# Appendix S: Health economic evidence – economic profiles

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Abbreviations

A&E accident and emergency

CBLD challenging behaviour and learning disabilities

CBT cognitive behavioural therapy

CI confidence interval

HCHS hospital and community health services

HCI health-check intervention

HUI3 health utility index 3

ICER incremental cost-effectiveness ratio

N number of participants

NHS National Health Service

OR odds ratio

PPP purchasing power parity

PSA probabilistic sensitivity analysis

PSS personal social services

QALY quality adjusted life year

RCT randomised controlled trial

TAU treatment as usual

* 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
        1. Clinical / economic question: psychological intervention (parent training) versus treatment as usual for children and young people with learning disabilities and mental health problems

| Economic evidence profile | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Study and country** | **Limitations** | **Applicability** | **Other comments** | **Incremental cost (£)1** | **Incremental effect** | **ICER (£/effect)1** | **Uncertainty1** |
| NICE CBLD guideline,  2015  UK | Potentially serious limitations2 | Partially applicable3 | * Group parent training modelled * Waiting list modelled as control * Measure of outcome: QALY | £366 | 0.013 | £27,450 | Probability of parent training being cost-effective at £20,000/QALY: 0.43  Probability of parent training being cost-effective at £30,000/QALY: 0.52  Reducing relapse for parent training: £23,767/QALY  Severe challenging behaviour at baseline:  £14,805/QALY |

1. Costs uplifted to 2014 GB pounds using the hospital and community health services (HCHS) pay and prices inflation index (Curtis, 2014).
2. Only intervention costs considered, resource use from RCTs included in guideline systematic review, time horizon 61 weeks, efficacy data from 8 trials, a number of clinical input parameters (relapse) based on assumptions, PSA performed.
3. Study population was children and young people with learning disabilities and behaviour that challenges, NHS and PSS perspective, QALYs based on HUI3 (valuations elicited from Canadian population).
   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
         1. Clinical / economic question: Health-check intervention (HCI) versus treatment as usual for adults with learning disabilities

| Economic evidence profile | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Study and country** | **Limitations** | **Applicability** | **Other comments** | **Incremental cost (£)1** | **Incremental effect** | **ICER (£/effect)1** | **Uncertainty1** |
| Cooper *et al.*, 2014  UK | Potentially serious limitations2 | Directly applicable3 | QALYs estimated using EQ-5D and SF-6D; EQ-5D rating used in PSA | -£54 | Based on EQ-5D: 0.11  Based on SF-6D: 0.02 | HCI dominant | 95%CIs of incremental cost: -£380 to £456  95%CIs of incremental effect:  Based on EQ-5D: 0.02 to 0.19; p=0.015  Based on SF-6D: -0.03 to 0.07; p=0.354  Probability that HCI is cost-effective: 0.6-0.8 irrespective of the cost-effectiveness threshold.  Intervention cost needs to rise from £54 (base-case estimate) to £100 per person before HCI no longer dominates TAU. |
| Gordon *et al.*, 2012  Australia | Potentially serious limitations4 | Partially applicable5 | Outcome measures:   1. number of vision tests 2. number of hearing tests 3. immunisation rates for hepatitis A 4. immunisation rates for pneumococcus 5. number of weight measurements | £28 | ORs:  1) 3.4  2) 4.5  3) 5.4  4) 7.4  5) 3.1 | HCI dominant (higher benefits at similar cost) | 95%CIs of incremental cost not reported, but incremental cost non-significant  95%CIs of incremental effect (OR):  1) 1.4 to 8.3  2) 1.9 to 10.7  3) 1.8 to 16.3  4) 1.5 to 37.1  5) 1.5 to 6.4 |
| Romeo *et al.*, 2009  UK | Potentially serious limitations6 | Partially applicable7 | Outcome measures (mean number per person):   1. new health needs detected 2. met new health needs 3. met health promotion needs 4. health monitoring needs | -£923  (service cost) | 1. 2.54 2. 1.3 3. Not reported 4. Not reported | HCI dominant | 95% CI in service costs: -£4,661 to £3,116  Level of statistical significance in outcomes:   1. p<0.001 2. p<0.001 3. p< 0.001 4. 0.039 |

1. Costs converted and uplifted to 2014 GB pounds – converted using PPP exchange rates (http://www.oecd.org/std/ppp) and uplifted to 2014 GB pounds using the hospital and community health services (HCHS) pay and prices inflation index (Curtis, 2014).
2. Conducted alongside RCT (N=152), time horizon 9 months, only 76.5% of the intervention group received the intervention, EQ-5D and SF-6D may not be directly relevant to people with learning disabilities, some measurements were based on proxy ratings, with different carers rating health between baseline and follow-up for some participants, secondary care costs not considered (apart from A&E).
3. UK study on adults with a learning disability, NHS perspective, no discounting needed, effect on mental health not directly considered but QALYs estimated from participants or carer-rated EQ-5D using UK tariff.
4. Conducted alongside RCT (N=242), time horizon 12 months, some medications and vaccines were potentially excluded from costings as they are not eligible for Pharmaceutical Benefits Scheme claims, secondary care costs not measured, one service provider included
5. Australian study on adults with a learning disability, public healthcare system perspective, no discounting needed, effect on mental health not considered, test and immunisation rates were the measure of outcome
6. Cohort study with matched controls for age, gender and level of learning disability (N=100), time horizon 12 months, intermediate outcomes relating to detected and met health needs, costs collected prospectively for intervention group and retrospectively for control group.
7. UK study on adults with learning disabilities, societal perspective but service costs (NHS and PSS) reported separately, no discounting needed, effect on mental health not considered, no QALYs.