National Institute for Health and Care Excellence

Version 2.0

Eating Disorders: recognition and treatment

Appendix P: Health economic evidence – evidence tables

NICE Guideline

Methods, evidence and recommendations

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Final

Developed by the National Guideline Alliance, hosted by the Royal College of Obstetricians and Gynaecologists

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Appendices

Appendix P: Health economic evidence – evidence tables

Abbreviations

A&E	accident & emergency department
AN	anorexia nervosa
BMI	body mass index
BN	bulimia nervosa
CBT	cognitive behavioural therapy
CI	confidence interval
DALY	disability adjusted life year
EBW	expected body weight
ED	eating disorder
EDNOS	eating disorder not otherwise specified
FBT	family-based treatment
FPT	psychodynamic therapy
FT	family therapy
FTF	face to face
GP	general practitioner
GSH	guided self-help
IBW	ideal body weight
ICER	incremental cost-effectiveness ratio
LDX	lisdexamfetamine dimesylate
LYS	life year saved
MAEDS	Multidimensional Assessment of Eating Disorder Symptoms
MRAOS	Morgan–Russell Average Outcome Scale
QALY	quality adjusted life year
RCT	randomised controlled trial
SC	standard care
SD	standard deviation
SyFT	systemic family therapy
TAU	treatment as usual
TV	telemedicine
WTP	willingness to pay

P.11 Treatment and management of people with anorexia nervosa

P.1.12 Psychological interventions

- Reference to included study
- Egger N, Wild B, Zipfel S, Junne F, Konnopka A, Schmidt U, et al. Cost-effectiveness of focal psychodynamic therapy and enhanced cognitive-behavioural therapy in out-patients with anorexia nervosa. Psychological medicine. 2016;46:3291-301.

Study Country Study type	Intervention details	Study population Study design Data sources	Costs: description and values Outcomes: description and values	Results: Cost-effectiveness	Comments
Egger and colleagues (2016) Germany Cost-effectiveness analysis and cost-utility analysis	Interventions: CBT-ED Psychodynamic therapy (FPT) TAU Treatments for CBT-ED and FPT were individual outpatient therapies. Each intervention comprised up to 40 sessions delivered over 10 months. Participants in the TAU group were given details of psychotherapists in their area who might be able to offer outpatient treatment for AN according to	Adult women with a BMI between 18 and 18.5 kg/m^2 and a primary diagnosis of AN or sub-syndromal AN RCT (Zipfel 2014) Source of clinical effectiveness data: RCT (N=242 baseline, N=156 follow-up) Source of resource use data: RCT (N=242 baseline, N=156 FU) Source of unit costs: national sources	Costs: outpatient treatment by physicians, psychologists and other therapists, pharmacotherapy, formal nursing care, informal care, travel costs, productivity losses Mean direct costs per participant at 22 months: FPT: €10,052 (SD: €2,047) CBT-ED: €11,826 (SD: €1,850) TAU: €13,448 (SD: €2,351) Difference: FPT vs. TAU: -€3,396, p=ns CBT-ED vs. TAU: -€1,622, p=ns FPT vs. CBT-ED: -€1,774, p=ns Mean societal costs per participant at 22 months: FPT: €21,512 (SD: €3,625) CBT-ED: €24,690 (SD: €3,538) TAU: €24,827 (SD: €4,697) Difference: FPT vs. TAU: -€3,315, p=ns CBT-ED vs. TAU: -€137, p=ns	FPT is dominant using both outcomes and both direct only, and societal costs Using direct costs and ITT sample: FPT's probability of being cost effective (vs. TAU) was less than 68%; CBT (vs. TAU) was less than 55%; and FPT (vs. CBT) was less than 67% for WTP of €50,000 per additional QALY. The probability for cost-effectiveness of FTP compared with TAU and CBT-ED was ≥85% if the WTP per recovery was	Perspective: healthcare payer; societal Currency: Euro Cost year: 2008 Time horizon: 22 months Discounting: NA Applicability: partially applicable Quality: minor 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
	German psychotherapy guidelines. Additionally their family doctors monitored them regularly.		FPT vs. CBT-ED: -€3,178, p=ns Primary measures of outcome: recovery defined as having a BMI >17.5 kg/m^2 and a score on the psychiatric status rating scale of 1 or 2; QALYs Fully recovered: FPT: 35.2% CBT-ED: 21% TAU: 12.5% Difference: FPT vs. TAU: 22.7%, p=0.036 CBT-ED vs. TAU: 8.5%, p=ns FPT vs. CBT-ED: 14.2%, p=ns QALYs: FPT: 1.53 CBT-ED: 1.48 TAU: 1.44 Difference: FPT vs. TAU: 0.09, p=ns CBT-ED vs. TAU: 0.04, p=ns FPT vs. CBT-ED: 0.05, p=ns	approximately ≥€10,000 and ≥€25,000, respectively. Comparing CBT-ED with TAU, the probability of being cost-effective remained <50% for all WTPs	

P.1.21 Interventions to help parents or carers of children or young people

- Reference to included study
- Agras WS, Lock J, Brandt H, Bryson SW, Dodge E, Halmi KA, et al. Comparison of 2 family therapies for adolescent anorexia nervosa: a randomized parallel trial. JAMA Psychiatry. 2014;71:1279-86.

Study Country Study type	Intervention details	Study population Study design Data sources	Costs: description and values Outcomes: description and values	Results: Cost-effectiveness	Comments

Study Country Study type	Intervention details	Study population Study design Data sources	Costs: description and values Outcomes: description and values	Results: Cost-effectiveness	Comments
Agras and colleagues (2014) US Cost-effectiveness analysis	Interventions: Family-based treatment (FBT) Systemic family therapy (SyFT) Both therapies involved 16 one-hour sessions delivered over 9 months	Adolescents (12-18 years) with AN RCT (Agras 2014) Source of clinical effectiveness data: RCT (N=158) Source of resource use data: RCT (N=158) Source of unit costs: state and local sources	Costs: treatment and hospital admissions Mean cost per participant at the end of treatment: FBT: $8,963 SyFT: $18,005 Difference: -$9,042, p=not reported Primary measures of outcome: percent who achieve remission (≥95% of IBW) Remission rates at the end of treatment: FBT: 33% SyFT: 25% Difference: 8%, p = 0.22	FBT is dominant	Perspective: health care provider Currency: USD Cost year: likely 2007 Time horizon: end of treatment (36 weeks) Discounting: NA Applicability: partially applicable Quality: potentially serious limitations

P.2 Treatment and management of people with bulimia nervosa

P.2.1 Psychological interventions

- References to included studies
- Crow SJ, Mitchell JE, Crosby RD, Swanson SA, Wonderlich S, Lancanster K. The cost effectiveness of cognitive behavioral therapy for bulimia nervosa delivered via telemedicine versus face-to-face. Behaviour Research and Therapy. 2009;47:451-53.

Study Country Study type	Intervention details	Study population Study design Data sources	Costs: description and values Outcomes: description and values	Results: Cost-effectiveness	Comments
Crow and colleagues (2009) US Cost-effectiveness	Interventions: CBT ED individual Guided self-help ED CBT comprised 20 sessions of	Adults with BN or EDNOS sub-syndromal variants of BN RCT (Mitchell	Costs: treatment (initial evaluation, laboratory evaluation and psychotherapy visits), travel time for therapists and participants (time and fuel) Mean cost per participant: CBT-ED individual: $2,684	ICER of CBT-ED individual: $16,708 per additional participant in remission Bootstrapping indicated that in 78.9% of iterations guided	Perspective: intervention provider (plus travel costs) Currency: USD Cost year: 2005 Time horizon: 12

Study Country Study type	Intervention details	Study population Study design Data sources	Costs: description and values Outcomes: description and values	Results: Cost-effectiveness	Comments
analysis	treatment delivered over 16 weeks	2008) Source of clinical effectiveness data: RCT (N=128) Source of resource use data: RCT (N=128) Source of unit costs: National sources (Medicare and Medicaid reimbursement rates)	Guided self-help ED: $1,648 Difference: $1,036 Primary measure of outcome: remission, defined as abstinence from binge eating and purging Remission: CBT-ED individual: 28.8% Guided self-help ED: 22.6% Difference: 6.2%	self-help ED was less effective but also less costly than CBT-ED individual, while in 21.1% guided self-help ED was both more effective and costly Sensitivity analysis: Assuming full clinical prices for treatment (as opposed to reimbursement rates) the ICER of CBT-ED individual is $16,155 Assuming 2008 gasoline prices (as opposed to 2005 prices) the ICER of CBT-ED individual is $17,547 Assuming built in video camera (no additional charges for telemedicine component) the ICER of CBT-ED individual is $19,308	months Discounting: NA Applicability: partially applicable Quality: minor limitations

P.2.21 Interventions to help parents or carers of children or young people

- Reference to included study
- Schmidt U, Lee S, Beecham J, Perkins S, Treasure J, Yi I, et al. A randomized controlled trial of family therapy and cognitive behavior therapy guided self-care for adolescents with bulimia nervosa and related disorders. American Journal of Psychiatry. 2007;164:591-98.

Study Country Study type	Intervention details	Study population Study design Data sources	Costs: description and values Outcomes: description and values	Results: Cost-effectiveness	Comments
Schmidt and colleagues (2007) UK Cost-effectiveness analysis	Interventions: Family therapy (FT) [up to 13 sessions with family members and 2 individual sessions over a 6-month period] CBT-ED (10 weekly sessions, 3 monthly follow-up sessions, and 2 optional sessions with a close other e.g. parent)	Adolescents (13-20 years) with BN or EDNOS RCT (Schmidt 2007) Source of clinical effectiveness data: RCT (baseline N=85, 6 months N=63, 12 months N=54) Source of resource use data: RCT (baseline N=83, 6 months N=61, 12 months N=53) Source of unit costs: national unit costs	Costs: education (home tuition, individual help in classes, classes in a special unit, contacts with school nurse, educational psychologist, and educational welfare officer, additional meetings with tutors, and other educational supports), hospital services (inpatient care, A&E department visits, outpatient appointments, and day hospital attendances), primary care (health visitor, GP, dentist, and optician), specialist services (child development or guidance centre, dietician, family or individual therapy, and contacts with a psychiatrist or psychologist), medication, social care (social work, after-school clubs, and other social care supports), family member's service use (GP, outpatient appointments, and psychiatrist and psychologist), lost employment, and out-of-pocket expenses Mean NHS and PSS costs at the end of treatment (6 months): FT: £319 CBT-ED: £849 Difference: -£530, p=not reported Mean NHS and PSS costs at 12-month follow-up: FT: £691 CBT-ED: £1,286 Difference: -£595, p=not reported Mean societal costs at end of treatment FT: £720 CBT-ED: £1,096	Using proportion abstinent from bingeing at the end of treatment (6 months) (significant outcome): At 6-months from the NHS & PSS perspective ICER of CBT-ED: £3,120 per additional abstinent person At 6-months from societal perspective ICER of CBT-ED: £2,216 per additional abstinent person At 12-month follow-up FT is dominant using proportion abstinent from bingeing and purging combined as an outcome measure	Perspective: societal (health care, social care, education, productivity costs, and out of pocket expenses); NHS & PSS Currency: GB£ Cost year: likely 2006 Time horizon: end of treatment (6 months) and 12 months Discounting: NA Applicability: partially applicable Quality: minor 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
			Difference: -£377, p = ns Mean societal costs at 12-month follow-up FT: £1,269 CBT-ED: £1,657 Difference: -£388, p = ns Primary measure of outcome: proportion of people abstinent from binge-eating and vomiting Proportion abstinent from bingeing at the end of treatment (6 months): FT: 0.25 (95% CI: 0.13; 0.42) CBT-ED: 0.42 (95% CI: 0.26; 0.59) Difference: -0.17, p=0.03 Proportion abstinent from bingeing at the 12 months: FT: 0.55 CBT-ED: 0.52 Difference: 0.03, p = ns Proportion abstinent from vomiting at the end of treatment (6 months): FT: 0.28 CBT-ED: 0.32 Difference: -0.04, p = ns Proportion abstinent from vomiting at 12 months: FT: 0.52 CBT-ED: 0.56 Difference: -0.04, p = ns Proportion abstinent from bingeing and purging combined at the end of treatment (6 months):		

Study Country Study type	Intervention details	Study population Study design Data sources	Costs: description and values Outcomes: description and values	Results: Cost-effectiveness	Comments
			FT: 0.13 CBT-ED: 0.19 Difference: -0.07, p =ns Proportion abstinent from bingeing and purging combined at 12 months: FT: 0.41 CBT-ED: 0.36 Difference: 0.05, p = ns		

P.3 Treatment and management of people with binge eating disorder

P.3.1 Psychological interventions

- References to included studies
- Lynch FL, Striegel-Moore RH, Dickerson JF, Perrin N, DeBar L, Wilson GT, et al. Cost-Effectiveness of Guided Self-Help Treatment for Recurrent Binge Eating. Journal of Consulting and Clinical Psychology. 2010;78:322-33.

Study Country Study type	Intervention details	Study population Study design Data sources	Costs: description and values Outcomes: description and values	Results: Cost-effectiveness	Comments
Lynch and colleagues (2010) US Cost-effectiveness and cost-utility analysis	Interventions: A CBT guided self-help (CBT-GSH). Intervention involved 8 brief coaching sessions provided by a master's-level therapist. The first session lasted 60 min; each subsequent	Adults with recurrent BED RCT (Striegel-Moore 2010) Source of clinical effectiveness data: RCT (N=123) Source of resource use data: RCT (N=123)	Costs: weight and eating disorder services, other medical services, psychiatric medications, patient expenses (time and expenditure for health care services, non-health services, over the counter medications, other weight loss products) Mean costs (health care and social care) per participant: CBT-GSH: $3,527 TAU: $3,806 Difference: -$279, p=not reported	CBT-GSH was dominant from both perspectives Bootstrapping indicated that CBT-GSH had better outcomes and lower costs (health care, social care, plus out of pocket expenses) in the 69% of observations when	Perspective: health care and social care; health care and social care, plus out of pocket expenses Currency: USD Cost year: 2006 Time horizon: 12 months Discounting: NA Applicability: partially

Study Country Study type	Intervention details	Study population Study design Data sources	Costs: description and values Outcomes: description and values	Results: Cost-effectiveness	Comments
	session lasted 20–25 min. TAU only (seeking help from primary care providers or nutrition care providers and self-referral to the specialty mental health department)	Source of unit costs: published studies, local sources, and wages (to value participants' time spent receiving interventions)	Mean costs (health care, social care, plus out of pocket expenses) per participant: CBT-GSH: $3,671 (SD: $6,255) TAU: $4,098 (SD: $5,306) Difference: -$427, p=0.3 Primary measures of outcome: binge-free days, QALYs Mean binge-free days: CBT-GSH: 330.7 (SD 41.0) TAU: 305.5 (SD 60.3) Difference: 25.2, p = 0.002 Mean QALYs: CBT-GSH: 0.932 TAU: 0.863 Difference: 0.069	compared with TAU From both perspectives at WTP of $40 per additional binge free day, the probability that the intervention is cost effective in 90%; at WTP of $100, the probability is 98%. Sensitivity analysis from health care and social care perspective plus out-of-pocket expenses indicated that when removing one high-cost outlier, using only cases with the complete data the results did not change	applicable Quality: minor limitations

P.3.21 Pharmacological interventions

- Reference to included study
- Ágh T, Pawaskar M, Nagy B, Lachaine J, Vokó Z. The Cost Effectiveness of Lisdexamfetamine Dimesylate for the Treatment of Binge Eating Disorder in the USA. Clinical drug investigation. 2016 Apr 1;36(4):305-12.

Study Country Study type	Intervention details	Study population Study design Data sources	Costs: description and values Outcomes: description and values	Results: Cost-effectiveness	Comments
Agh and colleagues (2016)	Interventions: Lisdexamfetamine dimesylate (LDX)	Adults with BED Modelling study Source of clinical	Costs: drug treatment, general internist, family doctor, psychiatrist, psychologist, psychotherapist, nurse practitioner, gynaecologist, emergency room, hospital	ICER of LDX: $27,618 per QALY gained Bootstrapping	Perspective: health care provider Currency: USD

Study Country Study type	Intervention details	Study population Study design Data sources	Costs: description and values Outcomes: description and values	Results: Cost-effectiveness	Comments
US Cost-utility analysis	No drug treatment	effectiveness data: 2 RCTs Source of resource use data: survey (N=22,397) Source of unit costs: national sources	admissions Mean cost per participant: Drug treatment: $7,042 No drug treatment: $6,867 Difference: $175 Primary measures of outcome: QALYs Mean number of QALYs per participant: Drug treatment: 0.917 No drug treatment: 0.911 Difference: 0.006	indicated that at WTP of $50,000 per QALY LDX had an 82% chance of being cost-effective Sensitivity analyses: Deterministic sensitivity analyses indicated that the model was most sensitive to the utility of remission (that is, non-symptomatic BED)	Cost year: 2013 Time horizon: 52 weeks Discounting: NA Applicability: partially applicable Quality: minor limitations

P.4 Organisation and delivery of services

P.4.1 The setting of care

- References to included studies

- Byford S, Barrett B, Roberts C, Clark A, Edwards V, Smethurst N, et al. Economic evaluation of a randomised controlled trial for anorexia nervosa in adolescents. British Journal of Psychiatry. 2007;191:436-40. AND Gowers SG, Clark AF, Roberts C, Byford S, Barrett B, Griffiths A, et al. A randomised controlled multicentre trial of treatments for adolescent anorexia nervosa including assessment of cost-effectiveness and patient acceptability - The TOuCAN trial. Health Technology Assessment. 2010;14(15):1-98.
- Herpertz-Dahlmann B, Schwarte R, Krei M, Egberts K, Warnke A, Wewetzer C, et al. Day-patient treatment after short inpatient care versus continued inpatient treatment in adolescents with anorexia nervosa (ANDI): A multicentre, randomised, open-label, non-inferiority trial. The Lancet. 2014;383:1222-29.
- Williamson DA, Thaw JM, Varnado-Sullivan PJ. Cost-effectiveness analysis of a hospital-based cognitive-behavioral treatment program for eating disorders. Behavior Therapy. 2001;32:459-77.

Study Country Study type	Intervention details	Study population Study design Data sources	Costs: description and values Outcomes: description and values	Results: Cost-effectiveness	Comments
Byford and colleagues (2007) – time horizon 2 years Gowers and colleagues (2010) – time horizon 3-5 years UK Cost-effectiveness analysis at 2 years Cost analysis over 3-5 year follow up	Interventions: Inpatient psychiatric treatment provided within generic children's or adolescent psychiatric in-patient unit. Treatment lasted 6 weeks; a multidisciplinary psychiatric approach with the aim of normalising eating, restoring healthy weight and facilitating psychological (cognitive) change. Each participant received both individual supportive or cognitive therapies and family therapy. Specialist outpatient treatment comprising motivational interview, individual CBT plus parental feedback (12	Adolescents aged between 11 and 17 years with AN RCT (Byford 2007) - TOuCAN trial Source of clinical effectiveness data: RCT (N=167 at baseline, N=160 at 2 years) Source of resource use data: RCT (N=135 at 2 years, N=71 during 3-5 years) Source of unit costs: national unit costs	Costs: secondary health services (inpatient and outpatient visits, day patient attendances, A&E visits), community health and social service contacts (GP, practice nurse, dietician, district nurse, health visitor, community paediatrician, community psychiatric nurse, clinical psychologist, counsellor, family therapist, dentist, school doctor, school nurse, social worker, eating disorders association, family therapy, foster care), education (state day school, independent day school, independent boarding school, hospital school, home tuition, school counsellor, education welfare officer) The mean total cost per participant at 2 year follow-up: Inpatient: £34,531 (SD £52,439) Specialist outpatient: £26,738 (SD £46,809) General outpatient: £40,794 (SD £63,652) Difference (inpatient vs. specialist outpatient): £7,793, p = ns Difference (inpatient vs. general outpatient): -£6,263, p = ns The mean total cost per participant over 3-5 years of follow-up: Inpatient: £15,304 (SD £69,083) Specialist outpatient: £15,636 (SD £46,545) General outpatient: £15,203 (SD £61,275) Difference (inpatient vs. specialist outpatient): -£332 , p = ns Difference: (inpatient vs. general	At 2 year follow-up: Specialist outpatient treatment dominates both inpatient psychiatric treatment and general outpatient treatment At WTP of £0 per additional point of improvement on MRAOS scale, the probabilities of interventions being cost effective are: 78% specialist outpatient treatment 16% inpatient treatment 6% general outpatient Findings were robust to changes in the discount rate and assumptions underpinning analyses of missing data, also exclusion of education costs had no impact on the conclusions. There was no statistically significant differences in costs during years 3-5.	Perspective: public sector (health, social care, education) Currency: GB£ Cost year: 2003/2004 Time horizon: 2 and 3-5 years Discounting: costs at 3.5% Applicability: directly applicable Quality: minor 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
	sessions), parental counselling with the patient (minimum 4 sessions, increasing to 8 for younger people), dietary therapy (4 sessions, with parental involvement as required), multi-modal feedback (weight, self-report and clinician-rated questionnaire) monitoring (4 sessions). The treatment was designed to last 6 months. General outpatient treatment. A multidisciplinary, family-based approach, with variable dietetic, individual supportive therapy and paediatric (medical) liaison.		outpatient), £101, p = ns Primary measure of outcome: MRAOS scores Mean MRAOS scores at 2 year follow-up: Inpatient: 8.3 (SD 2.6) Specialist outpatient: 8.4 (SD 2.4) General outpatient: 8.3 (SD 2.6) Difference (inpatient vs. specialist outpatient): -0.09, p=ns Difference: (inpatient vs. general outpatient), 0.00, p=ns		
Study Country Study type	**Intervention details**	**Study population Study design Data sources**	**Costs: description and values Outcomes: description and values**	**Results: Cost-effectiveness**	**Comments**

Study Country Study type	Intervention details	Study population Study design Data sources	Costs: description and values Outcomes: description and values	Results: Cost-effectiveness	Comments
Herpertz-Dahlmann and colleagues (2014) Germany Cost-effectiveness analysis	Interventions: Day treatment (following short inpatient care) Continued inpatient care (following short inpatient care) During the first 3 weeks an identical multimodal multidisciplinary treatment programme based weight restoration, nutritional counselling, CBT, and family treatment was used in both groups.	Adolescent females (11-18 years) with AN RCT (Herpertz-Dahlmann 2014) Source of clinical effectiveness data: RCT (N=172) Source of resource use data: RCT Source of unit costs: hospital tariffs	Costs: psychiatrist visits, psychologist visits, admissions (including re-admissions), outpatient visits Mean total costs per participant: Day treatment: €31,114 (SD €16,246) Inpatient treatment: €39,481 (SD €16,174) Difference: -€8,367 (95% CI: -€13,247; -€3,487), p = 0.002 Primary measure of outcome: improvement in BMI (between the time of admission and follow up) BMI (2 month follow-up vs. baseline): Day treatment: 18.1 vs. 14.9, an improvement of 3.2 Inpatient treatment: 17.8 vs. 15.1, an improvement of 2.7 Difference: 0.46, p < 0.0001	Day treatment is dominant intervention	Perspective: health care provider Currency: EUR Cost year: likely 2013 Time horizon: 12 months Discounting: NA Applicability: partially applicable Quality: minor 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**
Williamson and colleagues (2001) US Cost analysis	Interventions: Partial day hospital care Inpatient care People assigned to inpatient or partial day hospital care attended the same treatment	People with AN or sub-threshold AN or BN or sub-threshold BN Observational cohort study (N=51) Source of clinical effectiveness data: NA	Costs: treatment, hospital admissions Total mean cost per participant: Partial day hospital: $12,740 (SD $16,414) Inpatient care: $22,385 (SD $18,024) Difference: -$9,645, p < 0.02	NA	Perspective: health care provider Currency: USD Cost year: likely 2000 Time horizon: 12 months Discounting: NA Applicability: partially 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
	programme. Inpatients stayed on an adult or adolescents unit. People receiving day hospital care lived at home or stayed in local hotels. Programme included supervised meals and group therapy, including special groups for body image, behaviour management, CBT, meal planning, nutrition education, activity therapy, and exercise. Also, most people were prescribed psychotropic medication.	Source of resource use data: observational cohort study, based on hospital records and financial data Source of unit costs: local sources (hospital financial records)			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**

Study Country Study type	Intervention details	Study population Study design Data sources	Costs: description and values Outcomes: description and values	Results: Cost-effectiveness	Comments
Crow & Nyman (2004) US Cost-effectiveness analysis	Interventions: Adequate care model (defined as 45 days of inpatient hospital treatment, 20 days of partial hospital, 50 sessions of psychotherapy [50 min per each session], medication management [20 sessions], and fluoxetine [60 mg per day] for 2 years SC (defined as 7 days of inpatient hospital treatment, 15 days of partial hospital, 25 sessions of psychotherapy [50 min per each session], medication management [20 sessions], and fluoxetine [60 mg per day] for 2 years	People with AN Modelling study Source of clinical effectiveness data: published studies, authors' assumptions (mortality rate) Source of resource use data: charge data Source of unit cost data: local sources	Costs: inpatient treatment, partial hospitalisation, psychotherapy, outpatient visits, medication management Mean lifetime costs per person: Adequate care: $119,200 SC: $36,200 Difference: $83,000 Primary measure of outcome: LYS Adequate care results in 2.75 additional LYS	ICER of adequate care: $30,180 per LYS	Perspective: health care provider Currency: USD Cost year: likely 2003 Time horizon: life time Discounting: none 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

Study Country Study type	Intervention details	Study population Study design Data sources	Costs: description and values Outcomes: description and values	Results: Cost-effectiveness	Comments
Deloitte Access Economics (2014) Australia Cost-effectiveness and cost-benefit analysis	Interventions: Best practice model (focus on early intervention, a range of delivery options, from GPs and online self-help, through intensive outpatient and residential programs, to full inpatient hospitalisation; a "stepped care" approach, realising that people might need to progress both up and down [sometimes repeatedly] through delivery levels; and long-term follow up, to prevent relapse). TAU (patchy services [largely untreated], no specialist ED inpatient services, no continuum in care, sub-optimal treatment dose)	People with AN, BN, BED and EDNOS Modelling study Source of clinical effectiveness data: published studies, authors' assumptions Source of resource use data: published studies Source of unit costs: unclear	Costs: health care, productivity, employment, welfare, and intervention provision Mean total costs per person: Best practice model: $72,699 TAU: $130,390 Difference: -$57,690 Primary measure of outcome: DALYs Mean DALYs per person: Best practice model: 0.96 DALYs (monetised equivalent to $161,346 billion) TAU: 2.25 DALYs (monetised equivalent to $353,647) Difference: -1.29 DALYs (monetised equivalent to the savings of $192,301)	Best practice model is dominant Cost benefit analysis indicates that the savings per participant over 10 years amounts to $250,261	Perspective: societal Currency: AU$ Cost year: likely 2013 Time horizon: 10 years Discounting: 7% for costs and monetised values of DALYs Applicability: partially applicable Quality: potentially serious limitations

P.4.21 Stepped care

- References to included studies
- Crow SJ, Agras WS, Halmi KA, Fairburn CG, Mitchell JE, Nyman JA. A cost effectiveness analysis of stepped care treatment for bulimia nervosa. International Journal of Eating Disorders. 2013;46:302-07.
- Pohjolainen V, Räsänen P, Roine RP, Sintonen H, Wahlbeck K, Karlsson H. Cost-utility of treatment of bulimia nervosa. International Journal of Eating Disorders. 2010;43:596-602.

Study Country Study type	Intervention details	Study population Study design Data sources	Costs: description and values Outcomes: description and values	Results: Cost-effectiveness	Comments
Crow and colleagues (2013) US Cost-effectiveness analysis	Interventions: Stepped care model (stepped series of interventions moving from less intensive and less expensive to more intensive and expensive). Interventions included CBT, self-help, admissions, outpatient care, and medication management. High intensity CBT treatment augmented as indicated with fluoxetine	Adult women with purging or non-purging BN RCT (Crow 2013) Source of clinical effectiveness data: RCT (N=293) Source of resource use data: RCT (N=293) Source of unit costs: Medicare rates, other published sources	Costs: CBT, self-help, medication, physician visits, emergency room, hospitalisation, individual therapy, group therapy, medication The mean costs per person: Stepped care: $3,158 CBT: $3,657 Difference: -$499 Primary measure of outcome: percent of people abstinent Percentage abstinent: Stepped care: 26% CBT: 18% Difference: 8%	Stepped care model dominant Bootstrapping indicated that stepped care was both less expensive and more effective than CBT in 81% of replications Sensitivity analysis: The results were robust to changing assumptions pertaining to the unit cost estimates (that is, instead of using Medicare rates actual fees were used)	Perspective: health care provider Currency: USD Cost year: 2005 Time horizon: 1 year Discounting: NA Applicability: partially applicable Quality: minor 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
Pohjolainen and colleagues (2010) Finland Cost-utility analysis	Interventions: Stepped care model (defined as psychoeducation that includes elements of CBT, followed by group CBT (8 sessions), and then individual CBT (20 sessions, followed by day hospital or inpatient treatment). People also received psychopharmacological treatment if needed, individual nutritional counselling and social skills training. No treatment	Adult females with BN Observational cohort study (N=72) and modelling Source of clinical effectiveness data: observational cohort study, published studies, and authors' assumptions Source of resource use data: observational cohort study Source of unit costs: local sources	Costs: admissions, outpatient visits, laboratory test, and radiology The incremental undiscounted cost of stepped care model at 6-month follow-up: €3,972 (SD €5,518) per participant Primary measure of outcome: QALYs The mean number of QALYs gained at 10 year follow-up: 0.241	ICER of stepped care model (undiscounted): €16,481 per QALY gained Sensitivity analyses: Using discounting: 5% for QALYs gained resulted in an ICER of €19,663/QALY 3% for QALYs gained resulted in an ICER of €17,812/QALY Using upper and lower 95% CI for QALYs of 0.339 and 0.113 resulted in an ICER of €11,717 and €35,150 per QALY, respectively Using upper and lower 95% CI for costs of €5,269 and €4,702 resulted in an ICER of €21,863 and €19,510 per QALY Using upper 95% CI for costs and lower 95% CI for QALYs resulted in and ICER of €46,628 Best case analysis using mean values for costs (€3,972) and QALYs gained (2.729	Perspective: health care provider Currency: EUR Cost year: likely 2010 Time horizon: costs 6 months; 10 years outcomes Discounting: only sensitivity analysis using either 3% and 5% for outcomes 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
				– highest estimate of QALYs gained assuming that with 'no treatment' HRQoL will not improve) resulted in an ICER of €1,455 Best case analysis using mean values for costs (€3,972) and QALYs gained (0.897 – highest estimate of QALYs gained assuming that with 'no treatment' HRQoL will not improve and QALY gain discounted at 5%) resulted in an ICER of €4,428	

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P.5 References to excluded studies (at the stage of obtaining full text)

- Birchall H, Palmer RL, Waine J, Gadsby K, Gatward N. Intensive day programme treatment for severe anorexia nervosa: the Leicester experience (Structured abstract). Psychiatric Bulletin. 2002. (Small before-after study)
- McDermott B, Gullick K, Forbes D. The financial and service provision implications of a new eating disorders service in a paediatric hospital. Australasian Psychiatry. 2001;9:151-55. (Before-after study)
- Olmsted MP, Kaplan AS, Rockert W. Relative Efficacy of a 4-Day Versus a 5-Day Day Hospital Program. International Journal of Eating Disorders. 2003;34:441-49. (Doesn't report cost data)