Mirtazapine 53.61 Trazodone 38.68 cCBT 5.57 cCBT with support 41.13 BA individual 94.92 CBT individual 86.57 CBT group 26.07 Problem solving 112.90 Counselling 54.43 IPT 56.06 Short-term PDPT 46.66 Exercise individual 35.72 Exercise group 56.57 Acupuncture -14.17 CBT individual + escitalopram 119.35 Acupuncture + escitalopram 81.34	Individual problem solving 28,929 CBT individual + escitalopram 27,947 Duloxetine 27,911 Mirtazapine 27,824 BA individual 27,768 Escitalopram 27,746 Acupuncture + escitalopram 27,735 Exercise group 27,702 Lofepramine 27,689 Trazodone 27,507 cCBT with support 27,488 CBT individual 27,309 CBT group 26,952 Counselling 26,934 GP care 26,868 cCBT 26,797 IPT 26,575 Short-term PDPT 26,554 Exercise individual 26,504 Acupuncture 25,758	Probability of cost effectiveness at WTP £20,000/ QALY: individual problem solving 0.71 Results of individual psychological interventions sensitive to the utility gains after remission; results of pharmacological and combined interventions sensitive to the risk of side effects from antidepressants

BA: behavioural activation; CBT: cognitive behavioural therapy; cCBT: computerised cognitive behavioural therapy; IPT: interpersonal psychotherapy; NMB: net monetary benefit; PDPT: psychodynamic psychotherapy; QALY: quality-adjusted life year; WTP: willingness to pay

1. Costs expressed in 2020 British pounds.
2. Decision-analytic hybrid model, time horizon 12 weeks + 2 years; relative effects based on guideline systematic review and NMA; baseline effects derived from review of naturalistic studies; resource use based on published data supplemented by most up-to-date resource use and unit cost data; national unit prices used; PSA conducted; CEAF presented
3. UK study; NHS & PSS perspective; QALY estimates based on EQ-5D (UK tariff)