Appendix 16f: Evidence tables for economic studies

High intensity psychological interventions for Generalised Anxiety Disorder

Reference to included study
Heuzenroeder L, Donnelly M, Haby MM, Mihalopoulos C, Rossell R, Carter R, Andrews G, Vos T (2004) Cost-effectiveness of psychological and pharmacological interventions for generalized anxiety disorder and panic disorder. Australian and New Zealand Journal of Psychiatry, 38, 602-612.

Study **Country** **Study type**	**Intervention details**	**Study population** **Study design** **Data sources**	**Costs: description and values** **Outcomes: description and values**	**Results: Cost-effectiveness**	**Comments**
Heuzenroeder et al, 2004 Australia Cost-utility analysis	Interventions: CBT provided by: • Private psychologist • Public psychologist • Private psychiatrist • Public psychiatrist Standard care, defined as 27% evidence-based medicine (EBM), 28% non-EBM, and 45% no care	People with generalised anxiety disorder Decision analytic modelling Source of clinical effectiveness data: systematic review and meta-analysis Source of resource use: estimates and assumptions Source of unit costs: national sources	Costs: Consultations with psychologists, psychiatrists, GPs Incremental cost for all adults with GAD in Australia: • Private psychologist: Aus$140 million • Public psychologist: Aus$50 million • Private psychiatrist: Aus$170 million • Public psychiatrist: Aus$160 million Primary outcome: number of Disability Adjusted Life Years (DALYs) averted Incremental DALYs averted for all adults with GAD in Australia: 7200	ICER of CBT versus standard care: • Private psychologist: $28,000/DALY averted • Public psychologist: $12,000/DALY averted • Private psychiatrist: 32,000/DALY averted • Public psychiatrist: $31,000/DALY averted Sensitivity analysis – range of ICERs ($/DALY averted): • Private psychologist: 17,000-56,000 • Public psychologist: 7,000-25,000 • Private psychiatrist: 20,000-63,000 • Public psychiatrist: 19,000-63,000	Perspective: healthcare sector (including patient expenses) Currency: Australian$ Cost year: 2000 Time horizon: 12 months Discounting: not needed Applicability: non-applicable

Pharmacological interventions for Generalised Anxiety Disorder

References to included studies

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3. Iskedjian M, Walker JH, Bereza BG, Le M, Einarson TR (2008) Cost-effectiveness of escitalopram for generalized anxiety disorder in Canada. Current Medical Research and Opinion, 24, 1539-48.
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5. Vera-Llonch M, Dukes E, Rejas J, Sofrygin O, Mychaskiw M, Oster G (2010) Cost-effectiveness of pregabalin versus venlafaxine in the treatment of generalized anxiety disorder: findings from a Spanish perspective. European Journal of Health Economics, 11, 35-44.

Study **Country** **Study type**	**Intervention details**	**Study population** **Study design** **Data sources**	**Costs: description and values** **Outcomes: description and values**	**Results: Cost-effectiveness**	**Comments**
Guest *et al.*, 2005 UK Cost effectiveness analysis	<u>Interventions:</u> Venlafaxine XL 75mg/day Diazepam 5mg x 3 times/day	Adults with Generalised Anxiety Disorder Decision-analytic modelling Source of clinical effectiveness data: RCT [HACKET2003] Source of resource use estimates: expert opinion Source of unit costs: national sources	<u>Costs:</u> Medication, visits to GPs, psychiatrists, psychologists, community mental health team, counsellor Mean cost per person: Venlafaxine XL: £352 Diazepam: £310 <u>Outcome:</u> percentage of successful treatment, defined as percentage of people in remission at 6 months; remission defined as a score on CGI = 1 Successful treatment: Venlafaxine XL: 27.6% Diazepam: 16.8% (p=0.07)	ICER of Venlafaxine XL versus diazepam: £381 per successfully treated person Results sensitive to rates of response, remission, relapse, discontinuation, plus resource use Probabilistic analysis: venlafaxine XL dominated diazepam in at least 25% of iterations	Perspective: NHS Currency: UK£ Cost year: 2000/01 Time horizon: 6 months Discounting: not needed Applicability: partially applicable Quality: potentially serious limitations Funded by Wyeth Pharmaceuticals

Study **Country** **Study type**	**Intervention details**	**Study population** **Study design** **Data sources**	**Costs: description and values** **Outcomes: description and values**	**Results: Cost-effectiveness**	**Comments**
Heuzenroeder et al, 2004 Australia Cost-utility analysis	<u>Interventions:</u> Venlafaxine 74 or 150mg/day Standard care, defined as 27% evidence-based medicine (EBM), 28% non-EBM, and 45% no care	People with generalised anxiety disorder Decision analytic modelling Source of clinical effectiveness data: meta-analysis of 2 RCTs [ALLGULANDER2001; DAVIDSON1999] Source of resource use: assumptions Source of unit costs: national sources	<u>Costs:</u> Medication, doctor consultations Incremental cost for all adults with GAD in Australia: Aus$ 77 million <u>Primary outcome:</u> number of Disability Adjusted Life Years (DALYs) saved Incremental DALYs for all adults with GAD in Australia: 3300	ICER of venlafaxine versus standard care: $30,000/DALY Sensitivity analysis: ICER between $20,000/DALY and $51,000/DALY	Perspective: healthcare sector (including patient expenses) Currency: Australian$ Cost year: 2000 Time horizon: 12 months Discounting: not needed Applicability: non-applicable

Study **Country** **Study type**	**Intervention details**	**Study population** **Study design** **Data sources**	**Costs: description and values** **Outcomes: description and values**	**Results: Cost-effectiveness**	**Comments**
Iskedjian *et al.*, 2008 Canada Cost-effectiveness analysis	<u>Interventions:</u> Escitalopram 10-20mg/day Paroxetine 20-50mg/day Both drugs were augmented with 0.5mg clonazepam, if needed; psychotherapy was provided if drug treatments failed	Newly diagnosed people with generalised anxiety disorder, with HAMA score ≥ 18, treated in a primary care setting Decision analytic modelling Source of clinical effectiveness data: double-blind RCT for response rates [BIELSKI2005], literature review and expert opinion Source of resource use: expert opinion Source of unit costs: Canadian national sources	<u>Costs:</u> Medication, physician visits Productivity losses Total costs per person: Ministry of Health perspective Escitalopram: $724; paroxetine: $663 Societal perspective Escitalopram: $3527; paroxetine: $3676 <u>Primary outcome:</u> number of symptom-free days (SFDs), defined by a score of 1 or 2 in CGI-1 Number of SFDs per person: Escitalopram: 86.4 Paroxetine: 77.0	Ministry of Health perspective: ICER of escitalopram vs. paroxetine: $6.56 per SFD (or $2362 per symptom free year) Societal perspective: Escitalopram dominated paroxetine Results robust to changes in rates of response, tolerance, adherence	Perspectives: Ministry of Health and societal Currency: Canadian$ Cost year: 2005 Time horizon: 24 weeks Discounting: not needed Applicability: partially applicable Quality: potentially serious limitations Funded by H Lundbeck

Study **Country** **Study type**	**Intervention details**	**Study population** **Study design** **Data sources**	**Costs: description and values** **Outcomes: description and values**	**Results: Cost-effectiveness**	**Comments**
Jørgensen *et al.*, 2006 UK Cost-effectiveness analysis	<u>Interventions:</u> Escitalopram 10-20mg/day Paroxetine 20-50mg/day Switching between the 2 drugs was allowed in case of intolerance or non-response; venlafaxine was provided as 3rd line treatment if the sequence of the 2 drugs failed	Newly diagnosed people with generalised anxiety disorder, with HAMA score ≥ 18, treated in a primary care setting Decision analytic modelling Source of clinical effectiveness data: double-blind RCT for response and discontinuation rates [BIELSKI2005], other RCTs for relapse data & other input parameters, and further assumptions Source of resource use: estimates based on recommendations from the previous NICE guideline on anxiety; plus expert opinion Source of unit costs: UK national sources	<u>Costs:</u> Medication, GP and/or psychiatrist visits Productivity losses Total costs per person: NHS perspective Escitalopram: £447; paroxetine: £486 Societal perspective Escitalopram: £8434; paroxetine: £9843 <u>Primary outcome:</u> initial response and maintained response (i.e. initial response + no relapse) at the end of the time horizon; initial response defined as a reduction of score at 1 or 2 in CGI-1; relapse defined as an increase in the HAM-A total score to ≥ 15, an increase of CGI-S to 4 or more, or discontinuation due to lack of efficacy Initial response: Escitalopram: 49.6% Paroxetine: 35.2% Maintained response: Escitalopram: 7.7% more responders than Paroxetine	NHS and societal perspective: Escitalopram dominated paroxetine Results robust to changes in rates of response, tolerance, acquisition cost of paroxetine	Perspective: societal Currency: UK£ Cost year: 2005 Time horizon: 9 months Discounting: not needed Applicability: directly applicable Quality: potentially serious limitations Funded by H Lundbeck

Study **Country** **Study type**	**Intervention details**	**Study population** **Study design** **Data sources**	**Costs: description and values** **Outcomes: description and values**	**Results: Cost-effectiveness**	**Comments**
Vera-Llonch *et al.*, 20010 Spain Cost-utility analysis	<u>Interventions:</u> Pregabalin 300-600mg/day Venlafaxine XL 75-225mg/day	Adults with moderate to severe Generalised Anxiety Disorder Decision-analytic modelling Source of clinical effectiveness data: RCT [KASPER2009] Source of resource use estimates: published and unpublished data Source of unit costs: national sources	<u>Costs:</u> Medication, primary care visits, specialist visits (psychiatrist, psychologist), inpatient care, emergency room, lab tests (blood counts, electrocardiogram, thyroid function) Mean cost per person: Pregabalin: €3,871 Venlafaxine XL: €3,234 <u>Outcome:</u> number of QALYs gained Number of QALYs per person: Pregabalin: 0.740 Venlafaxine XL: 0.713	ICER of pregabalin versus venlafaxine XL: €23,909 per QALY Results sensitive to utility values, time horizon, discontinuation Probabilistic analysis: pregabalin had a (roughly) 95% probability of being cost-effective compared with venlafaxine XL at a cost effectiveness threshold of approximately €25,000 per QALY	Perspective: third-party payer Currency: Euros (€) Cost year: 2007 Time horizon: 12 months Discounting: not needed Applicability: partially applicable Quality: potentially serious limitations Funded by Pfizer, Inc.

Computerised Cognitive Behavioural Therapy for panic disorder

References to included studies

1. Kaltenthaler E, Brazier J, De NE, Tumur I, Ferriter M, Beverley C, Parry G, Rooney G, Sutcliffe P (2006) Computerised cognitive behaviour therapy for depression and anxiety update: a systematic review and economic evaluation. Health Technology Assessment, 10(33). 1-186.
2. Klein B, Richards JC, Austin DW (2006) Efficacy of internet therapy for panic disorder. Journal of Behavioural Therapy, 37, 213-238.
3. McCrone P, Marks IM, Mataix-Cols D, Kenwright M, McDonough M (2009) Computer-Aided Self-Exposure Therapy for Phobia/Panic Disorder: A Pilot Economic Evaluation. Cognitive Behavioural Therapy, 18, 1-9.
4. Mihalopoulos C, Kiropoulos L, Shih S-TF, Gunn J, Blashki G, Meadows G (2005) Exploratory economic analyses of two primary care mental health projects: implications for sustainability. Medical Journal of Australia, 183, S73-S76.

FearFighter

Study **Country** **Study type**	**Intervention details**	**Study population** **Study design** **Data sources**	**Costs: description and values** **Outcomes: description and values**	**Results: Cost-effectiveness**	**Comments**
Kaltenthaler *et al.*, 2006 UK Cost-utility analysis	Interventions: cCBT (FearFighter, FF) Clinician-led CBT Relaxation	People with panic phobia presenting in a primary care setting Decision analytic modelling Source of clinical effectiveness data: double-blind RCT for response rates [MARKS2004], other published literature Source of resource use: published literature, information from manufacturers of cCBT package, assumptions Source of unit costs: UK national sources	Costs: Therapist time, computer hardware Plus for cCBT: license fees, screening of patients for suitability, capital overheads, training of staff Total costs per person: FF: £217 Clinician-led CBT: £410 Relaxation: £78 Primary outcome: QALYs Total QALYs per person: FF: 0.794 Clinician-led CBT: 0.805 Relaxation: 0.736	ICER of clinician-led CBT vs. FF: £17,608/QALY ICER of FF vs. relaxation: £2,380/QALY Probability of being cost-effective at a cost effectiveness threshold of £30,000/QALY FF 39% Clinician-led CBT: 61% Relaxation: 0% Results sensitive to cCBT costs	Perspective: NHS and personal social services Currency: UK£ Cost year: 2003 Time horizon: 12 months Discounting: not needed Applicability: partially applicable Quality: minor limitations Analysis informed the NICE TA on cCBT

Study **Country** **Study type**	**Intervention details**	**Study population** **Study design** **Data sources**	**Costs: description and values** **Outcomes: description and values**	**Results: Cost-effectiveness**	**Comments**
McCrone *et al.*, 2009 [MARKS2004] UK Cost-effectiveness analysis	<u>Interventions:</u> cCBT (FearFighter, FF) Clinician-led CBT Relaxation	People with panic or phobic disorder RCT (N=93) Source of clinical effectiveness data: RCT (n=62 for main problem ratings and 60 for global phobia ratings) Source of resource use: RCT (based on n=62 and n=60 people with main problem and global phobia ratings, respectively); plus assumptions based on published literature Source of unit costs: UK national sources	<u>Costs:</u> Therapist time, cost of cCBT package Total costs per person: FF: £243-£328 (main problem ratings) or £248-£333 (global phobia ratings); range depending on usage of package by PCT or GP practice, respectively Clinician-led CBT: £445 Relaxation: £122 <u>Measures of outcome:</u> improvement in main problem and global phobia ratings Mean improvement in main problem ratings FF: 3.95 Clinician-led CBT: 3.93 Relaxation: 0.71 (differences non-significant between FF and clinician-led CBT; both significantly better than relaxation) Mean improvement in global phobia ratings: FF: 2.95 Clinician-led CBT: 3.59 Relaxation: 1.07 (differences non-significant between FF and clinician-led CBT; both significantly better than relaxation)	<u>Main problem rating:</u> FF dominant over clinician-led CBT ICER of FF vs. relaxation: £37-£64/unit of improvement Probability of FF being more cost-effective than relaxation: 50% at a threshold of £35-£65 per unit of improvement Probability of clinician-led CBT being more cost-effective than relaxation: 50% at a threshold of £100 per unit of improvement <u>Global phobia rating:</u> ICER of clinician-led CBT vs. FF: £175-£308/unit of improvement ICER of FF vs. relaxation: £67-£112/unit of improvement Probability of FF being more cost-effective than relaxation: 50% at a threshold of £65-£115 per unit of improvement Probability of clinician-led CBT being more cost-effective than relaxation: 50% at a threshold of £130 per unit of improvement Probabilistic analyses directly comparing FF vs. clinician-led CBT not conducted	Perspective: NHS (intervention costs only) Currency: UK£ Cost year: likely 2004 Time horizon: 14 weeks Discounting: not needed Applicability: partially applicable Quality: potentially serious limitations One of the authors claimed intellectual property rights on FearFighter

Panic Online

Study **Country** **Study type**	**Intervention details**	**Study population** **Study design** **Data sources**	**Costs: description and values** **Outcomes: description and values**	**Results: Cost-effectiveness**	**Comments**
Klein *et al.*, 2006 [KLEIN2006] Australia Cost-consequence analysis	<u>Interventions:</u> cCBT (Panic Online, PO) Therapist-assisted, self-administered CBT (self-CBT) Information control (IC)	People with panic disorder (with or without agoraphobia) RCT (N=55) Source of clinical effectiveness data: RCT (n=55, Intention to treat analysis) Source of resource use: RCT (n=46, completers only) Source of unit costs: probably local costs	<u>Costs:</u> Therapist time, server and website hosting costs, cost of CBT manual, post and telephone calls Total costs per person: PO: $350 Self-CBT: $379 IC: $55 <u>Measures of outcome:</u> Panic Disorder Severity Scale; panic frequency; Agoraphobic Cognitions Questionnaire; Anxiety Sensitivity Profile; Depression, Anxiety and Stress Scale; Body Vigilance Scale PO significantly better than IC in all panic parameter measures, cognitive variables, anxiety and stress variables PO significantly better than self-CBT only in clinician agoraphobic ratings	Non-applicable	Perspective: health service (intervention costs only) Currency: Australian$ Cost year: not reported Time horizon: 6 weeks Discounting: not needed Applicability: partially applicable Quality: potentially serious limitations

Study **Country** **Study type**	**Intervention details**	**Study population** **Study design** **Data sources**	**Costs: description and values** **Outcomes: description and values**	**Results: Cost-effectiveness**	**Comments**
Michalopoulos *et al.*, 2005 Australia Cost-utility analysis	<u>Interventions:</u> cCBT (Panic Online, PO) provided by either a psychologist or a GP Standard care, defined as 27% evidence-based medicine (EBM), 28% non-EBM, and 45% no care	People with panic disorder Decision-analytic modelling Source of clinical effectiveness data: literature review Source of resource use: estimates and assumptions Source of unit costs: national sources	<u>Costs:</u> Therapist time, GP visits, cCBT package, computer and software Total incremental cost for all adults with panic disorder in Australia: PO by psychologist: Aus$3.8 million PO by GP: Aus$2.8 million <u>Measure of outcome:</u> number of DALYs averted Total number of DALYs averted for all adults with panic disorder in Australia: PO: 870	ICER of PO versus standard care: PO by psychologist: $4,300/DALY averted PO by GP: $3,200/DALY averted Sensitivity analysis – range of ICERs ($/DALY averted): • PO by psychologist: 3,500-5,400 • PO by GP: 2,700-3,900	Perspective: health sector (including patient expenses) Currency: Australian$ Cost year: 2004 Time horizon: 12 weeks Discounting: not needed Applicability: not applicable