Appendix H – Economic evidence tables

Study	Lynch FL, Dickerson JF, Pears KC et al. (2017) Cost effectiveness of a school readiness intervention for foster children. Children and Youth Services Review 81: 63-71			
Study details	**Population & interventions**	**Costs**	**Outcomes**	**Cost effectiveness**
Economic analysis: cost-effectiveness analysis **Study design:** economic analysis alongside RCT **Approach to analysis:** Incremental costs were estimated from RCT utilisation. The difference in symptom free days was used to summarise the effect of the intervention. Probabilistic sensitivity analysis used repeated sampling with bootstrapping. **Perspective:** US public services perspective **Time horizon:** 1 year **Intervention effect duration:** 1 year **Discounting:** not applicable	**Population:** 192 children in pre-schooler age (kinship and non-kinship) **Cohort settings** **Intervention 1:** Kids in transition to school intervention (KITS) [a] **Intervention 2:** standard foster care	**Total costs (mean per individual):** Int1: $6,422 (£4,523) Int 2: $4,746 (£3,343) **Currency & cost year:** US dollars (2017) [b] **Cost components incorporated:** additional standard services, intervention costs (payroll, facilities and overhead, goods and services, staff and training)	Mean, standard deviation (SD) **Internalising free days (IFD)** **Int1:** 310.5 (SD 78.8) **Int2:** 284.5 (SD 101.5), p=0.016 **Externalising free days (EFD)** **Int1:** 218.6 (SD 102.4) **Int2:** 192.0 (SD 104.6), p=0.049	**Full incremental analysis:** KITS intervention was both more effective and more costly: $64/IFD (£45/IFD) $63/EFD (£44/EFD) **Analysis of uncertainty:** At a willingness to pay of $100 (£70) KITS was cost-effective in 78.7% of times (IFD) and 75.3% for EFD.
Data sources				
Outcomes: Number of IFD and EFD for the intervention and control groups were obtained from the RCT informing the analysis (Pears 2010, Pears 2012 and Pears 2013) using symptom reports from carers on the Child Behavior Checklist (Achenbach 1991)				

Costs: Usual care services use was self-reported by carers using a purpose made questionnaire. Service costs use published reference costs. The resources required for KITS were estimated from the clinical trial assessing the efficacy of the intervention.
Comments
Source of funding: Division of Epidemiology, Services and Prevention Research, Prevention Research Branch, National Institute on Drug Abuse, U.S. Public Health Service. The co-authors KCP and PAF are co-developers of the KITS intervention.
Overall applicability: Partially applicable
Study conducted from a public services perspective in the US. Results presented as costs per IFD or EFD which may be of limited use when comparing alternative interventions for implementation in the UK. The analysis does not explore the medium to long term costs and consequences of the intervention.
Overall quality: Very serious limitations
The analysis was informed by a single RCT with very low quality. The authors used IFD and EFD as a measure of days free from self-regulatory problems and lack of social skills, respectively. These were derived from the Child Behaviour Checklist scores, which did not reach a statistically significant difference in the trial (Pears 2013). Missing data in 24% of participants.

(a) Intervention lasting 16 weeks: 24-session school readiness group (2 hours twice weekly in summer, 2 hours once weekly in fall), 8-session caregiver group (2 hours every 2 weeks). KITS manualised curriculum covers early literacy skills, essential social skills and self-regulatory skills.

(b) Converted to 2018 British pounds using the EPPI Centre cost converter, conversion ratio 1.42.

Study quality checklists

Lynch 2017

Study identification **Lynch FL, Dickerson JF, Pears KC et al. (2017) Cost effectiveness of a school readiness intervention for foster children. Children and Youth Services Review 81: 63-71**		
Guidance topic: LACYP guideline update		**Question no:** 4.1
Checklist completed by: Rui Martins		
Section 1: Applicability (relevance to specific review questions and the NICE reference case as described in section 7.5) 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 review question?	Partly	Conducted from US perspective
1.2 Are the interventions appropriate for the review question?	Yes	
1.3 Is the system in which the study was conducted sufficiently similar to the current UK context?	Partly	US and UK's education and social care systems are likely to have significant differences

1.4 Are the perspectives for costs clearly stated and are they appropriate for the review question?	Yes	
1.5 Are all direct effects on individuals included, and are all other effects included where they are material?	Partly	The economic analysis used only EFD and IFD as measures of effectiveness of the intervention whilst the original RCT (Pears 2012) reports several child outcomes of the intervention. Outcome choice may have been selected based on significance.
1.6 Are all future costs and outcomes discounted appropriately?	NA	1-year time horizon
1.7 Are QALYs, derived using NICE's preferred methods, or an appropriate social care-related equivalent used as an outcome? If not, describe rationale and outcomes used in line with analytical perspectives taken (item 1.4 above).	NA	Cost-effectiveness analysis
1.8 If applicable, are costs and outcomes from other sectors fully and appropriately measured and valued?	Yes	
1.9 Overall judgement: Partially applicable		
Other comments:		
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 guideline	**Yes/partly/no/unclear/NA**	**Comments**
2.1 Does the model structure adequately reflect the nature of the topic under evaluation?	NA	No formal modelling was conducted. ICER calculated based on comparators difference in costs informed by 1 RCT data and one measure of effectiveness.
2.2 Is the time horizon sufficiently long to reflect all important differences in costs and outcomes?	No	Analysis considers the 1-year duration of the trial only. No exploration of the long-term effects of the intervention.

2.3 Are all important and relevant outcomes included?	No	Only one effectiveness outcome (symptom-free days) was considered
2.4 Are the estimates of baseline outcomes from the best available source?	Partly	Relevant population, randomised study design but one single RCT
2.5 Are the estimates of relative intervention effects from the best available source?	Partly	Relevant population, randomised study design but one single RCT. Only 76% of the participants had complete data, imputation used to complete individual records.
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?	Yes	
2.10 Are all important parameters whose values are uncertain subjected to appropriate sensitivity analysis?	Partly	PSA uses bootstrapping.
2.11 Is there no potential conflict of interest?	Partly	Creator of the KITS programme is co-author in the economic analysis. Funding from public sources.
2.12 Overall assessment: Very serious limitations		
Other comments: None		