# Appendix R: Health economic evidence – evidence tables

[R.1 Psychological and psychosocial interventions to prevent, treat and manage mental health problems in people with learning disabilities 2](#_Toc444271239)

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Abbreviations

A&E accident and emergency

BAI-Y Beck Anxiety Inventory-Youth

BDI-Y Beck Depression Inventory-Youth

CBLD challenging behaviour and learning disabilities

CBT cognitive behavioural therapy

CI confidence interval

GP general practitioner

HCI health-check intervention

HD health diary

N number of participants

NHS National Health Service

PSA probabilistic sensitivity analysis

PT parent training

QALY quality-adjusted life year

RCT randomised controlled trial

SD standard deviation

TAU treatment as usual

WL wait list

* 1. Psychological and psychosocial interventions to prevent, treat and manage mental health problems in people with learning disabilities
     1. Psychological interventions aimed at reducing and managing mental health problems in people with learning disabilities - reference to included studies

1. NICE guideline. Challenging behaviour and learning disabilities: Prevention and interventions for people with learning disabilities whose behaviour challenges (2015)
2. Hassiotis A, Serfaty M, Azam K, et al. (2013) Manualised Individual Cognitive Behavioural Therapy for mood disorders in people with mild to moderate intellectual disability: A feasibility randomised controlled trial. Journal of Affective Disorders 151, 186-195.

| Study  Country  Study type | Intervention details | Study population  Study design  Data sources | Costs: description and values  Outcomes: description and values | Results: Cost-effectiveness | Comments |
| --- | --- | --- | --- | --- | --- |
| NICE CBLD guideline, 2015  UK  Cost-utility analysis | Interventions:  Parent training (PT)  Wait list (WL) | Children and young people with learning disabilities and behaviour that challenges    Decision-analytic modelling  Source of clinical effectiveness data: CBLD guideline meta-analysis  Source of resource use data: RCT-reported data & assumptions  Source of unit costs: national unit costs | Costs: intervention (PT)  Total cost per 100 families:  PT: £36,219  WL: £0  Cost difference: £36,219  Primary measure of outcome: QALY  Mean number of children and young people’s QALYs per 100 families:  PT: 79.28  WL: 77.94  Difference in QALYs: 1.33 | ICER PT vs. WL: £27,148/QALY  Probability of PT being cost-effective at £20,000 and £30,000/QALY: 0.43 and 0.52, respectively  One-way sensitivity analysis: Reducing relapse for parent training: ICER £23,767/QALY  Severe challenging behaviour at baseline:  ICER £14,805/QALY | Perspective: NHS and PSS  Currency: GB£  Cost year: 2013  Time horizon: 61 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 |
| --- | --- | --- | --- | --- | --- |
| Hassiotis *et al.*, 2013  UK  Cost effectiveness analysis | Interventions:  Manualised individual cognitive behavioural therapy (CBT) consisting of 16 weekly 1hour sessions in addition to treatment as usual  Treatment as usual (TAU) | Adults with mild to moderate learning disability experiencing a mood disorder or symptoms of depression and /or anxiety    RCT (Hassiotis 2013)  Source of clinical effectiveness data: RCT (N=32)  Source of resource use data: RCT (N=32)  Source of unit costs: national unit costs | Costs: intervention (CBT), inpatient and outpatient care, emergency visits, community care, day care, paid care.  Total cost (SD) per person:  Before treatment:  CBT: £4,551 (£7,568); TAU: £2,420 (£6,289)  Cost difference: £2,131  After treatment:  CBT: £7,327 (£8,007); TAU: £1,677 (£2,415)  Cost difference: £5,650  Primary measure of outcome: mean change in the Beck Depression Inventory-Youth (BDI-Y) and the Beck Anxiety Inventory-Youth (BAI-Y) score from baseline to endpoint  Mean change (95%CI)  BDI-Y score: 0.10 (-8.56 to 8.76) favouring CBT  BAI-Y score: 2.42 (-5.27 to 10.12) favouring TAU | Unclear due to small number of participants & high uncertainty in the results | Perspective: NHS and social care  Currency: GB£  Cost year: 2009/10  Time horizon: 16 weeks  Discounting: not needed  Applicability: partially applicable  Quality: very serious limitations |

* 1. Other interventions to prevent, treat and manage mental health problems in people with learning disabilities
     1. Annual health checks aimed at preventing mental health problems in people with learning disabilities - references to included studies

1. Cooper S-A, Morrison J, Allan LM, McConnachie A, Greenlaw N, Melville CA, Baltzer MC, McArthur LA, Lammie C, Martin G, Grieve EAD, Fenwick E (2014) Practice nurse health checks for adults with intellectual disabilities: a cluster-design, randomised controlled trial. The Lancet Psychiatry, 1(7), 511–521.
2. Gordon LG, Holden L, Ware RS, Taylor MT, Lennox NG (2012) Comprehensive health assessments for adults with intellectual disability living in the community - weighing up the costs and benefits. Australian Family Physician 41(12), 969-972.

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Lennox N, Bain C, Rey-Conde T, Taylor M, Boyle FM, Purdie DM, Ware RS (2010) Cluster randomized-control trial of interventions to improve health for adults with intellectual disability who live in private dwellings. Journal of Applied Research in Intellectual Disabilities, 23(4), 303–11.

1. Romeo R, Knapp M, Morrison J, Melville C, Allan L, Finlayson J, Cooper SA (2009) Cost estimation of a health-check intervention for adults with intellectual disabilities in the UK. Journal of Intellectual Disability Research, 53(5), 426-39.

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Cooper SA, Morrison J, Melville C, Finlayson J, Allan L, Martin G, Robinson N (2006) Improving the health of people with intellectual disabilities: outcomes of a health screening programme after 1 year. Journal of Intellectual Disability Research, 50(Pt 9), 667-77.

| Study  Country  Study type | Intervention details | Study population  Study design  Data sources | Costs: description and values  Outcomes: description and values | Results: Cost-effectiveness | Comments |
| --- | --- | --- | --- | --- | --- |
| Cooper *et al.*, 2014  UK  Cost-utility analysis | Interventions:  Health check intervention (HCI) designed especially for people with learning disabilities delivered by a practice nurse; health  questionnaires for carers completed in advance of the health check.  Treatment as usual (TAU) | Adults with learning disability registered with primary care services  Cluster-design, single-blind RCT (Cooper 2014)  Source of effectiveness & resource use data: RCT (N=152)  Source of unit costs: national sources | Costs: intervention (staff time), primary care, drug acquisition, emergency visits or calls; no screening or home visit checks were costed because these were assumed to be individual occurrences, with the standard being a health check by a nurse in the GP surgery; no secondary care costs were included (apart from A&E)  Total cost (SD) per person (change from baseline):  HCI: -£71; TAU: -£21  Bootstrapped cost difference: -£51 (95%CI -£362 to £434)  Measures of outcome of economic analysis: QALYs estimated using EQ-5D and SF-6D, participant or carer-rated; EQ-5D rating used in PSA  Mean number of QALY change (area under the curve compared with baseline) per person:  Based on EQ-5D  HCI 0.0306, TAU -0.0021;  Bootstrapped treatment effect: 0.11 (95% CI 0.02 to 0.19); p=0.015  Based on SF-6D  HCI 0.06, TAU 0.02;  Bootstrapped treatment effect: 0.02 (95% CI -0.03 to 0.07); p=0.354 | HCI was dominant (better outcome at lower cost)  PSA: the probability that HCI is cost-effective is between 0.6 and 0.8 irrespective of the cost-effectiveness threshold.  Threshold analysis: the intervention cost needs to rise from £51 (estimate in base-case analysis) to £95 per person before HCI no longer dominates TAU. | Perspective: NHS  Currency: GB£  Cost year: 2011  Time horizon: 9 months  Discounting: not needed  Applicability: directly 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 |
| --- | --- | --- | --- | --- | --- |
| Gordon *et al.*, 2012  Australia  Cost-consequence analysis | Interventions:  One-off health check intervention, comprising a booklet in which the carer provides a detailed medical history, the GP reviews the history, performs the health assessment and develops an action plan in consultation with the service user and carer (HCI)  Health diary designed for ongoing use (HD) | Adults with learning disability living in the community  Cluster-design RCT (Lennox 2010)  Source of effectiveness & resource use data: RCT (N=242)  Source of unit costs: national sources | Costs: consultations, procedures, medication and vaccines that were claimed on the Medicare Benefits Schedule (MBS) and the Pharmaceutical Benefits Scheme (PBS); medications and vaccines not claimed as well as secondary care costs were not measured  Total mean cost per person:  HCI: $4523 (95% CI: $3521 to $5525)  HD: $4466 (95% CI: $3283 to $5649)  [difference not statistically significant]  Measures of outcome: number of vision and hearing tests performed, immunisation rates for hepatitis A and pneumococcus, number of weight measurements  Odds Ratios (95% CIs) between HCI and HD:  number of vision tests: 3.4 (1.4 to 8.3)  number of hearing tests: 4.5 (1.9 to 10.7)  immunisation rates for hepatitis A: 5.4 (1.8 to 16.3)  immunisation rates for pneumococcus: 7.4 (1.5 to 37.1)  number of weight measurements: 3.1 (1.5 to 6.4) | HCI was dominant (better outcomes at similar cost) | Perspective: public healthcare system (Medicare Australia)  Currency: Aus$  Cost year: 2011  Time horizon: 12 months  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 |
| --- | --- | --- | --- | --- | --- |
| Romeo *et al.*, 2009  UK  Cost consequence analysis | Interventions:  Health-check intervention (HCI) comprising a review of participants’ GP records by experienced nurse; assessment of participants’ general physical & mental health, development & problem behaviours, selected physical examination and blood tests; discussion of the results with a GP; preparing a report of findings and recommendations to the participants’ GP; referral algorithms  to intellectual disabilities services  Treatment as usual (TAU) | Adults with learning disability registered with primary care services  Cohort study with matched controls  Source of effectiveness & resource use data: cohort study with matched controls (Cooper et al., 2006; N=100)  Source of unit costs: national sources & further estimates | Costs: intervention (equipment & staff time), primary, inpatient, outpatient & specialist intellectual disability services, other healthcare services, daytime activities (unsupported & supported paid employment, voluntary work, adult education classes, day centres and additional support), respite care, aids and adaptations, paid and unpaid care.  Total cost of intervention per person: £82  Total mean service cost (SD) per person:  HCI: £9,412 (£6,899); TAU: £10,091 (£7,775)  Bootstrapped cost difference: -£679 (95%CI -£3,429 to £2,292)  Total mean carer support cost (SD) per person:  HCI: £40,673 (£27,978); TAU: £62,766 (£44,320)  Bootstrapped cost difference: -£22,093 (95%CI -£35,394 to -£7,571)  Total cost (SD) per person:  HCI: £50,085 (£30,824); TAU: £72,857 (£48,679)  Bootstrapped cost difference: -£22,772 (95%CI -£37,569 to -£6,400)  Measures of outcome: levels of health need detection, met new health needs, met health promotion and monitoring needs  Mean number of new health needs per person:  HCI 4.80, TAU 2.26, p<0.001  Mean number of met new health needs per person:  HCI 3.56, TAU 2.26, p<0.001  Level of met health promotion needs & health monitoring needs greater for HCI (p< 0.001 and p=0.039, respectively) | HCI was dominant (better outcomes at lower cost) | Perspective: societal (services and care support)  Currency: GB£  Cost year: 2003  Time horizon: 12 months  Discounting: not needed  Participants matched with controls for age,  gender and level of learning disability  Costs collected prospectively for intervention group and retrospectively for control group  Applicability: partially applicable  Quality: potentially serious limitations |