Appendix T: Economic Evidence Profiles

A.1 Interventions aimed at the prevention of behaviour that challenges in people with learning disabilities

A.1.1 Psychosocial interventions for adaptive behaviour

A.1.1.1 Clinical / economic question: Early Intensive Behavioural Intervention versus control for children and young people with learning disabilities and behaviour that challenges

Economic evidence profile

Study & country	Limitations	Applicability	Other comments	Incremental cost (£)1	Incremental effect	ICER (£/effect)1	Uncertainty1
Chasson et al., 2007 US	Potentially serious limitations2	Partially applicable3	Cost analysis Time horizon: 18 years	-£101,353	NA	NA	Not estimated
Motiwala et al., 2006 US	Potentially serious limitations4	Partially applicable5	Measure of outcome: number of dependency-free years Time horizon: up to 65 years of age	-£38,325	4.4	Intervention dominant	Findings sensitive to discount rate and EIBI efficacy (net costs and not savings, with discount rate of 5%)
Peters-Scheffer et al., 2012 Netherlands	Potentially serious limitations6	Partially applicable7	Time horizon: up to 65 years of age	-£946,957	NA	NA	Using more optimistic TAU efficacy data: -£215,273

1. Costs converted and uplifted to 2013 UK pounds – converted using PPP exchange rates (http://www.oecd.org/std/ppp) and UK PPS local authorities adults and children's services pay and prices inflation index (Curtis, 2013).

2. Simple economic model including education costs only, cost estimates based on personal communication and further assumptions, clinical model parameters based on published literature and further assumptions; local state costs, no sensitivity analysis
3. Population not directly relevant (children with autism instead of learning disabilities and behaviour that challenges), conducted in the US, public perspective including state, local, federal and private costs, no discounting although time horizon was 18 years
4. Economic model over lifetime, provincial government resource use estimates and prices, all relevant costs included, but efficacy estimates were judgements based on literature review
5. Population not directly relevant (children with autism instead of learning disabilities and behaviour that challenges), conducted in Canada, public perspective, discounting 3%, no QALYs but intervention dominant
6. Economic model over lifetime, resource use and unit cost data based on national sources and assumptions, all relevant costs included, efficacy estimates based on review of meta-analyses, selection of studies based on their applicability to the Dutch context, and naïve addition of meta-analytic data across same treatment arms
7. Population not directly relevant (children with autism instead of learning disabilities and behaviour that challenges), conducted in the Netherlands, public sector perspective, no discounting

A.1.2 Health awareness

A.1.2.1 Clinical / economic question: Health-check intervention versus standard care for adults with learning disabilities

Economic evidence profile							
Study & country	Limitations	Applicability	Other comments	Incremental cost (£)1	Incremental effect	ICER (£/effect)1	Uncertainty1
Romeo et al., 2009B UK	Potentially serious limitations2	Directly applicable3	Cost consequence analysis Time horizon: 12 months Outcomes: levels of health need detection, met new health needs, met health promotion and monitoring needs	-£919 (service cost)	All outcomes favour intervention	NA	95% CI in service costs: -£4,639 to £3,101 Improvement in outcomes statistically significant

1. Costs uplifted to 2013 UK pounds using the hospital & community health services (HCHS) pay and prices inflation index (Curtis, 2013)
2. Cohort study with matched controls; intermediate outcomes relating to detected and met health needs, costs collected prospectively for intervention group and retrospectively for control group, small study sample (n=100), relatively short time horizon
3. UK study on adults with learning disabilities, societal perspective but service costs (NHS & PSS) reported separately, no discounting needed, no QALYs but intervention dominant

A.2 Interventions aimed at reducing and managing behaviour that challenges in people with learning disabilities

A.2.1 Psychosocial interventions aimed at reducing and managing behaviour that challenges in people with learning disabilities

A.2.1.1 Clinical / economic question: psychological intervention versus standard care for adults with learning disabilities and behaviour that challenges

Economic evidence profile

Study & country	Limitations	Applicability	Other comments	Incremental cost (£)1	Incremental effect	ICER (£/effect)1	Uncertainty1
Hassiotis et al., 2009 & 2011 UK	Potentially serious limitations2	Directly applicable3	Primary measure of outcome: challenging behaviour measured by total and subscale scores on the Aberrant Behavior Checklist (ABC) Time horizon: 2 years	-£3,356 -£943	6 months: -0.89 24 months: -0.88	Not combined	Incremental cost: 6 months: 95% CI: -£7,856 to £1,142 24 months: 95% CI = -£6,515 to £4,613 Incremental effect: 6 months: 95% CI= -1.74 to -0.04 24 months: 95% CI = -1.66 to -0.11
Felce et al., 2014 UK	Potentially serious limitations4	Directly applicable5	Time horizon 10 months Costs measured over 12 weeks Primary outcome measure: provocation Index Various secondary measures	Mean weekly cost £-23	Secondary outcomes favour intervention	N/A	Incremental cost 95%CI: -£201 to £154, p=0.795 Incremental effect: No statistically significant difference in primary outcome Improvement in some secondary outcomes statistically significant

1. Costs uplifted to 2013 UK pounds using the hospital & community health services (HCHS) pay and prices inflation index (Curtis, 2013)

2. Conducted alongside RCT, duration 2 years but costs reported for 2 time periods: 0-6 & 18-24 months; costs and outcomes measured over different periods of time thus not synthesised, small study sample (n=63)
3. UK study on adults with learning disabilities and behaviour that challenges, NHS & PSS perspective, no discounting needed, no QALYs but intervention dominant
4. Conducted alongside RCT, duration 10 months but costs measured over a 12-week period cost consequence analysis, small study sample (n=143)
5. UK study on adults with learning disabilities and behaviour that challenges, NHS & PSS perspective, no discounting needed, no QALYs but intervention likely dominant

A.2.1.2 Clinical / economic question: parent training versus wait list for children and young people with learning disabilities and behaviour that challenges

Economic evidence profile							
Study & country	Limitations	Applicability	Other comments	Incremental cost (£)1	Incremental effect	ICER (£/effect)1	Uncertainty1
Guideline model	Potentially serious limitations2	Partially applicable3	Time horizon: 61 weeks Group parent training modelled Some clinical input parameters (relapse) based on assumptions	£362	0.013	£27,148 /QALY	PSA: probability of parent training being cost-effective at £20,000/QALY: 0.29 PSA: probability of parent training being cost-effective at £20,000/QALY: 0.52 Reducing relapse for parent training: £24,895/QALY Severe behaviour that challenges at baseline: £13,037/QALY

1. Costs expressed in 2013 UK pounds
2. Only intervention costs considered, resource use from RCTs included in guideline systematic review, efficacy data from 8 trials, PSA performed
3. NHS & PSS perspective, QALYs based on HUI3 (valuations elicited from Canadian population)

A.2.1.3 Clinical / economic question: interventions for the management of sleep problems in children and young people with learning disabilities

Economic evidence profile

Study & country	Limitations	Applicability	Other comments	Incremental cost vs. wait list (£)1	Incremental effect vs. wait list	NMB1	Uncertainty1
Guideline model	Potentially serious limitations 2	Partially applicable3	Time horizon: 38 weeks Some clinical input parameters (relapse) based on assumptions 4 scenarios for 4 different baseline probabilities of non-improvement for wait list Results presented here are for baseline probability of 0.90	Combo oral suspension: £1,115 Combo oral solution: £921 Combo tablets: £ 779 Melatonin oral suspension: £721 Melatonin oral solution: £532 Melatonin tablets: £393 Psychosocial intervention: £362	Combo: 0.044 Melatonin: 0.025 Psychosocial intervention: 0.01	Melatonin - tablets: £9,153 Combination – tablets: £9,144 Wait list: £9,039 Melatonin – oral solution: £9,014 Combination – oral solution: £9,001 Psychosocial intervention: £8,966 Melatonin – oral suspension: £8,825 Combination – oral suspension: £8,808	PSA: probability of combination therapy being cost-effective at £20,000/QALY: 0.39-0.53

1. Costs expressed in 2013 UK pounds
2. Only intervention costs considered, resource use from RCTs included in guideline systematic review, efficacy data from 3 trials for psychosocial intervention , 1 trial for melatonin and combination therapy; PSA performed

3. NHS & PSS perspective, QALYs based on HUI3 (valuations elicited from Canadian population)

A.2.2 Pharmacological interventions aimed at reducing and managing behaviour that challenges in people with learning disabilities

A.2.2.1 Clinical / economic question: antipsychotics for the management of behaviour that challenges in adults with learning disabilities

Economic evidence profile

Study & country	Limitations	Applicability	Other comments	Incremental cost versus placebo (£)1	Incremental effect versus placebo	ICER (£/effect)1	Uncertainty1
Romeo et al., 2009A UK	Potentially serious limitations2	Partially applicable 3	Measures of outcome: total Modified Overt Aggression Scale (MOAS) score; total quality of life (QOL-Q) Time horizon: 26 weeks	Risperidone: £508 Haloperidol: -£1,257	MOAS: Risperidone: 1.5 Haloperidol: -2.1 QOL-Q: Risperidone: 2.5 Haloperidol: -2.2	MOAS: Risperidone dominated Haloperidol vs. placebo: £614 /MOAS point change QOL-Q: Haloperidol dominated Risperidone vs. placebo: £996 / QOL-Q point change	MOAS: Probability of haloperidol being more cost-effective than placebo: ≈50% for WTP=0, ≈89% for WTP=£3000 /point improvement in MOAS QOL-Q: Probability of risperidone being more cost-effective than placebo: ≈52% for any WTP per point improvement in QOL-Q

1. Costs uplifted to 2013 UK pounds using the hospital & community health services (HCHS) pay and prices inflation index (Curtis, 2013)
2. Conducted alongside RCT, duration 26 weeks; small study sample (n=86)
3. UK study on adults with learning disabilities and behaviour that challenges, societal perspective (service & informal care), no discounting needed, no QALYs measured

A.2.2.2 Clinical / economic question: antipsychotics for the management of behaviour that challenges in children and young people with learning disabilities

Economic evidence profile							
Study & country	Limitations	Applicability	Other comments	Incremental cost vs. placebo (£)1	Incremental effect vs. placebo	ICER	Uncertainty1
Guideline model	Potentially serious limitations2	Partially applicable 3	Time horizon: 34 weeks	Risperidone tablets: £1,636 Risperidone oral solution: £9,671 Risperidone orodispersible tablets: £26,321 Aripiprazole tablets: £48,838	Risperidone: 1.17 Aripiprazole: 0.58	Risperidone tablets versus placebo: £1,401/QALY All other options dominated by risperidone tablets	Probability of cost effectiveness at £20,000/QALY risperidone tablets: 0.85 risperidone oral solution: 0.73 risperidone orodispersible tablets: 0.40 aripiprazole: 0.00 Probability of cost effectiveness at £30,000/QALY risperidone tablets: 0.86 risperidone oral solution: 0.79 risperidone orodispersible tablets: 0.57 aripiprazole: 0.05

1. Costs expressed in 2013 UK pounds
2. Only intervention costs considered, resource use from RCTs included in guideline systematic review, efficacy data from 2 trials on aripiprazole and 2 trials on risperidone, PSA performed
3. NHS & PSS perspective, QALYs based on HUI3 (valuations elicited from Canadian population)