APPENDIX 19:

METHODOLOGY CHECKLISTS: ECONOMIC EVALUATIONS

This checklist is designed to determine whether an economic evaluation provides evidence that is useful to inform the decision-making of the Guideline Development Group (GDG). It is not intended to judge the quality of the study per se or the quality of reporting.

Key

BMJ	*British Medical Journal*
EQ-5D	European Quality of Life – 5 Dimensions
HRG	healthcare resource groups
HRQoL	health-related quality of life
HUI	Health Utilities Index
ICER	incremental cost-effectiveness ratio
IQ	intelligence quotient
NA	not applicable
NHS	National Health Service
NICE	National Institute for Health and Clinical Excellence
PSS	personal social services
QALY	quality-adjusted life years
QWB	Quality of Wellbeing scale
RCT	randomised controlled trial
SF-6D	Short Form Questionnaire 6 Dimensions

Bibliographic reference: Edwards RT, Céilleachair A, Bywater T, Hughes DA, Hutchings J. Parenting programme for parents of children at risk of developing conduct disorder: cost effectiveness analysis. British Medical Journal. 2007;334:682-85.			
Guideline topic: parent and family programme for prevention of conduct disorder			**Question no.:** RQ-A1
Checklist completed by: Benedict Anigbogu			
Section 1: applicability (relevance to specific guideline review question[s] and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear/ NA**	**Comments**
1.1	Is the study population appropriate for the guideline?	Yes	
1.2	Are the interventions appropriate for the guideline?	Yes	
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?	Yes	
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?	Partly	Multi-agency (health, education and social service)
1.5	Are all direct health effects on individuals included?	Partly	Antisocial behaviour scales used, no measure of HRQoL
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?	NA	6 months' time horizon
1.7	Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?	No	
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?	NA	
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?	NA	
1.10 Overall judgement: partially applicable.			
Other comments: the time horizon is very small to capture the benefit and cost of interventions for conduct disorder prevention. Perspective of cost includes that of education and there is no measure of health-related quality of life (HRQoL).			

Section 2: study limitations (the level of methodological quality). This checklist should be used once it has been decided that the study is sufficiently applicable to the context of the clinical guideline.		Yes/ Partly/ No/ Unclear/ NA	Comments
2.1	Does the model structure adequately reflect the nature of the health condition under evaluation?	NA	Study based on RCT
2.2	Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?	No	6 months
2.3	Are all important and relevant health outcomes included?	Partly	No measure of HRQoL
2.4	Are the estimates of baseline health outcomes from the best available source?	Yes	From waitlist arm of RCT
2.5	Are the estimates of relative treatment effects from the best available source?	Partly	From one RCT
2.6	Are all important and relevant costs included?	Yes	Health and social service use costs and intervention costs were considered
2.7	Are the estimates of resource use from the best available source?	Yes	Prospective follow-up of an RCT
2.8	Are the unit costs of resources from the best available source?	Yes	UK national cost references
2.9	Is an appropriate incremental analysis presented or can it be calculated from the data?	Yes	
2.10 Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?		Partly	
2.11 Is there no potential conflict of interest?		Unclear	
2.12 Overall assessment: potentially serious limitation.			
Other comments: the model is based on one trial with short time horizon (6 months) and perspective is inclusive of educational system.			

Bibliographic reference: Lee S, Aos S, Drake E, Pennucci A, Miller M, Anderson L. Return on investment: evidence-based options to improve statewide outcomes, April 2012 (Document No. 12-04-1201). Olympia, WA: Washington State Institute for Public Policy; 2012.			
Guideline topic: psychosocial intervention for people with conduct disorder: early Head Start versus treatment as usual			**Question no.:** RQ-A1
Checklist completed by: Benedict Anigbogu			
Section 1: applicability (relevance to specific guideline review question[s] and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear/ NA**	**Comments**
1.1	Is the study population appropriate for the guideline?	Partly	Low-income pregnant women
1.2	Are the interventions appropriate for the guideline?	Partly	Universal prevention
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?	No	US prison setting
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?	No	Non-healthcare costs and US-based
1.5	Are all direct health effects on individuals included?	No	Main outcome is crime
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?	Yes	3.5% for cost with a range of 2 to 5%
1.7	Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?	No	
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?	NA	
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?	NA	
1.10 Overall judgement: not applicable.			
Other comments: population selection is on the basis of socioeconomic status of pregnant women: no specific risk of problem behaviour disorder.			

Bibliographic reference: Huang S. Cost-effectiveness of an enhanced whole-school social competency intervention [dissertation]. University of Maryland, College Park, MD; 2008			
Guideline topic: prevention of conduct disorder: school-based prevention programme			**Question no.:** RQ-A1
Checklist completed by: Benedict Anigbogu			
Section 1: applicability (relevance to specific guideline review question[s] and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear/ NA**	**Comments**
1.1	Is the study population appropriate for the guideline?	Partly	
1.2	Are the interventions appropriate for the guideline?	No	Universal programme
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?	No	
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?	No	
1.5	Are all direct health effects on individuals included?	No	
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?	Partly	3% and 5% discount rates were used
1.7	Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?	No	
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?	NA	
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?	NA	
1.10 Overall judgement: not applicable.			
Other comments: universal prevention.			

Bibliographic reference: Mihalopoulos C, Sanders, Karen MT, Turner MR, Murphy-Brennan M, Carter R. Does the triple P-Positive Parenting Program provide value for money? Australian and New Zealand Journal of Psychiatry. 2007;41:239-46.			
Guideline topic: parent and family programme for prevention of conduct disorder			**Question no.:** RQ-A1
Checklist completed by: Benedict Anigbogu			
Section 1: applicability (relevance to specific guideline review question[s] and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear/ NA**	**Comments**
1.1	Is the study population appropriate for the guideline?	Partly	Universal: all families with children aged 2 to 12 years
1.2	Are the interventions appropriate for the guideline?	Yes	Parenting programme
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?	No	Australia
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?	Partly	Australian health service
1.5	Are all direct health effects on individuals included?	Partly	No measure of quality of life
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?	No	
1.7	Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?	No	
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?	NA	
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?	NA	
1.10 Overall judgement: not applicable			
Other comments: the population used in estimating the cost of the intervention included all families in Queensland with children between 2 and 12 years. This is a form of universal prevention programme which the guideline is not covering.			

Bibliographic reference: Foster EM, Jones D, Conduct Problems Prevention Research Group. Can a costly intervention be cost-effective? An analysis of violence prevention. Archives of General Psychiatry. 2006;63:1284-91.			
Guideline topic: prevention of conduct disorder			**Question no.:** RQ-A1
Checklist completed by: Benedict Anigbogu			
Section 1: applicability (relevance to specific guideline review question[s] and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear/ NA**	**Comments**
1.1	Is the study population appropriate for the guideline?	Yes	Kindergarteners that screened positive for conduct problem
1.2	Are the interventions appropriate for the guideline?	Yes	Multi-component programme combining child, parent and teacher training
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?	No	US
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?	No	
1.5	Are all direct health effects on individuals included?	Partly	Behavioural scales only
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?	Partly	5% discount rate was used
1.7	Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?	No	
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?	NA	
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?	NA	
1.10 Overall judgement: partially applicable.			
Other comments: the healthcare system and perspective differs from that of the NHS and PSS in the UK; no measure of quality of life outcome was used.			

Section 2: study limitations (the level of methodological quality). This checklist should be used once it has been decided that the study is sufficiently applicable to the context of the clinical guideline.		**Yes/ Partly/ No/ Unclear/ NA**	**Comments**
2.1	Does the model structure adequately reflect the nature of the health condition under evaluation?	NA	Study based on RCT
2.2	Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?	Unclear	No specific time horizon reported
2.3	Are all important and relevant health outcomes included?	Partly	
2.4	Are the estimates of baseline health outcomes from the best available source?	Yes	One RCT study
2.5	Are the estimates of relative treatment effects from the best available source?	Yes	
2.6	Are all important and relevant costs included?	Partly	
2.7	Are the estimates of resource use from the best available source?	Partly	
2.8	Are the unit costs of resources from the best available source?	Unclear	
2.9	Is an appropriate incremental analysis presented or can it be calculated from the data?	Partly	
2.10 Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?		Partly	
2.11 Is there no potential conflict of interest?		No	
2.12 Overall assessment: potentially serious limitations.			
Other comments: lack of clarity on time horizon and non-use of quality of life measure. Costs included were those of intervention only.			

Bibliographic reference: Nores M, Belfield C, Barnett WS, Schweinhart L. Updating the economic impacts of the High/Scope Perry Preschool Program. Education Evaluation and Policy Analysis. 2005;27:245-61.			
Guideline topic: school-based prevention programme for conduct disorder			**Question no.:** RQ-A1
Checklist completed by: Benedict Anigbogu			
Section 1: applicability (relevance to specific guideline review question[s] and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear/ NA**	**Comments**
1.1	Is the study population appropriate for the guideline?	No	Prevention study (at-risk, identified on the basis of low levels of parental education and socioeconomic status, as well as low Stanford-Binet IQ test score)
1.2	Are the interventions appropriate for the guideline?	Yes	Child focused
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?	No	Education system and US
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?	No	US education system
1.5	Are all direct health effects on individuals included?	Partly	
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?	Partly	2% discount rate used
1.7	Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?	No	
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?	NA	
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?	NA	
1.10 Overall judgement: not applicable.			
Other comments: population is universal as against selective on the basis of some symptoms of behavioural problem. Also, the health system and perspective is different from NHS and PSS.			

Bibliographic reference: Reynolds AJ, Temple JA, Robertson DL, Mann EA. Age 21 cost-benefit analysis of the Title 1 Chicago child-parent centers. Educational Evaluation and Policy Analysis. 2002;24:267–303.			
Guideline topic: parent and family prevention intervention for conduct disorder			**Question no.:** RQ-A1
Checklist completed by: Benedict Anigbogu			
Section 1: applicability (relevance to specific guideline review question[s] and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear/ NA**	**Comments**
1.1	Is the study population appropriate for the guideline?	No	At-risk children, defined based on socioeconomic status (low income children aged 3 to 9 years)
1.2	Are the interventions appropriate for the guideline?	Partly	Parent centres programme
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?	No	US
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?	No	
1.5	Are all direct health effects on individuals included?	Partly	
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?	Partly	3% discount rate used
1.7	Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?	No	
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?	NA	
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?	NA	
1.10 Overall judgement: not applicable.			
Other comments: population selection is universal on the basis of socioeconomic factor rather than on the basis of manifestation of some behavioural problems. The health system and perspective is non-NHS and PSS.			

Bibliographic reference: Sharac J, McCrone P, Rushton A, Monck E. Enhancing adoptive parenting: a cost-effectiveness analysis. Child and Adolescent Mental Health. 2011;16:110-15.			
Guideline topic: prevention of conduct disorder			**Question no.:** RQ-A1
Checklist completed by: Benedict Anigbogu			
Section 1: applicability (relevance to specific guideline review question[s] and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear/ NA**	**Comments**
1.1	Is the study population appropriate for the guideline?	Yes	Cognitive behavioural approach of prevention intervention
1.2	Are the interventions appropriate for the guideline?	Yes	Yes
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?	Yes	
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?	Yes	
1.5	Are all direct health effects on individuals included?	Partly	
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?	NA	6 months' time horizon
1.7	Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?	No	
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?	NA	
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?	NA	
1.10 Overall judgement: partially applicable.			

Section 2: study limitations (the level of methodological quality). This checklist should be used once it has been decided that the study is sufficiently applicable to the context of the clinical guideline.		**Yes/ Partly/ No/ Unclear/ NA**	**Comments**
2.1	Does the model structure adequately reflect the nature of the health condition under evaluation?	NA	Alongside RCT
2.2	Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?	No	6 months
2.3	Are all important and relevant health outcomes included?	Partly	No quality of life measure
2.4	Are the estimates of baseline health outcomes from the best available source?	Yes	Routine care
2.5	Are the estimates of relative treatment effects from the best available source?	Yes	Parenting programme versus routine care
2.6	Are all important and relevant costs included?	Partly	Intervention costs only
2.7	Are the estimates of resource use from the best available source?	Yes	From RCT
2.8	Are the unit costs of resources from the best available source?	Yes	UK national reference unit cost
2.9	Is an appropriate incremental analysis presented or can it be calculated from the data?	Partly	
2.10 Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?		No	
2.11 Is there no potential conflict of interest?		No	
2.12 Overall assessment: potentially serious limitations.			
Other comments: short time horizon, no measure of quality of life outcome and inclusion of intervention costs only.			

Bibliographic reference: Lee S, Aos S, Drake E, Pennucci A, Miller M, Anderson L. Return on investment: evidence-based options to improve statewide outcomes, April 2012 (Document No. 12-04-1201). Olympia, WA: Washington State Institute for Public Policy; 2012.			
Guideline topic: prevention of conduct disorder: nurse family partnership for low-income families versus no treatment			**Question no.:** RQ-A1
Checklist completed by: Benedict Anigbogu			
Section 1: applicability (relevance to specific guideline review question[s] and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear/ NA**	**Comments**
1.1	Is the study population appropriate for the guideline?	No	At risk low-income pregnant women
1.2	Are the interventions appropriate for the guideline?	Yes	Preventative intervention
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?	Partly	US (Organisation for Economic Co-operation and Development)
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?	No	Societal and criminal justice system perspective
1.5	Are all direct health effects on individuals included?	Partly	Disruptive behaviour and crime
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?	Yes	3.5%
1.7	Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?	No	No HRQoL measure used
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?	NA	
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?	NA	
1.10 Overall judgement: not applicable.			
Other comments: population selection does not include any behavioural problem indicator.			

Bibliographic reference: Lee S, Aos S, Drake E, Pennucci A, Miller M, Anderson L. Return on investment: evidence-based options to improve statewide outcomes, April 2012 (Document No. 12-04-1201). Olympia, WA: Washington State Institute for Public Policy; 2012.			
Guideline topic: prevention of conduct disorder: parent-child home program versus no treatment			**Question no.:** RQ-A1
Checklist completed by: Benedict Anigbogu			
Section 1: applicability (relevance to specific guideline review question[s] and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear/ NA**	**Comments**
1.1	Is the study population appropriate for the guideline?	Partly	At risk children defined on the basis of socioeconomic status
1.2	Are the interventions appropriate for the guideline?	Yes	Preventative intervention
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?	Partly	US (Organisation for Economic Co-operation and Development)
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?	No	Societal and criminal justice system perspective
1.5	Are all direct health effects on individuals included?	Yes	Educational performance
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?	Yes	3.5%
1.7	Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?	No	No HRQoL measure used
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?	NA	
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?	NA	
1.10 Overall judgement: not applicable			
Other comments: population selection is on the basis of limited education or obstacles to educational success with no specific indication of risk of behavioural problem.			

Bibliographic reference: Lee S, Aos S, Drake E, Pennucci A, Miller M, Anderson L. Return on investment: evidence-based options to improve statewide outcomes, April 2012 (Document No. 12-04-1201). Olympia, WA: Washington State Institute for Public Policy; 2012.			
Guideline topic: psychosocial intervention for people with conduct disorder: Scared Straight versus no treatment			**Question no.:** RQ-E1
Checklist completed by: Benedict Anigbogu			
Section 1: applicability (relevance to specific guideline review question[s] and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear/ NA**	**Comments**
1.1	Is the study population appropriate for the guideline?	Yes	Juvenile offenders
1.2	Are the interventions appropriate for the guideline?	No	Deterrent programme
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?	No	US prison setting
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?	No	Non-healthcare costs and US-based
1.5	Are all direct health effects on individuals included?	No	Main outcome is crime
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?	Yes	3.5% for cost with a range of 2 to 5%
1.7	Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?	No	
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?	NA	
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?	NA	
1.10 Overall judgement: not applicable.			
Other comments: intervention considered is outside the review questions and protocol for this guideline.			

Bibliographic reference: Lee S, Aos S, Drake E, Pennucci A, Miller M, Anderson L. Return on investment: evidence-based options to improve statewide outcomes, April 2012 (Document No. 12-04-1201). Olympia, WA: Washington State Institute for Public Policy; 2012.			
Guideline topic: psychosocial intervention for people with conduct disorder: victim offender mediation versus no treatment			**Question no.:** RQ-E1
Checklist completed by: Benedict Anigbogu			
Section 1: applicability (relevance to specific guideline review question[s] and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear/ NA**	**Comments**
1.1	Is the study population appropriate for the guideline?	Yes	Juvenile offenders
1.2	Are the interventions appropriate for the guideline?	No	Different aim: to determine appropriate restitution for the harm done
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?	No	US prison setting
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?	No	Non-healthcare costs and US-based
1.5	Are all direct health effects on individuals included?	No	Main outcome is crime
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?	Yes	3.5% for cost with a range of 2 to 5%
1.7	Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?	No	
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?	NA	
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?	NA	
1.10 Overall judgement: not applicable.			
Other comments: the aim for the intervention is to determine the appropriate restitution for the harm done to victims of offending.			

Bibliographic reference: Caldwell MF, Vitacco M, Rybroek GJ. Are violent delinquents worth treating? A cost-benefit analysis. Journal of Research in Crime and Delinquency. 2006;43:148-68.			
Guideline topic: psychosocial intervention for conduct disorder: intensive juvenile corrective service program versus usual service			**Question no.:** RQ-E1
Checklist completed by: Benedict Anigbogu			
Section 1: applicability (relevance to specific guideline review question[s] and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear/ NA**	**Comments**
1.1	Is the study population appropriate for the guideline?	Yes	Delinquent boys
1.2	Are the interventions appropriate for the guideline?	Yes	Psychosocial intervention
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?	No	US and non-health context
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?	No	
1.5	Are all direct health effects on individuals included?	Partly	Re-arrest rate
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?	Unclear	Not specified
1.7	Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?	No	
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?	NA	
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?	NA	
1.10 Overall judgement: partially applicable.			
Other comments: this is a form of community-based programme using either intensive supervision monitoring or cognitive behavioural treatment in comparison with regular probation. The US setting is largely different from that of the UK. Also, the perspective of cost and effect analysis is mainly that of criminal justice.			

Section 2: study limitations (the level of methodological quality). This checklist should be used once it has been decided that the study is sufficiently applicable to the context of the clinical guideline.		**Yes/ Partly/ No/ Unclear/ NA**	**Comments**
2.1	Does the model structure adequately reflect the nature of the health condition under evaluation?	NA	Alongside RCT
2.2	Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?	Yes	
2.3	Are all important and relevant health outcomes included?	Partly	
2.4	Are the estimates of baseline health outcomes from the best available source?	Yes	
2.5	Are the estimates of relative treatment effects from the best available source?	Yes	
2.6	Are all important and relevant costs included?	Yes	
2.7	Are the estimates of resource use from the best available source?	Yes	
2.8	Are the unit costs of resources from the best available source?	Yes	
2.9	Is an appropriate incremental analysis presented or can it be calculated from the data?	No	
2.10 Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?		No	
2.11 Is there no potential conflict of interest?		Unclear	
2.12 Overall assessment: potentially serious limitations.			

Bibliographic reference: Robertson AA, Grimes PW, Rogers KE. A short-run cost-benefit analysis of community-based interventions for juvenile offenders. Crime and Delinquency. 2001;47:265-84.			
Guideline topic: psychosocial intervention for conduct disorder: community-based interventions for conduct disorder			**Question no.:** RQ-E1
Checklist completed by: Benedict Anigbogu			
Section 1: applicability (relevance to specific guideline review question[s] and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear/ NA**	**Comments**
1.1	Is the study population appropriate for the guideline?	Yes	Juvenile offenders
1.2	Are the interventions appropriate for the guideline?	Yes	Psychosocial intervention
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?	No	US
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?	No	
1.5	Are all direct health effects on individuals included?	Partly	Rate of recidivism
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?	Unclear	Was not specified
1.7	Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?	No	
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?	NA	
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?	NA	
1.10 Overall judgement: partially applicable.			
Other comments: healthcare system is Non-UK and perspective is societal.			

Section 2: study limitations (the level of methodological quality). This checklist should be used once it has been decided that the study is sufficiently applicable to the context of the clinical guideline.		Yes/ Partly/ No/ Unclear/ NA	Comments
2.1	Does the model structure adequately reflect the nature of the health condition under evaluation?	NA	Alongside trial
2.2	Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?	Partly	18 months
2.3	Are all important and relevant health outcomes included?	No	Only the rate of re-offending
2.4	Are the estimates of baseline health outcomes from the best available source?	Partly	Regular probation service
2.5	Are the estimates of relative treatment effects from the best available source?	Partly	Based on a single quasi-experimental study
2.6	Are all important and relevant costs included?	Yes	
2.7	Are the estimates of resource use from the best available source?	Partly	
2.8	Are the unit costs of resources from the best available source?	Unclear	
2.9	Is an appropriate incremental analysis presented or can it be calculated from the data?	Partly	
2.10 Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?		No	
2.11 Is there no potential conflict of interest?		No	
2.12 Overall assessment: potentially serious limitations.			
Other comments: clinical evidence is derived from quasi-experimental study and no measure of quality of life outcome was used. The discount rate used was not specified.			

Bibliographic reference: Lee S, Aos S, Drake E, Pennucci A, Miller M, Anderson L. Return on investment: evidence-based options to improve statewide outcomes, April 2012 (Document No. 12-04-1201). Olympia, WA: Washington State Institute for Public Policy; 2012.			
Guideline topic: psychosocial intervention for conduct disorder: aggression replacement therapy versus services versus no treatment			**Question no.:** RQ-E1
Checklist completed by: Benedict Anigbogu			
Section 1: applicability (relevance to specific guideline review question[s] and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear/ NA**	**Comments**
1.1	Is the study population appropriate for the guideline?	Yes	Chronically aggressive children and adolescents
1.2	Are the interventions appropriate for the guideline?	Yes	Form of psychosocial programme
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?	No	US criminal justice system
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?	No	Non-healthcare costs and US-based
1.5	Are all direct health effects on individuals included?	No	Main outcome is crime
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?	Yes	3.5% for cost with a range of 2 to 5%
1.7	Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?	No	
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?	NA	
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?	NA	
1.10 Overall judgement: not applicable.			
Other comments: the analysis is based on model by Washington State Institute of Public Policy, which is a return of investment model which largely different from reference case approach by NICE. Also, the clinical evidence is based on three papers, two of which are books and one report (Gibbs, 1995; Goldstein & Glick, 1995; Barnoski, 2004). There is high likelihood that the evidence is of poor quality.			

Bibliographic reference: NICE. Antisocial Behaviour and Conduct Disorders in Children and Young People: Recognition, Intervention and Management. NICE clinical guideline 158. London: NICE; 2013.			
Guideline topic: psychosocial intervention for conduct disorder: child-focused intervention plus treatment as usual versus treatment as usual			**Question no.:** RQ-E2
Checklist completed by: Benedict Anigbogu			
Section 1: applicability (relevance to specific guideline review question[s] and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear/ NA**	**Comments**
1.1	Is the study population appropriate for the guideline?	Yes	Families of children with more challenging behaviour problems
1.2	Are the interventions appropriate for the guideline?	Yes	Parenting programme
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?	Yes	
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?	Yes	
1.5	Are all direct health effects on individuals included?	Yes	Disruptive behaviour disorder symptoms
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?	Yes	
1.7	Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?	No	
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?	NA	
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?	NA	
1.10 Overall judgement: partially applicable.			

Section 2: study limitations (the level of methodological quality). This checklist should be used once it has been decided that the study is sufficiently applicable to the context of the clinical guideline.		**Yes/ Partly/ No/ Unclear/ NA**	**Comments**
2.1	Does the model structure adequately reflect the nature of the health condition under evaluation?	Yes	
2.2	Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?	8 years	
2.3	Are all important and relevant health outcomes included?	Partly	Behaviour outcomes estimated but no HRQoL
2.4	Are the estimates of baseline health outcomes from the best available source?	Yes	Systematic review
2.5	Are the estimates of relative treatment effects from the best available source?	Yes	Meta-analysis
2.6	Are all important and relevant costs included?	Yes	Intervention costs and downstream costs
2.7	Are the estimates of resource use from the best available source?	Yes	Published studies
2.8	Are the unit costs of resources from the best available source?	Yes	Curtis, 2011
2.9	Is an appropriate incremental analysis presented or can it be calculated from the data?	Partly	Net cost analysis
2.10 Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?		Yes	
2.11 Is there no potential conflict of interest?		NA	
2.12 Overall assessment: very serious limitations			

Bibliographic reference: Bonin E, Stevens M, Beecham J, Byford S, Parsonage M. Costs and Longer-term savings of parenting programmes for the prevention of persistent conduct disorder: a modelling study. BMC Public Health. 2011;11:803.			
Guideline topic: parenting and family interventions for conduct disorder: parenting programme versus no treatment			**Question no.:** RQ-E2
Checklist completed by: Benedict Anigbogu			
Section 1: applicability (relevance to specific guideline review question[s] and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear/ NA**	**Comments**
1.1	Is the study population appropriate for the guideline?	Yes	5-year-olds with clinical conduct disorder
1.2	Are the interventions appropriate for the guideline?	Yes	Parenting programme
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?	Yes	NHS and other public sectors
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?	Partly	Wider perspective, including criminal justice system
1.5	Are all direct health effects on individuals included?	Partly	Antisocial behaviour scores only
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?	Partly	Costs discounted
1.7	Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?	No	
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?	NA	
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?	NA	
1.10 Overall judgement: partially applicable			

Section 2: study limitations (the level of methodological quality). This checklist should be used once it has been decided that the study is sufficiently applicable to the context of the clinical guideline.		Yes/ Partly/ No/ Unclear/ NA	Comments
2.1	Does the model structure adequately reflect the nature of the health condition under evaluation?	Yes	
2.2	Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?	Yes	25 years
2.3	Are all important and relevant health outcomes included?	Partly	Cost analysis done
2.4	Are the estimates of baseline health outcomes from the best available source?	Yes	Based on published data
2.5	Are the estimates of relative treatment effects from the best available source?	Yes	Based on systematic review study
2.6	Are all important and relevant costs included?	Yes	
2.7	Are the estimates of resource use from the best available source?	Yes	
2.8	Are the unit costs of resources from the best available source?	Yes	
2.9	Is an appropriate incremental analysis presented or can it be calculated from the data?	Partly	No incremental effect estimate
2.10 Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?		Partly	Deterministic analysis done
2.11 Is there no potential conflict of interest?		No	Funded by Department of Health
2.12 Overall assessment: potentially serious limitations			
Other comments: the analysis is a partial economic evaluation of cost analysis of parenting programme over a 25-year time horizon. Assumptions on the possible natural history of conduct disorder are highly uncertain and may not reflect the true natural history of conduct disorder.			

Bibliographic reference: Crane DR, Hillin HH, Jakubowski SF. Costs of treating conduct disordered Medicaid youth with and without family therapy. American Journal of Family Therapy. 2005;33:403-13			
Guideline topic: conduct disorder: family therapy versus matched control			**Question no.:** RQ-E2
Checklist completed by: Benedict Anigbogu			
Section 1: applicability (relevance to specific guideline review question[s] and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear/ NA**	**Comments**
1.1	Is the study population appropriate for the guideline?	Yes	
1.2	Are the interventions appropriate for the guideline?	Yes	
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?	No	US
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?	No	
1.5	Are all direct health effects on individuals included?	No	Effects data not collected
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?	No	
1.7	Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?	No	
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?	NA	
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?	NA	
1.10 Overall judgement: not applicable			
Other comments: the study is based on retrospective data on services provided to people with conduct disorder in a health insurance setting, with the aim of determining the how the service costs vary depending on the setting. No antisocial or quality of life outcomes were collected to show if there is any evidence on clinical effectiveness due to setting or type of intervention.			

Bibliographic reference: Dembo R, Ramirez-Garnica G, Rollie MW, Schmeidler J, Livingston S, Hartsfleld A. Youth recidivism 12 months after a family empowerment intervention: final report. Journal of Offender Rehabilitation. 2000;31:29-65.			
Guideline topic: parenting and family interventions for conduct disorder: family empowerment intervention versus extended family services			**Question no.:** RQ-E2
Checklist completed by: Benedict Anigbogu			
Section 1: applicability (relevance to specific guideline review question[s] and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear/ NA**	**Comments**
1.1	Is the study population appropriate for the guideline?	Yes	
1.2	Are the interventions appropriate for the guideline?	Yes	Family intervention
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?	No	US
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?	No	
1.5	Are all direct health effects on individuals included?	Partly	
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?	No	
1.7	Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?	No	
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?	NA	
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?	NA	
1.10 Overall judgement: partially applicable			
Other comments: perspective was criminal justice system in a US setting.			

Section 2: study limitations (the level of methodological quality). This checklist should be used once it has been decided that the study is sufficiently applicable to the context of the clinical guideline.		**Yes/ Partly/ No/ Unclear/ NA**	**Comments**
2.1	Does the model structure adequately reflect the nature of the health condition under evaluation?	No	Non-decision analytical, alongside trial
2.2	Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?	Yes	2 years
2.3	Are all important and relevant health outcomes included?	Partly	No quality of life measure
2.4	Are the estimates of baseline health outcomes from the best available source?	No	Control arm is extended service intervention
2.5	Are the estimates of relative treatment effects from the best available source?	Yes	RCT
2.6	Are all important and relevant costs included?	Partly	Healthcare costs not included
2.7	Are the estimates of resource use from the best available source?	Yes	
2.8	Are the unit costs of resources from the best available source?	Unclear	
2.9	Is an appropriate incremental analysis presented or can it be calculated from the data?	No	
2.10 Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?		No	
2.11 Is there no potential conflict of interest?		No	National Institute on Drug Abuse
2.12 Overall assessment: potentially serious limitations			
Other comments: the baseline data is from the control arm, which in itself is an intensive intervention. No sensitivity analysis was conducted and outcome measure not inclusive of HRQoL.			

Bibliographic reference: Dretzke JF, Davenport C, Barlow J, Stewart-Brown S, Sandercock J, Bayliss S. The effectiveness and cost-effectiveness of parent training/education programmes for the treatment of conduct disorder, including oppositional defiant disorder, in children. Health Technology Assessment. 2005;9:1-233.			
Guideline topic: parent and family interventions for conduct disorder			**Question no.:** RQ-E2
Checklist completed by: Benedict Anigbogu			
Section 1: applicability (relevance to specific guideline review question[s] and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear/ NA**	**Comments**
1.1	Is the study population appropriate for the guideline?	Yes	
1.2	Are the interventions appropriate for the guideline?	Yes	
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?	Yes	
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?	Yes	
1.5	Are all direct health effects on individuals included?	Partly	
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?	NA	
1.7	Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?	Partly	Based on assumptions
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?	No	
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?	No	
1.10 Overall judgement: partially applicable			
Other comments: study was mainly a cost analysis of parenting programme with substantial assumptions about the impact of the programme on quality of life of conduct disorder population.			

Section 2: study limitations (the level of methodological quality). This checklist should be used once it has been decided that the study is sufficiently applicable to the context of the clinical guideline.		**Yes/ Partly/ No/ Unclear/ NA**	**Comments**
2.1	Does the model structure adequately reflect the nature of the health condition under evaluation?	NA	
2.2	Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?	Partly	1-year cycle
2.3	Are all important and relevant health outcomes included?	No	Limited to antisocial behaviour outcomes
2.4	Are the estimates of baseline health outcomes from the best available source?	Partly	QALY value is based on assumption
2.5	Are the estimates of relative treatment effects from the best available source?	Yes	Based on a systematic review
2.6	Are all important and relevant costs included?	Partly	Only programme costs was estimated
2.7	Are the estimates of resource use from the best available source?	Yes	
2.8	Are the unit costs of resources from the best available source?	Yes	
2.9	Is an appropriate incremental analysis presented or can it be calculated from the data?	Partly	
2.10 Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?		No	No detailed sensitivity analysis
2.11 Is there no potential conflict of interest?		No	
2.12 Overall assessment: potentially serious limitations			
Other comments: essentially, cost analysis of the programme was conducted.			

Bibliographic reference: Foster EM, Olchowski AE, Webster-Stratton CH. Is stacking intervention components cost-effective? An analysis of the Incredible Years program. Journal of the American Academy of Child and Adolescent Psychiatry. 2007;46:1414-24.			
Guideline topic: parent and family interventions for conduct disorder			**Question no.:** RQ-E2
Checklist completed by: Benedict Anigbogu			
Section 1: applicability (relevance to specific guideline review question[s] and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear/ NA**	**Comments**
1.1	Is the study population appropriate for the guideline?	Yes	
1.2	Are the interventions appropriate for the guideline?	Yes	
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?	Partly	
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?	Partly	
1.5	Are all direct health effects on individuals included?	Partly	
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?	NA	
1.7	Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?	No	
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?	No	
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?	NA	
1.10 Overall judgement: partially applicable			

Section 2: study limitations (the level of methodological quality). This checklist should be used once it has been decided that the study is sufficiently applicable to the context of the clinical guideline.		**Yes/ Partly/ No/ Unclear/ NA**	**Comments**
2.1	Does the model structure adequately reflect the nature of the health condition under evaluation?	NA	Alongside trial
2.2	Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?	No	6 months
2.3	Are all important and relevant health outcomes included?	Partly	No measure of HRQoL
2.4	Are the estimates of baseline health outcomes from the best available source?	Yes	
2.5	Are the estimates of relative treatment effects from the best available source?	Yes	
2.6	Are all important and relevant costs included?	Partly	Only programme costs
2.7	Are the estimates of resource use from the best available source?	Yes	Alongside RCT
2.8	Are the unit costs of resources from the best available source?	Partly	Based on developer experience
2.9	Is an appropriate incremental analysis presented or can it be calculated from the data?	No	
2.10 Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?		Partly	Cost-effectiveness acceptability curve was constructed
2.11 Is there no potential conflict of interest?		Yes	One of the authors was a programme trainer with financial gain implications
2.12 Overall assessment: potentially serious limitations			

Bibliographic reference: Olchowski AE, Foster EM, Webster-Stratton CH. Implementing behavioral intervention components in a cost-effective manner: analysis of the Incredible Years Program. Journal of Early and Intensive Behavior Intervention. 2007;3:284–304.			
Guideline topic: parent and family programme for conduct disorder treatment: Incredible Years programme versus no treatment			**Question no.:** RQ-E2
Checklist completed by: Benedict Anigbogu			
Section 1: applicability (relevance to specific guideline review question[s] and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear/ NA**	**Comments**
1.1	Is the study population appropriate for the guideline?	Yes	
1.2	Are the interventions appropriate for the guideline?	Yes	
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?	Partly	
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?	Partly	
1.5	Are all direct health effects on individuals included?	Partly	
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?	NA	
1.7	Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?	No	
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?	No	
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?	NA	
1.10 Overall judgement: partially applicable but excluded			
Other comments: this study is a replication of Foster and colleagues (2007) and therefore was excluded from further review.			

Bibliographic reference: McCabe C, Sutcliffe P, Kaltenthaler E. Parent-training programmes in the management of conduct disorder: a report from the NICE Decision Support Unit and the ScHARR Technology Assessment Group. Sheffield: NICE; 2005 July.			
Guideline topic: parent and family programme for conduct disorder treatment			**Question no.:** RQ-E2
Checklist completed by: Benedict Anigbogu			
Section 1: applicability (relevance to specific guideline review question[s] and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear/ NA**	**Comments**
1.1	Is the study population appropriate for the guideline?	Yes	
1.2	Are the interventions appropriate for the guideline?	Yes	
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?	Yes	
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?	Yes	Also extended to included public sector
1.5	Are all direct health effects on individuals included?	Partly	
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?	NA	1-year horizon
1.7	Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?	No	
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?	NA	
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?	NA	
1.10 Overall judgement: partially applicable			
Other comments: no HRQoL outcome measure was used.			

Section 2: study limitations (the level of methodological quality). This checklist should be used once it has been decided that the study is sufficiently applicable to the context of the clinical guideline.		Yes/ Partly/ No/ Unclear/ NA	Comments
2.1	Does the model structure adequately reflect the nature of the health condition under evaluation?	Partly	
2.2	Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?	Partly	1 year
2.3	Are all important and relevant health outcomes included?	Partly	Antisocial behaviour outcomes only
2.4	Are the estimates of baseline health outcomes from the best available source?	Yes	Published studies
2.5	Are the estimates of relative treatment effects from the best available source?	Yes	Systematic review
2.6	Are all important and relevant costs included?	Partly	
2.7	Are the estimates of resource use from the best available source?	Yes	
2.8	Are the unit costs of resources from the best available source?	Yes	
2.9	Is an appropriate incremental analysis presented or can it be calculated from the data?	Partly	Net cost saving incremental analysis
2.10 Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?		Yes	
2.11 Is there no potential conflict of interest?		No	
2.12 Overall assessment: potentially serious limitations			
Other comments: HRQoL outcome was not used due to lack of data and time horizon was relatively short.			

Bibliographic reference: Muntz RH, Hutchings J, Edwards RT, Hounsome B, O'Céilleachair A. Economic evaluation of treatments for children with severe behavioural problems. Journal of Mental Health Policy and Economics. 2004;7:177-89.			
Guideline topic: parent and family interventions for conduct disorder			**Question no.:** RQ-E2
Checklist completed by: Benedict Anigbogu			
Section 1: applicability (relevance to specific guideline review question[s] and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear/ NA**	**Comments**
1.1	Is the study population appropriate for the guideline?	Yes	
1.2	Are the interventions appropriate for the guideline?	Yes	
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?	Yes	
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?	Partly	Multi-sectoral
1.5	Are all direct health effects on individuals included?	Partly	
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?	Partly	3% discount rate was used
1.7	Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?	No	
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?	No	
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?	NA	
1.10 Overall judgement: partially applicable			
Other comments: perspective is broad and final outcome was not expressed in terms of quality of life.			

Section 2: study limitations (the level of methodological quality). This checklist should be used once it has been decided that the study is sufficiently applicable to the context of the clinical guideline.		**Yes/ Partly/ No/ Unclear/ NA**	**Comments**
2.1	Does the model structure adequately reflect the nature of the health condition under evaluation?	Partly	Alongside trial
2.2	Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?	Yes	4 years' follow-up
2.3	Are all important and relevant health outcomes included?	Partly	
2.4	Are the estimates of baseline health outcomes from the best available source?	Partly	From single RCT
2.5	Are the estimates of relative treatment effects from the best available source?	Partly	From single RCT
2.6	Are all important and relevant costs included?	Partly	Multi-sectoral perspective
2.7	Are the estimates of resource use from the best available source?	Yes	
2.8	Are the unit costs of resources from the best available source?	Yes	
2.9	Is an appropriate incremental analysis presented or can it be calculated from the data?	Yes	
2.10 Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?		Partly	
2.11 Is there no potential conflict of interest?		No	
2.12 Overall assessment: minor limitations			

Bibliographic reference: Thompson RW, Ruma PR, Schuchmann LF, Burke RV. A cost-effectiveness evaluation of parent training. Journal of Child and Family Studies. 1996;5:415-29.			
Guideline topic: parent and family interventions for conduct disorder			**Question no.:** RQ-E2
Checklist completed by: Benedict Anigbogu			
Section 1: applicability (relevance to specific guideline review question[s] and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear/ NA**	**Comments**
1.1	Is the study population appropriate for the guideline?	Yes	
1.2	Are the interventions appropriate for the guideline?	Yes	
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?	No	US
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?	No	
1.5	Are all direct health effects on individuals included?	No	The clinical impact of change in the resource use input was not reported
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?	NA	3 months
1.7	Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?	No	
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?	No	
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?	NA	
1.10 Overall judgement: partially applicable.			

Section 2: study limitations (the level of methodological quality). This checklist should be used once it has been decided that the study is sufficiently applicable to the context of the clinical guideline.		Yes/ Partly/ No/ Unclear/ NA	Comments
2.1	Does the model structure adequately reflect the nature of the health condition under evaluation?	NA	Alongside study
2.2	Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?	No	3 months
2.3	Are all important and relevant health outcomes included?	Partly	Only antisocial behaviour scores was considered
2.4	Are the estimates of baseline health outcomes from the best available source?	Partly	From single RCT
2.5	Are the estimates of relative treatment effects from the best available source?	No	From single RCT, but the relative effect due to decrease in staff time was not considered
2.6	Are all important and relevant costs included?	No	Only intervention costs
2.7	Are the estimates of resource use from the best available source?	Partly	Only staff time from trial
2.8	Are the unit costs of resources from the best available source?	Unclear	Not reported
2.9	Is an appropriate incremental analysis presented or can it be calculated from the data?	No	
2.10 Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?		No	
2.11 Is there no potential conflict of interest?		Unclear	Not reported
2.12 Overall assessment: very serious limitation			
Other comments: the study looked at the potential savings made by reducing the staff time and the subsequent cost of the parenting programme without evaluating the potential impact of such changes on the clinical effectiveness. Also, the time horizon was very short and the setting was non-NHS/PSS. Other methodological problems include a lack of sensitivity analysis, a lack of clarity on the source of unit costs and the non-inclusion of downstream service costs.			

Bibliographic reference: Lee S, Aos S, Drake E, Pennucci A, Miller M, Anderson L. Return on investment: evidence-based options to improve statewide outcomes, April 2012 (Document No. 12-04-1201). Olympia, WA: Washington State Institute for Public Policy; 2012.			
Guideline topic: parenting and family intervention for conduct disorder: multidimensional treatment foster care versus treatment as usual			**Question no.:** RQ-E2
Checklist completed by: Benedict Anigbogu			
Section 1: applicability (relevance to specific guideline review question[s] and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear/ NA**	**Comments**
1.1	Is the study population appropriate for the guideline?	Yes	Adolescents with chronic antisocial behaviour
1.2	Are the interventions appropriate for the guideline?	Yes	
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?	No	US community setting
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?	No	Non-healthcare costs and US-based
1.5	Are all direct health effects on individuals included?	No	Crime and teenage pregnancy
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?	Yes	3.5% for cost with a range of 2 to 5%
1.7	Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?	No	
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?	NA	
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?	NA	
1.10 Overall judgement: partially applicable.			
Other comments: the setting is that of US and perspective is criminal justice system. No estimate of QALYs was used.			

Section 2: study limitations (the level of methodological quality). This checklist should be used once it has been decided that the study is sufficiently applicable to the context of the clinical guideline.		Yes/ Partly/ No/ Unclear/ NA	Comments
2.1	Does the model structure adequately reflect the nature of the health condition under evaluation?	Unclear	No details on model structure and pathway
2.2	Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?	Unclear	Not clear on the assumption surrounding the persistence of treatment effect over time
2.3	Are all important and relevant health outcomes included?	Partly	Crime and teenage pregnancy
2.4	Are the estimates of baseline health outcomes from the best available source?	Partly	No report on the baseline outcomes from control
2.5	Are the estimates of relative treatment effects from the best available source?	No	From meta-analysis of four studies one of which is a book
2.6	Are all important and relevant costs included?	Yes	But perspective is that of societal
2.7	Are the estimates of resource use from the best available source?	Yes	Washington state and published studies
2.8	Are the unit costs of resources from the best available source?	Unclear	Not reported
2.9	Is an appropriate incremental analysis presented or can it be calculated from the data?	No	Not reported and could not be estimated from the results
2.10 Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?		Yes	
2.11 Is there no potential conflict of interest?		Partly	
2.12 Overall assessment: very serious limitation			
Other comments: the analysis is based on model by the Washington State Institute of Public Policy, which is a return on investment model that is largely different from the reference case approach used by NICE. Also, there is the potential for a large cost difference between both the downstream cost association with crime and treatment as usual for offenders in the US compared with those in the UK. Assumptions about the model structure and persistence of treatment effect were not clear.			

Bibliographic reference: Lee S, Aos S, Drake E, Pennucci A, Miller M, Anderson L. Return on investment: evidence-based options to improve statewide outcomes, April 2012 (Document No. 12-04-1201). Olympia, WA: Washington State Institute for Public Policy; 2012.			
Guideline topic: parenting and family intervention for conduct disorder: brief strategic family therapy versus treatment as usual			**Question no.:** RQ-E2
Checklist completed by: Benedict Anigbogu			
Section 1: applicability (relevance to specific guideline review question[s] and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear/ NA**	**Comments**
1.1	Is the study population appropriate for the guideline?	Yes	Youth at risk of developing serious behaviour problems
1.2	Are the interventions appropriate for the guideline?	Yes	Family therapy
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?	Partly	US community setting
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?	No	US-based and societal perspective
1.5	Are all direct health effects on individuals included?	Yes	Externalising behaviour symptoms
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?	Yes	3.5% for cost with a range of 2 to 5%
1.7	Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?	No	Quality of life measures were not estimated
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?	NA	
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?	NA	
1.10 Overall judgement: partially applicable.			
Other comments: perspective is non-NHS and PSS and no measure of HRQoL.			

Section 2: study limitations (the level of methodological quality). This checklist should be used once it has been decided that the study is sufficiently applicable to the context of the clinical guideline.		Yes/ Partly/ No/ Unclear/ NA	Comments
2.1	Does the model structure adequately reflect the nature of the health condition under evaluation?	No	No details on model structure
2.2	Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?	Unclear	Not specified
2.3	Are all important and relevant health outcomes included?	Partly	Behaviour outcomes estimated but no HRQoL
2.4	Are the estimates of baseline health outcomes from the best available source?	Unclear	No details of how the baseline effect is estimated
2.5	Are the estimates of relative treatment effects from the best available source?	Yes	Meta-analysis of three RCT studies
2.6	Are all important and relevant costs included?	Yes	Intervention costs and downstream costs
2.7	Are the estimates of resource use from the best available source?	Yes	Washington State Juvenile Court
2.8	Are the unit costs of resources from the best available source?	Yes	Washington state
2.9	Is an appropriate incremental analysis presented or can it be calculated from the data?	No	Cost analysis only
2.10 Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?		Partly	Sensitivity analysis on costs input
2.11 Is there no potential conflict of interest?		Yes	Funded by MacArthur Foundation and the Legislature
2.12 Overall assessment: very serious limitations			
Other comments: the perspective of analysis is mainly criminal justice and wider society. The aim was to evaluate the return on investment following an intervention to prevent crime in Washington state. Also, there is the potential of a large cost difference between the downstream cost association with crime and treatment as usual for offenders in the US compared with those in the UK. Assumptions about the model structure and persistence of treatment effect were not clear.			

Bibliographic reference: Lee S, Aos S, Drake E, Pennucci A, Miller M, Anderson L. Return on investment: evidence-based options to improve statewide outcomes, April 2012 (Document No. 12-04-1201). Olympia, WA: Washington State Institute for Public Policy; 2012.			
Guideline topic: parenting and family intervention for conduct disorder: Incredible Years parent-training programme versus no treatment			**Question no.:** RQ-E2
Checklist completed by: Benedict Anigbogu			
Section 1: applicability (relevance to specific guideline review question[s] and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear/ NA**	**Comments**
1.1	Is the study population appropriate for the guideline?	Yes	Parents of children with behaviour problems
1.2	Are the interventions appropriate for the guideline?	Yes	Parent training
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?	Partly	US community setting
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?	No	US-based and societal perspective
1.5	Are all direct health effects on individuals included?	Yes	Disruptive behaviour disorder symptoms
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?	Yes	3.5% for cost with a range of 2 to 5%
1.7	Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?	No	Quality of life measures were not estimated
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?	NA	
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?	NA	
1.10 Overall judgement: partially applicable.			
Other comments: perspective is non-NHS and PSS and no measure of HRQoL.			

Section 2: study limitations (the level of methodological quality). This checklist should be used once it has been decided that the study is sufficiently applicable to the context of the clinical guideline.		Yes/ Partly/ No/ Unclear/ NA	Comments
2.1	Does the model structure adequately reflect the nature of the health condition under evaluation?	No	No model structure illustrated
2.2	Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?	Unclear	Not explicitly reported
2.3	Are all important and relevant health outcomes included?	Partly	Externalising behaviour symptoms only
2.4	Are the estimates of baseline health outcomes from the best available source?	Unclear	The baseline estimates not reported
2.5	Are the estimates of relative treatment effects from the best available source?	Yes	Meta-analysis of three RCTs
2.6	Are all important and relevant costs included?	Yes	But perspective is societal
2.7	Are the estimates of resource use from the best available source?	Yes	
2.8	Are the unit costs of resources from the best available source?	Unclear	
2.9	Is an appropriate incremental analysis presented or can it be calculated from the data?	No	
2.10 Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?		Partly	Sensitivity analysis on costs input only
2.11 Is there no potential conflict of interest?		Yes	Funded by MacArthur Foundation and the Legislature
2.12 Overall assessment: very serious limitations			
Other comments: the perspective of analysis is mainly criminal justice and wider societal. The aim was to evaluate the return on investment following an intervention to prevent crime in Washington state. Also, there is the potential of a large cost difference between the downstream cost association with crime and treatment as usual for offenders in the US compared with those in the UK. Assumptions about the model structure and persistence of treatment effect were not clear.			

Bibliographic reference: Lee S, Aos S, Drake E, Pennucci A, Miller M, Anderson L. Return on investment: evidence-based options to improve statewide outcomes, April 2012 (Document No. 12-04-1201). Olympia, WA: Washington State Institute for Public Policy; 2012.			
Guideline topic: parenting and family intervention for conduct disorder: triple-P Positive Parenting Program (system) versus no treatment			**Question no.:** RQ-E2
Checklist completed by: Benedict Anigbogu			
Section 1: applicability (relevance to specific guideline review question[s] and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear/ NA**	**Comments**
1.1	Is the study population appropriate for the guideline?	Yes	Children with mild behavioural difficulties
1.2	Are the interventions appropriate for the guideline?	Yes	Parenting programme
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?	Partly	US community setting
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?	No	Societal and criminal justice perspective
1.5	Are all direct health effects on individuals included?	No	Child abuse and neglect and out-of-home-placement
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?	Yes	3.5% for cost with a range of 2 to 5%
1.7	Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?	No	
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?	NA	
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?	NA	
1.10 Overall judgement: not applicable.			
Other comments: main outcomes (child abuse and neglect, and out-of-home placement) are not considered as the important outcomes in this guideline.			

Bibliographic reference: Lee S, Aos S, Drake E, Pennucci A, Miller M, Anderson L. Return on investment: evidence-based options to improve statewide outcomes, April 2012 (Document No. 12-04-1201). Olympia, WA: Washington State Institute for Public Policy; 2012.			
Guideline topic: parenting and family intervention for conduct disorder: triple-P Positive Parenting Program: level 4, group versus no treatment			**Question no.:** RQ-E2
Checklist completed by: Benedict Anigbogu			
Section 1: applicability (relevance to specific guideline review question[s] and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear/ NA**	**Comments**
1.1	Is the study population appropriate for the guideline?	Yes	Families of children with more challenging behaviour problems
1.2	Are the interventions appropriate for the guideline?	Yes	Parent training
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?	Partly	US community setting
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?	No	US-based and societal perspective
1.5	Are all direct health effects on individuals included?	Yes	Disruptive behaviour disorder symptoms
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?	Yes	3.5% for cost with a range of 2 to 5%
1.7	Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?	No	Quality of Life measures were not estimated
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?	NA	
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?	NA	
1.10 Overall judgement: partially applicable.			
Other comments: perspective was non-NHS and PSS and there was no measure of HRQoL.			

Section 2: study limitations (the level of methodological quality). This checklist should be used once it has been decided that the study is sufficiently applicable to the context of the clinical guideline.		Yes/ Partly/ No/ Unclear/ NA	Comments
2.1	Does the model structure adequately reflect the nature of the health condition under evaluation?	No	No detailed model structure illustrated
2.2	Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?	Unclear	Not reported
2.3	Are all important and relevant health outcomes included?	Partly	Behaviour outcomes estimated but no HRQoL
2.4	Are the estimates of baseline health outcomes from the best available source?	Unclear	No details of how the baseline effect is estimated
2.5	Are the estimates of relative treatment effects from the best available source?	Yes	Meta-analysis of nine studies
2.6	Are all important and relevant costs included?	Yes	Intervention costs and downstream costs
2.7	Are the estimates of resource use from the best available source?	Yes	Washington State Juvenile Court
2.8	Are the unit costs of resources from the best available source?	Yes	Washington state
2.9	Is an appropriate incremental analysis presented or can it be calculated from the data?	No	Cost analysis only
2.10 Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?		Partly	Sensitivity analysis on costs input
2.11 Is there no potential conflict of interest?		Yes	Funded by MacArthur Foundation and the Legislature
2.12 Overall assessment: very serious limitations			
Other comments: the perspective of analysis is mainly criminal justice and wider society. The aim was to evaluate the return on investment following an intervention to prevent crime in Washington state. Also, there is the potential of a large cost difference between the downstream cost association with crime and treatment as usual for offenders in the US compared with those in the UK. Assumptions about the model structure and persistence of treatment effect were not clear.			

Bibliographic reference: Lee S, Aos S, Drake E, Pennucci A, Miller M, Anderson L. Return on investment: evidence-based options to improve statewide outcomes, April 2012 (Document No. 12-04-1201). Olympia, WA: Washington State Institute for Public Policy; 2012.			
Guideline topic: parenting and family intervention for conduct disorder: triple-P Positive Parenting Program: level 4, individual versus no treatment			**Question no.:** RQ-E2
Checklist completed by: Benedict Anigbogu			
Section 1: applicability (relevance to specific guideline review question[s] and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear/ NA**	**Comments**
1.1	Is the study population appropriate for the guideline?	Yes	Families of children with more challenging behaviour problems
1.2	Are the interventions appropriate for the guideline?	Yes	Parent training
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?	Partly	US community setting
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?	No	US-based and societal perspective
1.5	Are all direct health effects on individuals included?	Yes	Disruptive behaviour disorder symptoms
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?	Yes	3.5% for cost with a range of 2 to 5%
1.7	Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?	No	Quality of life measures were not estimated
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?	NA	
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?	NA	
1.10 Overall judgement: partially applicable.			

Section 2: study limitations (the level of methodological quality). This checklist should be used once it has been decided that the study is sufficiently applicable to the context of the clinical guideline.		**Yes/ Partly/ No/ Unclear/ NA**	**Comments**
2.1	Does the model structure adequately reflect the nature of the health condition under evaluation?	No	No detailed model structure illustrated
2.2	Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?	Unclear	Not reported
2.3	Are all important and relevant health outcomes included?	Partly	Behaviour outcomes estimated but no HRQoL
2.4	Are the estimates of baseline health outcomes from the best available source?	Unclear	No details of how the baseline effect is estimated
2.5	Are the estimates of relative treatment effects from the best available source?	Yes	Meta-analysis of five studies
2.6	Are all important and relevant costs included?	Yes	Intervention costs and downstream costs
2.7	Are the estimates of resource use from the best available source?	Yes	Washington State Juvenile Court
2.8	Are the unit costs of resources from the best available source?	Yes	Washington state
2.9	Is an appropriate incremental analysis presented or can it be calculated from the data?	No	Cost analysis only
2.10 Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?		Partly	Sensitivity analysis on costs input
2.11 Is there no potential conflict of interest?		Yes	Funded by MacArthur Foundation and the Legislature
2.12 Overall assessment: very serious limitations			
Other comments: the perspective of analysis is mainly criminal justice and wider society. The aim was to evaluate the return on investment following an intervention to prevent crime in Washington state.			

Bibliographic reference: NICE. Antisocial Behaviour and Conduct Disorders in Children and Young People: Recognition, Intervention and Management. Clinical guideline 158. London: NICE; 2013 (in process).			
Guideline topic: parenting and family intervention for conduct disorder: parent-focused intervention versus no treatment			**Question no.:** RQ-E2
Checklist completed by: Benedict Anigbogu			
Section 1: applicability (relevance to specific guideline review question[s] and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear/ NA**	**Comments**
1.1	Is the study population appropriate for the guideline?	Yes	Families of children with more challenging behaviour problems
1.2	Are the interventions appropriate for the guideline?	Yes	Parenting programme
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?	Yes	
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?	Yes	
1.5	Are all direct health effects on individuals included?	Yes	Disruptive behaviour disorder symptoms
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?	Yes	
1.7	Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?	No	
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?	NA	
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?	NA	
1.10 Overall judgement: partially applicable.			

Section 2: study limitations (the level of methodological quality). This checklist should be used once it has been decided that the study is sufficiently applicable to the context of the clinical guideline.		**Yes/ Partly/ No/ Unclear/ NA**	**Comments**
2.1	Does the model structure adequately reflect the nature of the health condition under evaluation?	Yes	
2.2	Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?	6 years	
2.3	Are all important and relevant health outcomes included?	Partly	Behaviour outcomes estimated but no HRQoL
2.4	Are the estimates of baseline health outcomes from the best available source?	Yes	Systematic review
2.5	Are the estimates of relative treatment effects from the best available source?	Yes	Meta-analysis
2.6	Are all important and relevant costs included?	Yes	Intervention costs and downstream costs
2.7	Are the estimates of resource use from the best available source?	Yes	Published studies
2.8	Are the unit costs of resources from the best available source?	Yes	Curtis (2011)
2.9	Is an appropriate incremental analysis presented or can it be calculated from the data?	Partly	Net cost analysis
2.10 Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?		Yes	
2.11 Is there no potential conflict of interest?		NA	
2.12 Overall assessment: very serious limitations			

Bibliographic reference: Barnoski R. Outcome Evaluation of Washington State's Research-based Programs for Juvenile Offenders. Document No. 04-01-1201. In: Washington State Institute for Public Policy, Olympia, WA; 2004.			
Guideline topic: multimodal intervention for conduct disorder: functional family therapy versus aggression replacement training versus waitlist			**Question no.:** RQ-E3
Checklist completed by: Benedict Anigbogu			
Section 1: applicability (relevance to specific guideline review question[s] and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear/ NA**	**Comments**
1.1	Is the study population appropriate for the guideline?	Yes	Juvenile offenders aged 13 to 17 years
1.2	Are the interventions appropriate for the guideline?	Yes	Family and psychosocial interventions
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?	No	US
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?	No	Criminal justice system perspective
1.5	Are all direct health effects on individuals included?	Partly	Rate of recidivism only
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?	No	Not reported
1.7	Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?	No	
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?	NA	
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?	NA	
1.10 Overall judgement: partially applicable			
Other comments: non-UK with non-NHS and PSS perspective and no measure of HRQoL.			

Section 2: study limitations (the level of methodological quality). This checklist should be used once it has been decided that the study is sufficiently applicable to the context of the clinical guideline.		**Yes/ Partly/ No/ Unclear/ NA**	**Comments**
2.1	Does the model structure adequately reflect the nature of the health condition under evaluation?	Partly	Considered only the risk of re-offending
2.2	Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?	Partly	18 months
2.3	Are all important and relevant health outcomes included?	Partly	No measure of HRQoL
2.4	Are the estimates of baseline health outcomes from the best available source?	Yes	Control arm risk saved as baseline
2.5	Are the estimates of relative treatment effects from the best available source?	Yes	
2.6	Are all important and relevant costs included?	Partly	
2.7	Are the estimates of resource use from the best available source?	Partly	
2.8	Are the unit costs of resources from the best available source?	Yes	
2.9	Is an appropriate incremental analysis presented or can it be calculated from the data?	No	
2.10 Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?		Unclear	
2.11 Is there no potential conflict of interest?		Unclear	
2.12 Overall assessment: potentially serious limitations			

Bibliographic reference: Myers WC, Burton PR, Sanders PD, Donat KM, Cheney J, Fitzpatrick TM, et al. Project back-on-track at 1 year: a delinquency treatment program for early-career juvenile offenders. Journal of America Academy of Child and Adolescent Psychiatry. 2000;39:1127-34.			
Guideline topic: conduct disorder			**Question no.:** RQ-E3
Checklist completed by: Benedict Anigbogu			
Section 1: applicability (relevance to specific guideline review question[s] and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear/ NA**	**Comments**
1.1	Is the study population appropriate for the guideline?	Yes	Juvenile offender
1.2	Are the interventions appropriate for the guideline?	Yes	Multi-component intervention (Back-on-Track)
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?	No	US
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?	No	
1.5	Are all direct health effects on individuals included?	Partly	Number of crimes
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?	Yes	
1.7	Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?	No	
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?	NA	
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?	NA	
1.10 Overall judgement: partially applicable			

Section 2: study limitations (the level of methodological quality). This checklist should be used once it has been decided that the study is sufficiently applicable to the context of the clinical guideline.		**Yes/ Partly/ No/ Unclear/ NA**	**Comments**
2.1	Does the model structure adequately reflect the nature of the health condition under evaluation?	NA	Alongside trial (non-randomised)
2.2	Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?	Partly	12 months
2.3	Are all important and relevant health outcomes included?	No	No, of crime only
2.4	Are the estimates of baseline health outcomes from the best available source?	Yes	Untreated control group
2.5	Are the estimates of relative treatment effects from the best available source?	Partly	One non-randomised control trial
2.6	Are all important and relevant costs included?	Yes	
2.7	Are the estimates of resource use from the best available source?	Unclear	Resource-use source not reported
2.8	Are the unit costs of resources from the best available source?	Partly	Published estimates (no systematic search)
2.9	Is an appropriate incremental analysis presented or can it be calculated from the data?	No	
2.10 Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?		No	
2.11 Is there no potential conflict of interest?		Unclear	
2.12 Overall assessment: very serious limitations			
Other comments: setting is non-UK, and there is no incremental analysis or analysis of uncertainty.			

Bibliographic reference: Olsson TM. Intervening in youth problem behaviour in Sweden: a pragmatic cost analysis of MST from a randomized trial with conduct disordered youth. International Journal of Social Welfare. 2010a;19:194-205.			
Guideline topic: multimodal intervention for conduct disorder (multisystemic therapy versus treatment as usual)			**Question no.:** RQ-E3
Checklist completed by: Benedict Anigbogu			
Section 1: applicability (relevance to specific guideline review question[s] and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear/ NA**	**Comments**
1.1	Is the study population appropriate for the guideline?	Yes	
1.2	Are the interventions appropriate for the guideline?	Yes	
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?	Partly	
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?	Partly	
1.5	Are all direct health effects on individuals included?	Partly	
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?	NA	
1.7	Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?	No	
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?	NA	
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?	NA	
1.10 Overall judgement: partially applicable			

Section 2: study limitations (the level of methodological quality). This checklist should be used once it has been decided that the study is sufficiently applicable to the context of the clinical guideline.		**Yes/ Partly/ No/ Unclear/ NA**	**Comments**
2.1	Does the model structure adequately reflect the nature of the health condition under evaluation?	NA	Alongside trial
2.2	Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?	Partly	7 months, which is relatively short
2.3	Are all important and relevant health outcomes included?	Partly	
2.4	Are the estimates of baseline health outcomes from the best available source?	Unclear	
2.5	Are the estimates of relative treatment effects from the best available source?	Yes	
2.6	Are all important and relevant costs included?	Partly	
2.7	Are the estimates of resource use from the best available source?	Yes	
2.8	Are the unit costs of resources from the best available source?	Yes	
2.9	Is an appropriate incremental analysis presented or can it be calculated from the data?	Partly	
2.10 Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?		No	No detailed sensitivity analysis was reported
2.11 Is there no potential conflict of interest?		No	
2.12 Overall assessment: potentially serious limitations			
Other comments: Swedish setting and very short time horizon.			

Bibliographic reference: Olsson TM. MST with conduct disordered youth in Sweden: costs and benefits after 2 years. Research on Social Work Practice. 2010b;20:561-71.			
Guideline topic: multimodal intervention for conduct disorder (multisystemic therapy versus treatment as usual**)**			**Question no.:** RQ-E3
Checklist completed by: Benedict Anigbogu			
Section 1: applicability (relevance to specific guideline review question[s] and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear/ NA**	**Comments**
1.1	Is the study population appropriate for the guideline?	Yes	
1.2	Are the interventions appropriate for the guideline?	Yes	
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?	Partly	
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?	Partly	
1.5	Are all direct health effects on individuals included?	Partly	
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?	Yes	
1.7	Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?	No	
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?	NA	
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?	NA	
1.10 Overall judgement: partially applicable			

Section 2: study limitations (the level of methodological quality). This checklist should be used once it has been decided that the study is sufficiently applicable to the context of the clinical guideline.		**Yes/ Partly/ No/ Unclear/ NA**	**Comments**
2.1	Does the model structure adequately reflect the nature of the health condition under evaluation?	No	No detailed model structure
2.2	Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?	Yes	2 years
2.3	Are all important and relevant health outcomes included?	Partly	No QALY measure used
2.4	Are the estimates of baseline health outcomes from the best available source?	Unclear	
2.5	Are the estimates of relative treatment effects from the best available source?	Yes	
2.6	Are all important and relevant costs included?	Partly	
2.7	Are the estimates of resource use from the best available source?	Yes	
2.8	Are the unit costs of resources from the best available source?	Yes	
2.9	Is an appropriate incremental analysis presented or can it be calculated from the data?	Yes	
2.10 Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?		No	
2.11 Is there no potential conflict of interest?		No	
2.12 Overall assessment: potentially serious limitations			
Other comments: Swedish setting.			

Bibliographic reference: Klietz SJ, Borduin CM, Schaeffer CM. Cost-benefit analysis of multisystemic therapy with serious and violent juvenile offenders. Journal of Family Psychology. 2010;24:657-66.			
Guideline topic: multimodal intervention for conduct disorder (multisystemic therapy versus individual therapy)			**Question no.:** RQ-E3
Checklist completed by: Benedict Anigbogu			
Section 1: applicability (relevance to specific guideline review question[s] and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear/ NA**	**Comments**
1.1	Is the study population appropriate for the guideline?	Yes	
1.2	Are the interventions appropriate for the guideline?	Yes	
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?	Partly	
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?	No	
1.5	Are all direct health effects on individuals included?	Partly	
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?	Partly	
1.7	Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?	No	
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?	NA	
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?	NA	
1.10 Overall judgement: partially applicable.			

Section 2: study limitations (the level of methodological quality). This checklist should be used once it has been decided that the study is sufficiently applicable to the context of the clinical guideline.		**Yes/ Partly/ No/ Unclear/ NA**	**Comments**
2.1	Does the model structure adequately reflect the nature of the health condition under evaluation?	No	No detailed model structure was given
2.2	Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?	Yes	
2.3	Are all important and relevant health outcomes included?	Partly	
2.4	Are the estimates of baseline health outcomes from the best available source?	Unclear	
2.5	Are the estimates of relative treatment effects from the best available source?	Yes	
2.6	Are all important and relevant costs included?	Yes	
2.7	Are the estimates of resource use from the best available source?	Yes	
2.8	Are the unit costs of resources from the best available source?	Unclear	
2.9	Is an appropriate incremental analysis presented or can it be calculated from the data?	Yes	
2.10 Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?		Partly	
2.11 Is there no potential conflict of interest?		Unclear	
2.12 Overall assessment: potentially serious limitations			

Bibliographic reference: Lee S, Aos S, Drake E, Pennucci A, Miller M, Anderson L. Return on investment: evidence-based options to improve statewide outcomes, April 2012 (Document No. 12-04-1201). Olympia, WA: Washington State Institute for Public Policy; 2012.			
Guideline topic: multimodal intervention for conduct disorder: functional family therapy versus no treatment			**Question no.:** RQ-E3
Checklist completed by: Benedict Anigbogu			
Section 1: applicability (relevance to specific guideline review question[s] and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear/ NA**	**Comments**
1.1	Is the study population appropriate for the guideline?	Yes	Juvenile offenders
1.2	Are the interventions appropriate for the guideline?	Yes	Multi-step targeting family
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?	Partly	US
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?	No	Criminal justice system perspective
1.5	Are all direct health effects on individuals included?	Partly	Rate of recidivism only
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?	Yes	3.5%
1.7	Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?	No	No direct health effect measures used
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?	NA	
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?	NA	
1.10 Overall judgement: partially applicable			

Section 2: study limitations (the level of methodological quality). This checklist should be used once it has been decided that the study is sufficiently applicable to the context of the clinical guideline.		Yes/ Partly/ No/ Unclear/ NA	Comments
2.1	Does the model structure adequately reflect the nature of the health condition under evaluation?	No	No model structure illustrated
2.2	Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?	Unclear	Not reported
2.3	Are all important and relevant health outcomes included?	No	Non-health benefits were considered
2.4	Are the estimates of baseline health outcomes from the best available source?	No	Non-health outcomes were considered
2.5	Are the estimates of relative treatment effects from the best available source?	Unclear	No RCT study was referenced
2.6	Are all important and relevant costs included?	Partly	Intervention costs and downstream costs (mainly non-health costs)
2.7	Are the estimates of resource use from the best available source?	Yes	Washington State Juvenile Court
2.8	Are the unit costs of resources from the best available source?	Unclear	
2.9	Is an appropriate incremental analysis presented or can it be calculated from the data?	No	Cost analysis only
2.10 Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?		Partly	Sensitivity analysis on costs input
2.11 Is there no potential conflict of interest?		Yes	Funded by MacArthur Foundation and the Legislature
2.12 Overall assessment: very serious limitations			
Other comments: the perspective of analysis is mainly criminal justice and wider society. The aim was to evaluate the return on investment following an intervention to prevent crime in Washington state. Also, there is the potential of a large cost difference between the downstream cost association with crime and treatment as usual for offenders in the US compared with those in the UK. Assumptions about the model structure and persistence of treatment effect were not clear.			

Bibliographic reference: Lee S, Aos S, Drake E, Pennucci A, Miller M, Anderson L. Return on investment: evidence-based options to improve statewide outcomes, April 2012 (Document No. 12-04-1201). Olympia, WA: Washington State Institute for Public Policy; 2012.			
Guideline topic: multimodal intervention for conduct disorder: multisystemic therapy versus no treatment or treatment as usual			**Question no.:** RQ-E3
Checklist completed by: Benedict Anigbogu			
Section 1: applicability (relevance to specific guideline review question[s] and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear/ NA**	**Comments**
1.1	Is the study population appropriate for the guideline?	Yes	Violent and chronic offenders
1.2	Are the interventions appropriate for the guideline?	Yes	
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?	Partly	US
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?	No	Criminal justice system perspective
1.5	Are all direct health effects on individuals included?	Partly	Rate of recidivism only
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?	Yes	3.5%
1.7	Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?	No	No direct health effect measures used
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?	NA	
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?	NA	
1.10 Overall judgement: partially applicable			

Section 2: study limitations (the level of methodological quality). This checklist should be used once it has been decided that the study is sufficiently applicable to the context of the clinical guideline.		**Yes/ Partly/ No/ Unclear/ NA**	**Comments**
2.1	Does the model structure adequately reflect the nature of the health condition under evaluation?	No	No model structure illustrated
2.2	Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?	Unclear	Not reported
2.3	Are all important and relevant health outcomes included?	No	Non-health benefits were considered
2.4	Are the estimates of baseline health outcomes from the best available source?	No	Non-health outcomes considered
2.5	Are the estimates of relative treatment effects from the best available source?	Unclear	No RCT study was referenced
2.6	Are all important and relevant costs included?	Partly	Intervention costs and downstream costs (mainly non-health costs)
2.7	Are the estimates of resource use from the best available source?	Yes	Washington State Juvenile Court
2.8	Are the unit costs of resources from the best available source?	Unclear	
2.9	Is an appropriate incremental analysis presented or can it be calculated from the data?	No	Cost analysis only
2.10 Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?		Partly	Sensitivity analysis on costs input
2.11 Is there no potential conflict of interest?		Yes	Funded by MacArthur Foundation and the Legislature
2.12 Overall assessment: very serious limitations			
Other comments: the perspective of analysis is mainly criminal justice and wider society. The aim was to evaluate the return on investment following an intervention to prevent crime in Washington state. Also, there is the potential of a large cost difference between the downstream cost association with crime and treatment as usual for offenders in the US compared with those in the UK. Assumptions about the model structure and persistence of treatment effect were not clear.			

Bibliographic reference: Lee S, Aos S, Drake E, Pennucci A, Miller M, Anderson L. Return on investment: evidence-based options to improve statewide outcomes, April 2012 (Document No. 12-04-1201). Olympia, WA: Washington State Institute for Public Policy; 2012.			
Guideline topic: multimodal interventions for conduct disorder: multimodal therapy versus treatment as usual			**Question no.:** RQ-E3
Checklist completed by: Benedict Anigbogu			
Section 1: applicability (relevance to specific guideline review question[s] and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear/ NA**	**Comments**
1.1	Is the study population appropriate for the guideline?	Yes	Children with disruptive behaviour
1.2	Are the interventions appropriate for the guideline?	Yes	Multiple settings and target groups (parent and child)
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?	Partly	US multi-settings
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?	No	US-based and societal perspective
1.5	Are all direct health effects on individuals included?	Yes	Disruptive behaviour disorder symptoms
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?	Yes	3.5% for cost with a range of 2 to 5%
1.7	Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?	No	Quality of life measures were not estimated
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?	NA	
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?	NA	
1.10 Overall judgement: partially applicable.			

Section 2: study limitations (the level of methodological quality). This checklist should be used once it has been decided that the study is sufficiently applicable to the context of the clinical guideline.		Yes/ Partly/ No/ Unclear/ NA	Comments
2.1	Does the model structure adequately reflect the nature of the health condition under evaluation?	No	No detailed model structure illustrated
2.2	Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?	Unclear	Not reported
2.3	Are all important and relevant health outcomes included?	Partly	Disruptive Behaviour Disorder symptoms
2.4	Are the estimates of baseline health outcomes from the best available source?	Unclear	No details of how the baseline effect is estimated
2.5	Are the estimates of relative treatment effects from the best available source?	Yes	Meta-analysis of three RCT studies
2.6	Are all important and relevant costs included?	Yes	Intervention costs and downstream costs
2.7	Are the estimates of resource use from the best available source?	Yes	Washington State Juvenile Court
2.8	Are the unit costs of resources from the best available source?	Yes	Washington state
2.9	Is an appropriate incremental analysis presented or can it be calculated from the data?	No	Cost analysis only
2.10 Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?		Partly	Sensitivity analysis on costs input
2.11 Is there no potential conflict of interest?		Yes	Funded by MacArthur Foundation and the Legislature
2.12 Overall assessment: very serious limitations			
Other comments: the perspective of analysis is mainly criminal justice and wider society. The aim was to evaluate the return on investment following an intervention to prevent crime in Washington state Also, there is the potential of a large cost difference between the downstream cost association with crime and treatment as usual for offenders in the US compared with those in the UK. Assumptions about the model structure and persistence of treatment effect were not clear.			

Bibliographic reference: Lee S, Aos S, Drake E, Pennucci A, Miller M, Anderson L. Return on investment: evidence-based options to improve statewide outcomes, April 2012 (Document No. 12-04-1201). Olympia, WA: Washington State Institute for Public Policy; 2012.			
Guideline topic: multimodal interventions for conduct disorder: multi-systemic therapy versus treatment as usual			**Question no.:** RQ-E3
Checklist completed by: Benedict Anigbogu			
Section 1: applicability (relevance to specific guideline review question[s] and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear/ NA**	**Comments**
1.1	Is the study population appropriate for the guideline?	Yes	Youths with serious emotional disturbance – externalising problems
1.2	Are the interventions appropriate for the guideline?	Yes	Multimodal intervention
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?	Partly	US multi-settings
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?	No	US-based and societal perspective
1.5	Are all direct health effects on individuals included?	Yes	Disruptive behaviour disorder symptoms
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?	Yes	3.5% for cost with a range of 2 to 5%
1.7	Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?	No	Quality of life measures were not estimated
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?	NA	
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?	NA	
1.10 Overall judgement: partially applicable.			

Section 2: study limitations (the level of methodological quality). This checklist should be used once it has been decided that the study is sufficiently applicable to the context of the clinical guideline.		Yes/ Partly/ No/ Unclear/ NA	Comments
2.1	Does the model structure adequately reflect the nature of the health condition under evaluation?	No	No detailed model structure illustrated
2.2	Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?	Unclear	Not reported
2.3	Are all important and relevant health outcomes included?	Partly	Disruptive behaviour disorder symptoms
2.4	Are the estimates of baseline health outcomes from the best available source?	Unclear	No details of how the baseline effect is estimated
2.5	Are the estimates of relative treatment effects from the best available source?	Yes	Meta-analysis of eight RCT studies
2.6	Are all important and relevant costs included?	Yes	Intervention costs and downstream costs
2.7	Are the estimates of resource use from the best available source?	Yes	Washington State Juvenile Court
2.8	Are the unit costs of resources from the best available source?	Yes	Washington state
2.9	Is an appropriate incremental analysis presented or can it be calculated from the data?	No	Cost analysis only
2.10 Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?		Partly	Sensitivity analysis on costs input
2.11 Is there no potential conflict of interest?		Yes	Funded by MacArthur Foundation and the Legislature
Overall assessment: very serious limitations			
Other comments: the perspective of analysis is mainly criminal justice and wider society. The aim was to evaluate the return on investment following an intervention to prevent crime in Washington state Also, there is the potential of a large cost difference between the downstream cost association with crime and treatment as usual for offenders in the US compared with those in the UK. Assumptions about the model structure and persistence of treatment effect were not clear.			

Bibliographic reference: NICE. Antisocial Behaviour and Conduct Disorders in Children and Young People: Recognition, Intervention and Management. NICE clinical guideline 158. London: NICE; 2013.			
Guideline topic: multimodal interventions for conduct disorder: multi-systemic therapy versus treatment as usual			**Question no.:** RQ-E3
Checklist completed by: Benedict Anigbogu			
Section 1: applicability (relevance to specific guideline review question[s] and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear/ NA**	**Comments**
1.1	Is the study population appropriate for the guideline?	Yes	Young people with conduct disorder
1.2	Are the interventions appropriate for the guideline?	Yes	Multimodal intervention
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?	Yes	UK
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?	Partially	Wider perspective
1.5	Are all direct health effects on individuals included?	Partly	Disruptive behaviour disorder symptoms
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?	Yes	
1.7	Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?	No	Quality of life measures were not estimated
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?	NA	
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?	NA	
1.10 Overall judgement: partially applicable.			

Section 2: study limitations (the level of methodological quality). This checklist should be used once it has been decided that the study is sufficiently applicable to the context of the clinical guideline.		**Yes/ Partly/ No/ Unclear/ NA**	**Comments**
2.1	Does the model structure adequately reflect the nature of the health condition under evaluation?	Yes	
2.2	Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?	Yes	8 years
2.3	Are all important and relevant health outcomes included?	Partly	Disruptive behaviour disorder symptoms
2.4	Are the estimates of baseline health outcomes from the best available source?	Yes	From systematic review
2.5	Are the estimates of relative treatment effects from the best available source?	Yes	Meta-analysis
2.6	Are all important and relevant costs included?	Yes	Intervention costs and downstream costs
2.7	Are the estimates of resource use from the best available source?	Yes	Expert opinion and studies
2.8	Are the unit costs of resources from the best available source?	Yes	Curtis (2011)
2.9	Is an appropriate incremental analysis presented or can it be calculated from the data?	Partly	Net cost analysis
2.10 Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?		Yes	
2.11 Is there no potential conflict of interest?		NA	
Overall assessment: minor limitation			

Bibliographic reference: Lee S, Aos S, Drake E, Pennucci A, Miller M, Anderson L. Return on investment: evidence-based options to improve statewide outcomes, April 2012 (Document No. 12-04-1201). Olympia, WA: Washington State Institute for Public Policy; 2012.			
Guideline topic: educational management intervention for conduct disorder: coordinated of services versus no treatment			**Question no.:** RQ-E6
Checklist completed by: Benedict Anigbogu			
Section 1: applicability (relevance to specific guideline review question[s] and the NICE reference case). This checklist should be used first to filter out irrelevant studies.		**Yes/ Partly/ No/Unclear/ NA**	**Comments**
1.1	Is the study population appropriate for the guideline?	Yes	Low-risk juvenile offenders and their parents
1.2	Are the interventions appropriate for the guideline?	Yes	A form of educational programme
1.3	Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?	No	Educational and criminal justice setting but it is relevant to the guideline
1.4	Are costs measured from the NHS and personal social services (PSS) perspective?	No	Non-healthcare costs and US-based
1.5	Are all direct health effects on individuals included?	No	Main outcome is crime
1.6	Are both costs and health effects discounted at an annual rate of 3.5%?	Yes	3.5% for cost with a range of 2 to 5%
1.7	Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?	No	
1.8	Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?	NA	
1.9	Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?	NA	
1.10 Overall judgement: partially applicable.			

Section 2: study limitations (the level of methodological quality). This checklist should be used once it has been decided that the study is sufficiently applicable to the context of the clinical guideline.		**Yes/ Partly/ No/ Unclear/ NA**	**Comments**
2.1	Does the model structure adequately reflect the nature of the health condition under evaluation?	No	No model structure illustrated
2.2	Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?	Unclear	Not reported
2.3	Are all important and relevant health outcomes included?	No	Non-health benefits were considered
2.4	Are the estimates of baseline health outcomes from the best available source?	No	Non-health outcomes considered
2.5	Are the estimates of relative treatment effects from the best available source?	Unclear	No RCT study was referenced
2.6	Are all important and relevant costs included?	Partly	Intervention costs and downstream costs (mainly non-health costs)
2.7	Are the estimates of resource use from the best available source?	Yes	Washington State Juvenile Court
2.8	Are the unit costs of resources from the best available source?	Unclear	
2.9	Is an appropriate incremental analysis presented or can it be calculated from the data?	No	Cost analysis only
2.10 Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?		Partly	Sensitivity analysis on costs input
2.11 Is there no potential conflict of interest?		Yes	Funded by MacArthur Foundation and the Legislature
2.12 Overall assessment: very serious limitations			
Other comments: the perspective of analysis is mainly criminal justice and wider society. The aim was to evaluate the return on investment following an intervention to prevent crime in Washington state Also, there is the potential of a large cost difference between the downstream cost association with crime and treatment as usual for offenders in the US compared with those in the UK. Assumptions about the model structure and persistence of treatment effect were not clear.			

Notes on use of Methodology checklist: economic evaluations

For all questions:

- answer 'yes' if the study fully meets the criterion
- answer 'partly' if the study largely meets the criterion but differs in some important respect
- answer 'no' if the study deviates substantively from the criterion
- answer 'unclear' if the report provides insufficient information to judge whether the study complies with the criterion
- answer 'NA (not applicable)' if the criterion is not relevant in a particular instance.

For 'partly' or 'no' responses, use the comments column to explain how the study deviates from the criterion.

Section 1: applicability

1.1 Is the study population appropriate for the guideline?

The study population should be defined as precisely as possible and should be in line with that specified in the guideline scope and any related review protocols. This includes consideration of appropriate subgroups that require special attention. For many interventions, the capacity to benefit will differ for participants with differing characteristics. This should be explored separately for each relevant subgroup as part of the base-case analysis by the provision of estimates of clinical and cost effectiveness. The characteristics of participants in each subgroup should be clearly defined and, ideally, should be identified on the basis of an a priori expectation of differential clinical or cost effectiveness as a result of biologically plausible known mechanisms, social characteristics or other clearly justified factors.

Answer 'yes' if the study population is fully in line with that in the guideline question[s] and if the study differentiates appropriately between important subgroups. Answer 'partly' if the study population is similar to that in the guideline question[s] but: (i) it differs in some important respects; or (ii) the study fails to differentiate between important subgroups. Answer 'no' if the study population is substantively different from that in the guideline question[s].

1.2 Are the interventions appropriate for the guideline?

All relevant alternatives should be included, as specified in the guideline scope and any related review protocols. These should include routine and best practice in the NHS, existing NICE guidance and other feasible options. Answer 'yes' if the analysis includes all options considered relevant for the guideline, even if it also includes other options that are not relevant. Answer 'partly' if the analysis

omits one or more relevant options but still contains comparisons likely to be useful for the guideline. Answer 'no' if the analysis does not contain any relevant comparisons.

1.3 Is the healthcare system in which the study was conducted sufficiently similar to the current UK NHS context?

This relates to the overall structure of the healthcare system within which the interventions were delivered. For example, an intervention might be delivered on an inpatient basis in one country whereas in the UK it would be provided in the community. This might significantly influence the use of healthcare resources and costs, thus limiting the applicability of the results to a UK setting. In addition, old UK studies may be severely limited in terms of their relevance to current NHS practice.

Answer 'yes' if the study was conducted within the UK and is sufficiently recent to reflect current NHS practice. For non-UK or older UK studies, answer 'partly' if differences in the healthcare setting are unlikely to substantively change the cost-effectiveness estimates. Answer 'no' if the healthcare setting is so different that the results are unlikely to be applicable in the current NHS.

1.4 Are costs measured from the NHS and personal social services (PSS) perspective?

The decision-making perspective of an economic evaluation determines the range of costs that should be included in the analysis. NICE works in a specific context; in particular, it does not set the budget for the NHS. The objective of NICE is to offer guidance that represents an efficient use of available NHS and PSS resources. For these reasons, the perspective on costs used in the NICE reference case is that of the NHS and PSS.

Productivity costs and costs borne by patients and carers that are not reimbursed by the NHS or PSS are not included in the reference case. The reference case also excludes costs to other government bodies, although these may sometimes be presented in additional analyses alongside the reference case.

Answer 'yes' if the study only includes costs for resource items that would be paid for by the NHS and PSS. Also answer 'yes' if other costs have been included in the study, but the results are presented in such a way that the cost effectiveness can be calculated from an NHS and PSS perspective. Answer partly' if the study has taken a wider perspective but the other non-NHS/PSS costs are small in relation to the total expected costs and are unlikely to change the cost-effectiveness results. Answer 'no' if non-NHS/PSS costs are significant and are likely to change the cost-effectiveness results.

Some interventions may have a substantial impact on non-health outcomes or costs to other government bodies (for example, treatments to reduce illicit drug misuse may have the effect of reducing drug-related crime). In such situations, if the economic study includes non-health costs in such a way that they cannot be separated out from NHS/PSS costs, answer 'no' but consider retaining the study for critical appraisal. If studies containing non-reference-case costs are retained, use the comments column to note why.

1.5 Are all direct health effects on individuals included?

In the NICE reference case, the perspective on outcomes should be all direct health effects, whether for patients or, when relevant, other people (principally carers). This is consistent with an objective of maximising health gain from available healthcare resources. Some features of healthcare delivery that are often referred to as 'process characteristics' may ultimately have health consequences; for example, the mode of treatment delivery may have health consequences through its impact on concordance with treatment. Any significant characteristics of healthcare technologies that have a value to people independent of any direct effect on health should be noted.

These characteristics include the convenience with which healthcare is provided and the level of information available for patients.

This question should be viewed in terms of what is **excluded** in relation to the NICE reference case; that is, non-health effects.

Answer 'yes' if the measure of health outcome used in the analysis excludes non-health effects (or if such effects can be excluded from the results).

Answer 'partly' if the analysis includes some non-health effects but these are small and unlikely to change the cost-effectiveness results. Answer 'no' if the analysis includes significant non-health effects that are likely to change the cost-effectiveness results.

1.6 Are both costs and health effects discounted at an annual rate of 3.5%?

The need to discount to a present value is widely accepted in economic evaluation, although the specific rate varies across jurisdictions and over time.

NICE considers it appropriate to discount costs and health effects at the same rate. The annual rate of 3.5%, based on the recommendations of the UK Treasury for the discounting of costs, applies to both costs and health effects.

Answer 'yes' if both costs and health effects (for example, quality-adjusted life years [QALYs]) are discounted at 3.5% per year. Answer 'partly' if costs and

effects are discounted at a rate similar to 3.5% (for example, costs and effects are both discounted at 3% per year). Answer 'no' if costs and/or health effects are not discounted, or if they are discounted at a rate (or rates) different from 3.5% (for example, 5% for both costs and effects, or 6% for costs and 1.5% for effects). Note in the comments column what discount rates have been used. If all costs and health effects accrue within a short time (roughly a year), answer 'NA'.

1.7 Is the value of health effects expressed in terms of quality adjusted life years (QALYs)?

The QALY is a measure of a person's length of life weighted by a valuation of their health-related quality of life (HRQoL) over that period.

Given its widespread use, the QALY is considered by NICE to be the most appropriate generic measure of health benefit that reflects both mortality and effects on HRQoL. It is recognised that alternative measures exist (such as the healthy-year equivalent), but few economic evaluations have used these methods and their strengths and weaknesses are not fully established.

NICE's position is that an additional QALY should be given the same weight regardless of the other characteristics of the patients receiving the health benefit.

Answer 'yes' if the effectiveness of the intervention is measured using QALYs; answer 'no' if not. There may be circumstances when a QALY cannot be obtained or where the assumptions underlying QALYs are considered inappropriate. In such situations answer 'no', but consider retaining the study for appraisal. Similarly, answer 'no' but retain the study for appraisal if it does not include QALYs but it is still thought to be useful for GDG decision-making: for example, if the clinical evidence indicates that an intervention might be dominant, and estimates of the relative costs of the interventions from a cost-minimisation study are likely to be useful. When economic evaluations not using QALYs are retained for full critical appraisal, use the comments column to note why.

1.8 Are changes in health-related quality of life (HRQoL) reported directly from patients and/or carers?

In the NICE reference case, information on changes in HRQoL as a result of treatment should be reported directly by patients (and directly by carers when the impact of treatment on the carer's health is also important). When it is not possible to obtain information on changes in patients' HRQoL directly from them, data should be obtained from carers (not from healthcare professionals).

For consistency, the EQ-5D is NICE's preferred measure of HRQoL in adults. However, when EQ-5D data are not available or are inappropriate for the condition or the effects of treatment, other multi-attribute utility questionnaires

(for example, SF-6D, QWB or HUI) or mapping methods from disease-specific questionnaires may be used to estimate QALYs. For studies not reporting QALYs, a variety of generic or disease-specific methods may be used to measure HRQoL.

Answer 'yes' if changes in patients' HRQoL are estimated by the patients themselves. Answer 'partly' if estimates of patients' HRQoL are provided by carers. Answer 'no' if estimates come from healthcare professionals or researchers. Note in the comments column how HRQoL was measured (EQ-5D, QWB, HUI and so on). Answer 'NA' if the cost-effectiveness study does not include estimates of HRQoL (for example, studies reporting 'cost per life year gained' or cost-minimisation studies).

1.9 Is the valuation of changes in HRQoL (utilities) obtained from a representative sample of the general public?

The NICE reference case specifies that the valuation of changes in HRQoL (Utilities) reported by patients should be based on public preferences elicited using a choice-based method (such as the time trade-off or standard gamble) in a representative sample of the UK population.

Answer 'yes' if HRQoL valuations were obtained using the EQ-5D UK tariff. Answer 'partly' if the valuation methods were comparable to those used for the EQ-5D. Answer 'no' if other valuation methods were used. Answer 'NA' if the study does not apply valuations to HRQoL (for studies not reporting QALYs). In the comments column note the valuation method used (such as time trade-off or standard gamble) and the source of the preferences (such as patients or healthcare professionals).

1.10 Overall judgement

Classify the applicability of the economic evaluation to the clinical guideline, the current NHS situation and the context for NICE guidance as one of the following:

• Directly applicable – the study meets all applicability criteria, or fails to meet one or more applicability criteria but this is unlikely to change the conclusions about cost effectiveness.
• Partially applicable – the study fails to meet one or more applicability criteria, and this could change the conclusions about cost effectiveness.
• Not applicable – the study fails to meet one or more applicability criteria, and this is likely to change the conclusions about cost effectiveness. Such studies would be excluded from further consideration and there is no need to continue with the rest of the checklist.

Section 2: study limitations

2.1 Does the model structure adequately reflect the nature of the health condition under evaluation?

This relates to the choice of model and its structural elements (including cycle length in discrete time models, if appropriate). Model type and its structural aspects should be consistent with a coherent theory of the health condition under evaluation. The selection of treatment pathways, whether health states or branches in a decision tree, should be based on the underlying biological processes of the health issue under study and the potential impact (benefits and adverse consequences) of the intervention(s) of interest.

Answer 'yes' if the model design and assumptions appropriately reflect the health condition and intervention(s) of interest. Answer 'partly' if there are aspects of the model design or assumptions that do not fully reflect the health condition or intervention(s) but that are unlikely to change the cost effectiveness results. Answer 'no' if the model omits some important aspect of the health condition or intervention(s) and this is likely to change the cost effectiveness results. Answer 'NA' for economic evaluations based on data from a clinical study which do not extrapolate treatment outcomes or costs beyond the study context or follow-up period.

2.2 Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?

The time horizon is the period of analysis of the study: the length of follow-up for participants in a trial-based evaluation, or the period of time over which the costs and outcomes for a cohort are tracked in a modelling study. This time horizon should always be the same for costs and outcomes, and should be long enough to include all relevant costs and outcomes relating to the intervention. A time horizon shorter than lifetime could be justified if there is no differential mortality effect between options, and the differences in costs and HRQoL relate to a relatively short period (for example, in the case of an acute infection).

Answer 'yes' if the time horizon is sufficient to include all relevant costs and outcomes. Answer 'partly' if the time horizon may omit some relevant costs and outcomes but these are unlikely to change the cost-effectiveness results.

Answer 'no' if the time horizon omits important costs and outcomes and this is likely to change the cost-effectiveness results.

2.3 Are all important and relevant health outcomes included?

All relevant health outcomes should include direct health effects relating to harms from the intervention (adverse effects) as well as any potential benefits.

Answer 'yes' if the analysis includes all relevant and important harms and benefits. Answer 'partly' if the analysis omits some harms or benefits but these would be unlikely to change the cost-effectiveness results. Answer 'no' if the analysis omits important harms and/or benefits that would be likely to change the cost-effectiveness results.

2.4 Are the estimates of baseline health outcomes from the best available source?

The estimate of the overall net treatment effect of an intervention is determined by the baseline risk of a particular condition or event and/or the relative effects of the intervention compared with the relevant comparator treatment. The overall net treatment effect may also be determined by other features of the people comprising the population of interest.

The process of assembling evidence for economic evaluations should be systematic – evidence must be identified, quality assessed and, when appropriate, pooled, using explicit criteria and justifiable and reproducible methods. These principles apply to all categories of evidence that are used to estimate clinical and cost effectiveness, evidence for which will typically be drawn from a number of different sources.

The sources and methods for eliciting baseline probabilities should be described clearly. These data can be based on 'natural history' (patient outcomes in the absence of treatment or with routine care), sourced from cohort studies. Baseline probabilities may also be derived from the control arms of experimental studies. Sometimes it may be necessary to rely on expert opinion for particular parameters.

Answer 'yes' if the estimates of baseline health outcomes reflect the best available evidence as identified from a recent well-conducted systematic review of the literature. Answer 'partly' if the estimates are not derived from a systematic review but are likely to reflect outcomes for the relevant group of patients in routine NHS practice (for example, if they are derived from a large UK-relevant cohort study). Answer 'no' if the estimates are unlikely to reflect outcomes for the relevant group in routine NHS practice.

2.5 Are the estimates of relative treatment effects from the best available source?

The objective of the analysis of clinical effectiveness is to produce an unbiased estimate of the mean clinical effectiveness of the interventions being compared.

The NICE reference case indicates that evidence on outcomes should be obtained from a systematic review, defined as the systematic location, inclusion, appraisal and synthesis of evidence to obtain a reliable and valid overview of the data relating to a clearly formulated question.

Synthesis of outcome data through meta-analysis is appropriate provided that there are sufficient relevant and valid data obtained using comparable measures of outcome.

Head-to-head randomised controlled trials (RCTs) provide the most valid evidence of relative treatment effect. However, such evidence may not always be available. Therefore, data from non-randomised studies may be required to supplement RCT data. Any potential bias arising from the design of the studies used in the assessment should be explored and documented.

Data from head-to-head RCTs should be presented in the base-case analysis, if available. When head-to-head RCTs exist, evidence from indirect or mixed treatment comparison analyses may be presented if it is considered to add information that is not available from the head-to-head comparison. This indirect or mixed treatment comparison must be fully described and presented as additional to the base-case analysis. (A 'mixed treatment comparison' estimates effect sizes using both head-to-head and indirect comparisons.)

If data from head-to-head RCTs are not available, indirect treatment comparison methods should be used. (An 'indirect comparison' is a synthesis of data from a network of trials that compare the interventions of interest with other comparators.)

When multiple interventions are being assessed that have not been compared within a single RCT, data from a series of pairwise head-to-head RCTs should be presented. Consideration should also be given to presenting a combined analysis using a mixed treatment comparison framework if it is considered to add information that is not available from the head-to-head comparison.

Only indirect or mixed treatment comparison methods that preserve randomisation should be used. The principles of good practice for standard meta-analyses should also be followed in mixed and indirect treatment comparisons.

The methods and assumptions that are used to extrapolate short-term results to final outcomes should be clearly presented and there should be documentation of the reasoning underpinning the choice of survival function.

Evidence for the evaluation of diagnostic technologies should normally incorporate evidence on diagnostic accuracy. It is also important to incorporate the predicted changes in health outcomes and costs resulting from treatment decisions based on the test result. The general principles guiding the assessment of the clinical and cost effectiveness of diagnostic interventions should be the same as for other technologies. However, particular consideration of the methods of analysis may be required, particularly in relation to evidence synthesis. Evidence for the effectiveness of diagnostic technologies should include the costs and outcomes for people whose test results lead to an incorrect diagnosis, as well as for those who are diagnosed correctly.

As for other technologies, RCTs have the potential to capture the pathway of care involving diagnostic technologies, but their feasibility and availability may be limited. Other study designs should be assessed on the basis of their fitness for purpose, taking into consideration the aim of the study (for example, to evaluate outcomes, or to evaluate sensitivity and specificity) and the purpose of the diagnostic technology.

Answer 'yes' if the estimates of treatment effect appropriately reflect all relevant studies of the best available quality, as identified through a recent well-conducted systematic review of the literature. Answer 'partly' if the estimates of treatment effect are not derived from a systematic review but are similar in magnitude to the best available estimates (for example, if the economic evaluation is based on a single large study with treatment effects similar to pooled estimates from all relevant studies). Answer 'no' if the estimates of treatment effect are likely to differ substantively from the best available estimates.

2.6 Are all important and relevant costs included?

Costs related to the condition of interest and incurred in additional years of life gained as a result of treatment should be included in the base-case analysis. This should include the costs of handling non-adherence to treatment and treating side effects. Costs that are considered to be unrelated to the condition or intervention of interest should be excluded. If introduction of the intervention requires additional infrastructure to be put in place, consideration should be given to including such costs in the analysis.

Answer 'yes' if all important and relevant resource use and costs are included given the perspective and the research question under consideration. Answer 'partly' if some relevant resource items are omitted but these are unlikely to affect the cost-effectiveness results. Answer 'no' if important resource items are omitted and these are likely to affect the cost-effectiveness results.

2.7 Are the estimates of resource use from the best available source?

It is important to quantify the effect of the interventions on resource use in terms of physical units (for example, days in hospital or visits to a GP) and valuing those effects in monetary terms using appropriate prices and unit costs. Evidence on resource use should be identified systematically. When expert opinion is used as a source of information, any formal methods used to elicit these data should be clearly reported.

Answer 'yes' if the estimates of resource use appropriately reflect all relevant evidence sources of the best available quality, as identified through a recent well-conducted systematic review of the literature. Answer 'partly' if the estimates of resource use are not derived from a systematic review but are similar in magnitude to the best available estimates. Answer 'no' if the estimates of resource use are likely to differ substantively from the best available estimates.

2.8 Are the unit costs of resources from the best available source?

Resources should be valued using the prices relevant to the NHS and PSS. Given the perspective of the NICE reference case, it is appropriate for the financial costs relevant to the NHS/PSS to be used as the basis of costing, although these may not always reflect the full social opportunity cost of a given resource. A first point of reference in identifying costs and prices should be any current official listing published by the Department of Health and/or the Welsh Assembly Government.

When the acquisition price paid for a resource differs from the public list price (for example, pharmaceuticals and medical devices sold at reduced prices to NHS institutions), the public list price should be used in the base-case analysis. Sensitivity analysis should assess the implications of variations from this price. Analyses based on price reductions for the NHS will only be considered when the reduced prices are transparent and can be consistently available across the NHS, and if the period for which the specified price is available is guaranteed.

National data based on HRGs such as the Payment by Results tariff can be used when they are appropriate and available. However, data based on HRGs may not be appropriate in all circumstances (for example, when the definition of the HRG is broad, or the mean cost probably does not reflect resource use in relation to the intervention(s) under consideration). In such cases, other sources of evidence, such as micro-costing studies, may be more appropriate. When cost data are taken from the literature, the methods used to identify the sources should be defined. When several alternative sources are available, a justification for the costs chosen should be provided and discrepancies between the sources

explained. When appropriate, sensitivity analysis should have been undertaken to assess the implications for results of using alternative data sources.

Answer 'yes' if resources are valued using up-to-date prices relevant to the NHS and PSS. Answer 'partly' if the valuations of some resource items differ from current NHS/PSS unit costs but this is unlikely to change the cost-effectiveness results. Answer 'no' if the valuations of some resource items differ substantively from current NHS/PSS unit costs and this is likely to change the cost-effectiveness results.

2.9 Is an appropriate incremental analysis presented or can it be calculated from the data?

An appropriate incremental analysis is one that compares the expected costs and health outcomes of one intervention with the expected costs and health outcomes of the next-best non-dominated alternative.

Standard decision rules should be followed when combining costs and effects, and should reflect any situation where there is dominance or extended dominance. When there is a trade-off between costs and effects, the results should be presented as an ICER: the ratio of the difference in mean costs to the difference in mean outcomes of a technology compared with the next best alternative. In addition to ICERs, expected net monetary or health benefits can be presented using values placed on a QALY gained of £20,000 and £30,000.

For cost-consequence analyses, appropriate incremental analysis can only be done by selecting one of the consequences as the primary measure of effectiveness.

Answer 'yes' if appropriate incremental results are presented, or if data are presented that allow the reader to calculate the incremental results. Answer 'no' if: (i) simple ratios of costs to effects are presented for each alternative compared with a standard intervention; or (ii) if options subject to simple or extended dominance are not excluded from the incremental analyses.

2.10 Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?

There are a number of potential selection biases and uncertainties in any evaluation (trial- or model-based) and these should be identified and quantified where possible. There are three types of bias or uncertainty to consider:

- Structural uncertainty – for example in relation to the categorisation of different states of health and the representation of different pathways of care. These structural assumptions should be clearly documented and the evidence

and rationale to support them provided. The impact of structural uncertainty on estimates of cost effectiveness should be explored by separate analyses of a representative range of plausible scenarios.

- Source of values to inform parameter estimates – the implications of different estimates of key parameters (such as estimates of relative effectiveness) must be reflected in sensitivity analyses (for example, through the inclusion of alternative scenarios). Inputs must be fully justified, and uncertainty explored by sensitivity analysis using alternative input values.
- Parameter precision – uncertainty around the mean health and cost inputs in the model. Distributions should be assigned to characterise the uncertainty associated with the (precision of) mean parameter values. Probabilistic sensitivity analysis is preferred, as this enables the uncertainty associated with parameters to be simultaneously reflected in the results of the model. In non-linear decision models – when there is not a straight-line relationship between inputs and outputs of a model (such as Markov models) – probabilistic methods provide the best estimates of mean costs and outcomes. Simple decision trees are usually linear.

The mean value, distribution around the mean, and the source and rationale for the supporting evidence should be clearly described for each parameter included in the model.

Evidence about the extent of correlation between individual parameters should be considered carefully and reflected in the probabilistic analysis. Assumptions made about the correlations should be clearly presented.

Answer 'yes' if an extensive sensitivity analysis was undertaken that explored all key uncertainties in the economic evaluation. Answer 'partly' if the sensitivity analysis failed to explore some important uncertainties in the economic valuation. Answer 'no' if the sensitivity analysis was very limited and omitted consideration of a number of important uncertainties, or if the range of values or distributions around parameters considered in the sensitivity analysis were not reported.

2.11 Is there no potential conflict of interest?

The BMJ defines competing interests for its authors as follows: 'A competing interest exists when professional judgment concerning a primary interest (such as patients' welfare or the validity of research) may be influenced by a secondary interest (such as financial gain or personal rivalry). It may arise for the authors of a BMJ article when they have a financial interest that may influence, probably without their knowing, their interpretation of their results or those of others.'

Whenever a potential financial conflict of interest is possible, this should be declared.

Answer 'yes' if the authors declare that they have no financial conflicts of interest. Answer 'no' if clear financial conflicts of interest are declared or apparent (for example, from the stated affiliation of the authors). Answer 'unclear' if the article does not indicate whether or not there are financial conflicts of interest.

2.12 Overall assessment

The overall methodological study quality of the economic evaluation should be classified as one of the following:

- • **Minor limitations –** the study meets all quality criteria, or the study fails to meet one or more quality criteria but this is unlikely to change the conclusions about cost effectiveness.
- • **Potentially serious limitations –** the study fails to meet one or more quality criteria and this could change the conclusions about cost effectiveness.
- • **Very serious limitations –** the study fails to meet one or more quality criteria and this is highly likely to change the conclusions about cost effectiveness. Such studies should usually be excluded from further consideration.

Supporting references

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NICE. Social value judgements: principles for the development of NICE guidance. Second edition. Available from: www.nice.org.uk/aboutnice/howwework/socialvaluejudgements/socialvaluejudgements.jsp. London: NICE; 2008.

Philips Z, Ginnelly L, Sculpher M, Claxton K, Golder S, Riemsma R, et al. Review of guidelines for good practice in decision-analytic modelling in health technology assessment. Health Technology Assessment. 2004;8:iii-iv, ix-xi, 1-158. Available from: www.hta.ac.uk/fullmono/mon836.pdf.

Six workshops were held to enable NICE to explore and capture different perspectives on specific questions as part of the 2007 review of the 'Guide to the methods of technology appraisal'. Documents listed below include briefing papers that were produced to facilitate discussion at each of the workshops and working party meetings:

- • costs
- • diagnostic technologies
- • evidence synthesis (indirect and mixed treatment comparisons)
- • identifying subgroups and exploring heterogeneity
- • threshold
- • exploring uncertainty
- • health-related utility measurement.

These documents are available from:
www.nice.org.uk/aboutnice/howwework/devnicetech/technologyappraisalprocessguides/selectedfurtherreadingguidetothemethodsoftechnologyappraisal.jsp.