

# Appendix D: The relative effectiveness of early years programmes (cost benefit analysis)

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The main body of this report provides a compelling case for early interventions generally, based on an 'invest to save' rationale. There is some evidence to suggest that many early intervention programmes can produce very high returns. However, there is also evidence to suggest that some early intervention programmes have no positive impact.

This appendix aims to identify programmes that appear to be effective and specific characteristics that have been employed in successful programmes. In order to do this, we have reviewed robust evaluation evidence from a range of early intervention programmes.

### Evidence on the effectiveness of early years interventions

To determine the effectiveness of different early years interventions, the evidence in this report has been drawn from cost benefit analysis. Cost benefit analysis is considered to be the most robust analysis of early interventions because, if undertaken carefully, it is able to capture the benefits and costs of the programme over a long time period. As set out in the main report and also in Appendix C, a problem with measuring the impact of early years intervention programmes is that the benefits can take a long time to accrue, and they accumulate to different stakeholders. This means the benefits may not always be apparent to individual stakeholders in the short-term. Cost benefit analysis allows the programme to be evaluated as a whole, considering the benefits to all members of society over a longer time period.

This type of analysis also takes the results further than many studies because rather than just seeing if the intervention has an effect on the outcome of interest, it can monetise these impacts to determine if the value is greater than the required investment<sup>1</sup>.

### Evaluation Design

In order to conduct a sound cost benefit analysis, it is necessary to carry out a robust evaluation of the outcomes of the interventions. Evaluations are important to enable policy developers and service commissioners to understand what works and what doesn't work so that they can allocate resources efficiently. By focusing efforts on interventions that are proven to be effective, programmes are able to provide greater benefits and, for instance, have a larger overall impact on reducing health inequalities.

Ideally evaluations should be systematic and comprehensive, using rigorous scientific controls. This would enable conclusions to be made with confidence that the results obtained are due only to the investment<sup>2</sup>.

The best evaluation studies are based on randomised controlled trials. In a randomised controlled trial, the population is assigned to either the intervention or control group at random. This helps to ascertain what changes in the outcomes are caused directly by the intervention, and what outcomes

1. It should be noted that whilst cost-benefit analysis attempts to analyse the value of all benefits deriving from a programme/intervention against all costs incurred in that programme, some benefits are difficult to monetise. For instance, child happiness or wellbeing might be a desired outcome from an intervention but this is likely to be difficult to value or monetise and so will rarely be considered in a cost-benefit analysis.
2. Pillas, D. and Suhrcke, M. May 2009, Marmot Review: Assessing the potential or actual impact on health and health inequalities of policies aiming to improve Early Child Development (ECD) in England.

would have happened anyway in the absence of the intervention. Most evaluation studies using randomised controlled trials have been conducted in the United States (US). This means that some evaluations (including in the UK) adopt quasi-experimental designs where control for background factors is carried out by statistical adjustment. This method is not as good because there may be other background factors affecting the results that are not identified<sup>3</sup>.

As a result, when developing programmes, it is important to consider the evaluation design. Some key things to consider in evaluation design are the ways in which the comparison groups are formed, the initial and follow up sample sizes, attrition, and how to best assess the effects of the programme<sup>4</sup>. In addition, quantitative health outcomes should be included to show the impact on health inequalities more clearly.

### **Washington State Institute for Public Policy research**

By focusing our attention on robust cost benefit analysis, the field of evidence is significantly narrower than if all evidence was reviewed. Some well-known programmes may not be included in this section because there is insufficient robust cost benefit analysis to determine their effectiveness in a comparable way. There is very little robust evaluation evidence available for UK early years intervention programmes, so this section largely draws on evidence from the US.

In particular, a study by the Washington State Institute for Public Policy (WSIPP) has been used to provide cost benefit analysis of a large number of interventions. WSIPP conducted a comprehensive review of early intervention programmes and constructed a cost-benefit model to compare their relative effectiveness on a consistent basis.

The study was interested in the effectiveness of early interventions on seven outcomes:

1. Reduce crime
2. Lower substance abuse
3. Improve educational outcomes such as test scores and graduation rates
4. Decrease teen pregnancy
5. Reduce teen suicide attempts
6. Lower child abuse and neglect
7. Reduce domestic violence.

As a result, some of the programme types used in the WSIPP study are less relevant to the early years interventions work for the Mayor's Health Inequalities Strategy. This is because the WSIPP study was tasked with looking at youth interventions (ie interventions for children outside the 0 - five year age range) and related to the above seven outcomes. This means that some of the programmes focus on older children or crime in particular<sup>5</sup>. The results of all programmes are shown in this appendix for completeness, but the pre-kindergarten education and child welfare/home visitation programmes are probably the most relevant programme types for the Mayor's Health Inequalities Strategy.

3. Melhuish, E. C. (2004). *A literature review of the impact of early years provision upon young children, with emphasis given to children from disadvantaged backgrounds: Report to the Comptroller and Auditor General*. London: National Audit Office.

4. Pillas, D. and Suhrcke, M. May 2009, *Marmot Review: Assessing the potential or actual impact on health and health inequalities of policies aiming to improve Early Child Development (ECD) in England*.

5. Moreover, the WSIPP review was not focused on health inequalities. Indeed, health outcomes are often neglected in early intervention evaluations that make it difficult to identify improved health or health behaviour. Pillas et al. (2009) suggests that health measures are often omitted from cost benefit analyses because they are more difficult to measure and monetise than other outcomes.

While the results from this study are very useful, it is potentially misleading to read the US results directly across to the UK. There are a number of reasons why the US results may not translate completely to the UK. These include factors such as differences in the values placed on outcomes (for instance the value of reducing crime is generally thought to be higher in the US when compared to the UK); differences in the effectiveness of interventions (for instance cultural or other factors may mean that some interventions are particularly effective in the US but not so in the UK); and, differences in the cost of implementing interventions for example.

For instance, it is not reasonable to assume that the returns from a programme serving a specific disadvantaged population will apply if the same programme is introduced to a different population. The interventions referred to in the WSIPP cost benefit analysis study have been applied in widely different contexts so it would be inappropriate to assume the same effects in the UK. For example, in the US evaluations the study participants are predominantly from African-American, urban, deprived populations. The base crime rate is high in these areas compared with the general population. Therefore the savings to be made via reduced crime would be much less for such an intervention applied to the general population. The cost benefit figures need to be considered within the context of the population to which the intervention is applied.

Indeed Heckman urges caution in simply reading across from the results of past evaluations to larger current programmes, stating, *'Extrapolating from old, small, and local programmes to large, national ones in the future is a precarious business – a fact often neglected in the early childhood literature.'* Nevertheless, he does go on to say that, *'The benefits of these interventions appear to be sufficiently large that the actual or potential programme may remain cost-effective even after a large reduction in its efficacy.'*<sup>6</sup>

The large benefits identified in some of the cost benefit analysis, therefore, allow a substantial margin of error for interventions to still be economically worthwhile. However, it does not mean that these same benefits will be achieved if applied to the general population. Negative outcomes such as crime, remedial education and unemployment are all more common in disadvantaged populations, so the scope for savings in the general population is significantly less<sup>7</sup>.

To account for all the factors that could lead to different results as between the US and the UK would be a significant piece of work and well beyond the scope of this analysis. However, the Social Research Unit at Dartington, Birmingham and Manchester City Councils and the Greater London Authority are collaborating to translate an economic model developed for government investment decisions in the US for use in the UK. The primary objective is to prepare software that can be used to assist local authorities to calculate the costs and benefits of competing investment options. Such work has the potential to significantly add to the understanding of the effectiveness of early intervention programmes in the UK.

Nevertheless, for the purposes of this work and in order to try and make the results from the WSIPP study more relevant to London, the cost-benefit calculations were very roughly reconstructed with UK values used to monetise the benefits from interventions (in place of US values). Therefore, rather than use US values of reducing crime in the analysis for example, UK values were substituted to

6. Heckman, J. and Masterov, D. 2007. *'The Productivity Argument for Investing in Young Children'*.

7. Melhuish, E. C. (2004). *A literature review of the impact of early years provision upon young children, with emphasis given to children from disadvantaged backgrounds: Report to the Comptroller and Auditor General.* London: National Audit Office.

analyse any possible impact on the US results. Whilst this is a simple attempt to make the analysis more applicable to the UK, it still relies on the assumption that the effect of the interventions on the different outcomes would be the same in the UK as it would in the US, which may well not be the case. It also relies on all other aspects of the interventions translating directly from the US to the UK (for example costs are assumed to be exactly the same). As a result, a significant degree of caution is required when interpreting the 'UK adjusted' results and these results should not be used in isolation. This work was conducted to try and assess which interventions from the WSIPP work were also likely to be effective in the UK – rather than to illustrate actual likely returns or likely impact from different interventions.

This appendix outlines the main findings from the original WSIPP study, an attempt to modify the cost benefit model to make it more appropriate for the UK and an analysis of what the model suggests are the most effective early years interventions.

### The WSIPP Study

The WSIPP Study consisted of a literature review of programme evaluations conducted, generally in the US, since 1970. For the research studies selected, an average effect size was calculated for each of the seven outcomes of interest. A benefit-cost model was then constructed to assign monetary values to any observed changes in education, crime, substance abuse, child abuse and neglect, teen pregnancy, and public assistance outcomes<sup>8</sup>.

To be included, evaluations were required to have a scientifically valid research design. For studies that pass this initial test, the effect size was penalised for studies that used a less-than-randomised research approach as there is evidence that suggests that studies with weaker research designs tend to show more favourable results.

The study considered 87 evaluation studies, but only 57 were included in the cost benefit analysis. This was because of limitations in the data and information available to conduct the cost benefit analysis. The programmes are grouped into seven different categories depending on their purpose. The table below sets out the types of programmes and the number of programmes considered for each type.

**Table D.1: Number of programmes by type**

Type of programme	Number of programmes
Pre-kindergarten education programmes	6
Child welfare/home visitation programmes	8
Youth development programmes	6
Mentoring programmes	2
Youth substance abuse prevention programmes	12
Teen pregnancy prevention programmes	7
Juvenile offender programmes	16
Total	57

8. Public assistance outcomes refer to changes in the use of social welfare benefits. For the purposes of a cost benefit analysis they are treated as transfer payments because there is just redistribution between the cost to participants and the taxpayer. For example, if a programme intervention has a positive effect resulting in a family no longer requiring welfare benefits, there will be a benefit to the taxpayer but a loss of income to the family.

## Findings of the WSIPP Study

The WSIPP analysis found that the programmes returning the highest net present value appeared to be juvenile offender programmes. This is because there are very significant incarceration costs in the US, so crime is assigned a high monetary value in the WSIPP cost benefit analysis. This means that interventions that resulted in a reduction in crime appeared to be the most effective interventions, yielding \$1,900 to \$31,200 of benefit per youth. As can be seen in Table D2 below, 7 of the top 10 programmes ranked by net present value (NPV) per youth were juvenile offender programmes. The net present value is the difference between the discounted lifetime benefits of the programme and the lifetime costs. A large positive net present value indicates that the programme returns more value to society, above what was invested into it.

**Table D.2: Top 10 programmes ranked by NPV per youth**

	Programme	US BCR	US NPV \$	Type of Programme
1	Dialectical behaviour therapy	38.05	31,244	Juvenile offender
2	Functional family therapy	13.25	26,216	Juvenile offender
3	Multidimensional treatment foster care	10.88	24,289	Juvenile offender
4	Adolescent diversion project	13.54	22,290	Juvenile offender
5	Nurse Family Partnership for Low Income Women	2.88	17,152	Child Welfare/Home Visitation
6	Aggression Replacement training	20.56	14,847	Juvenile Offender
7	Functional family therapy	7.69	14,315	Juvenile offender
8	Other Family-Based Therapy for Juvenile Offenders	8.68	12,441	Juvenile Offender
9	Early childhood education for low income 3 & 4 years olds	2.36	9,901	Pre-Kindergarten Education
10	Seattle social development project	3.14	9,837	Youth development

Across the range of programmes, youth development and youth substance abuse interventions generally appear to have high returns. Teen pregnancy prevention programmes appear to perform less well, with the majority returning a negative NPV. Only one intervention in this category, the teen outreach programme, returned a positive NPV and the returns were modest (BCR 1.29 and NPV \$181). Pre-kindergarten education programmes and child welfare/home visitation programmes are mixed, with no effect for some programmes but moderate returns for others.

The US evidence shows that some forms of home visiting programmes (as distinct from child welfare programmes) that target high-risk and/or low-income mothers and children are effective, returning from \$6,000 to \$17,200 per youth. Early childhood education for low income 3 and 4 year olds and some youth development programmes also provide very attractive returns on investment. While their net benefits are relatively low, many substance use prevention programmes for youth are cost effective because the programmes are relatively inexpensive.

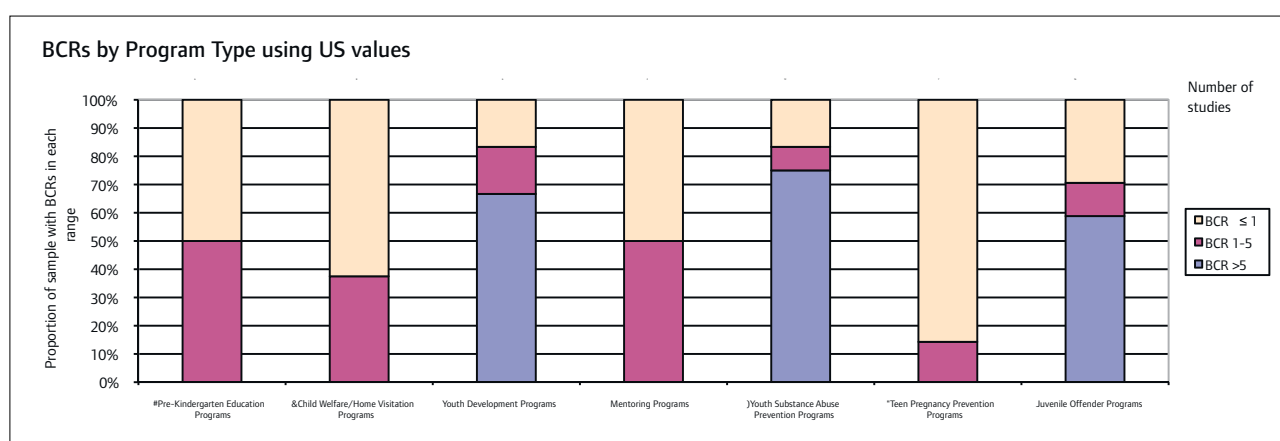
The most common studies considered were juvenile offender programmes, followed by youth substance abuse programmes. A number of child welfare programmes were identified but less of these could be quantified. Child welfare and juvenile offender programmes tended to have less significant results in terms of benefit cost ratio (BCR) because of the high level of costs. The interventions with very high BCRs tend to have particularly low costs as these programmes are implemented through schools and all of the necessary costs may not have been considered.

A number of the interventions received benefit cost ratios that are much higher than would normally be considered as reasonable. The analysis suggests that the benefits of these studies programmes far outweigh the costs. However, it is suggested that caution is used when referring to these very high BCR values for comparison outside of this particular piece of work (for example, they should not be implemented as a benchmark or target for projects as the scale is well above what would be expected). As we are using secondary data, it is not possible to fully assess the causes of these very high BCRs so it is difficult to adjust for them appropriately.

There were individual interventions that were not cost effective for all types of programmes examined. Some of the prevention and early intervention programmes assessed are very expensive and produce few benefits. However, the evidence of programmes that performed well and those that were ineffective should be used to inform future decisions about the design of early interventions.

The chart below helps to illustrate the proportion of programmes that provide high or low BCR's for each of the programme types. It can be seen that while there are a large number of juvenile offender programmes with very high BCR's, there are also a number of programmes that do not return net benefits. Therefore, it is necessary to look in more detail at the effectiveness of individual programmes to determine what are the most effective early interventions.

**Figure D.1: Proportion of sample with high and low benefit cost ratios**



In terms of benefit cost ratios, youth development programmes have a high proportion with very high BCR's and few with a BCR less than or equal to one. Teen pregnancy prevention programmes perform the least well, with more than 50 per cent returning no positive benefit. Mentoring programmes appear to perform adequately well, but the sample size is only two which may be misleading. Youth substance abuse prevention programmes have the largest proportion receiving a high BCR with 75 per cent of programmes evaluated achieving a BCR above five. Pre-kindergarten education, child welfare, teen pregnancy prevention and juvenile offender programmes all have a large proportion with BCR's  $\leq 1$  (that is the benefits from the programmes did not exceed the costs of implementing the programmes).



## Adapting the WSIPP model for the UK

In order to try and make the results from the WSIPP study more relevant to London, the cost-benefit calculations were very roughly reconstructed with UK values used to monetise the benefits from interventions (in place of US values). While there are a number of caveats to this exercise, we believe that the re-calculated values for the different programmes are useful as a guide for London.

Therefore, rather than use US values of reducing crime in the analysis for example, UK values were substituted to analyse any possible impact on the US results. Whilst this is a simple attempt to make the analysis more applicable to the UK, it still relies on the assumption that the effect of the interventions on the different outcomes would be the same in the UK as it would in the US, which may well not be the case<sup>9</sup>. It also relies on all other aspects of the interventions translating directly from the US to the UK (for example costs are assumed to be exactly the same)<sup>10</sup>. As a result, a significant degree of caution is required when interpreting the 'UK adjusted' results and these results should not be used in isolation.

This work was conducted to try and assess which interventions from the WSIPP work were also likely to be effective in the UK – rather than to illustrate actual likely returns or likely impact from different interventions. The use of different values (ie UK rather than US values) to monetise the benefits results in a different relative ranking between programmes.

One of the key differences that emerged was that some programmes that were focussed on crime reduction and were very successful in the US would appear to be less compelling for the UK. The criminal justice system in the US is quite different from in the UK and other industrialised economies, particularly because of the very high level of incarceration rates (International Centre for Prison Studies, 2005 cited in Pillas 2009). If we were to draw our analysis from the US results, interventions that impact on crime would be overstated relative to the costs of crime in the UK. It was also noted earlier that the majority of interventions included in the WSIPP analysis were directed at reducing juvenile offenders. Penn et al. (2006, cited in Pillas et al 2009) explains that the apparent fixation in the US literature on early intervention as a means of crime reduction is partly a reflection of the very high costs of crime in the US.

In this analysis we have used an average value for the cost of crime taken from the UK as a whole. This is unlikely to include all the costs of crime (particularly the administrative costs) accounted for in the US study and so may well bias the results too much away from crime prevention/juvenile offender programmes covered by the WSIPP analysis. Moreover, data shows that London has a higher rate of those crimes that are considered to be more costly, so the benefit to London from a reduction in these crimes is likely to be higher than the value used in this analysis. Data limitations do not allow the calculation of the effect on different types of crime so it is not possible to analyse this on a more detailed level. In addition, because none of the juvenile offender (or related) programmes considered by the WSIPP analysis are early years interventions (ie interventions aimed at children aged 0-5) we have been relatively relaxed about any potential bias against crime reduction/juvenile offending programmes brought about by this adjusted analysis.

9. *Indeed some argue that the differences are so great that the US studies are likely to be of little use in policymaking outside of the US. (See: Early Years. What is known about the long-term economic impact of centre-based early childhood interventions? Early Years Review Group Report no.1404T March 2006)*

10. *The reason why US evaluations have been used is that the evaluation techniques undertaken are usually more robust. In the US many evaluations are conducted by randomly assigning participants to interventions or to a control group that is recognised as the most robust technique for assessing the impacts of an intervention. This type of evaluation is not frequently conducted in the UK so the same robust evidence is not available*



## Assumptions

In order to conduct our London focussed analysis, it has been necessary to make a number of assumptions. The adjusted effect sizes for each programme are taken directly from the WSIPP analysis<sup>11</sup>. To this, UK values have been applied such as the HM-Treasury discount rate of 3.5 per cent and a wage growth rate of 2.5 per cent. The programme costs have been converted from USD to GBP using the OECD PPP rate for 2009. The values used to monetise the benefits have been taken from UK studies. This is a developing area, but where possible the values proposed by HM-Treasury for appraisal and evaluation have been used; or values used for evaluations conducted by DWP. The assumptions are important because the use of different assumptions will produce different results. The values used and their sources have been set out in Table D11 at the end of this appendix.

## Results using UK values

Having roughly reconstructed the WSIPP analysis using UK values to monetise the benefits from different outcomes, the results were compared with the US results. Using UK values for the benefits, the order of interventions in terms of effectiveness was different to that found in the US study. As noted earlier, the work to adjust the WSIPP analysis to UK values is rather rudimentary. To ensure that undue weight is not placed on the US or UK analysis alone, the UK results are considered alongside the more comprehensive and more robust US analysis.

The table below shows the ten most effective programmes, in terms of net present value (ie the difference between the discounted lifetime costs and benefits of the programme), identified by both the original WSIPP study and the UK adjusted analysis. The programmes in the table are ranked according to the UK-adjusted analysis NPVs with the US values for NPV and cost per youth of the intervention highlighted in the table. The values shown are per youth.

So for example, the table illustrates that the 'Early childhood education for low income 3 and 4 year olds' was the second highest-ranking intervention (on the UK-adjusted analysis) which also had a positive NPV from the US analysis. The US analysis shows that the NPV for this programme is of the order of \$9,901. That is the benefits for each youth from this intervention are \$9,901 more than the costs over the youth's lifetime. This table uses the US valuation for NPV (and costs) as these have been developed with the specific purpose of understanding the exact value of different programmes. In contrast the rudimentary UK-adjusted analysis has been primarily conducted to assess how the ranking of different programmes might change with UK (rather than US) values applied and does not purport to estimate the exact absolute values from different programmes accurately.

Cost per child/youth of each programme (in US\$) is also shown to provide an idea of the scalability of interventions that may be considered for London.

11. As noted in the text, this is a significant limitation because it assumes that the impact of the programme would be the same in a different country with different participants who have different cultures, values and incentives

**Table D.3: Table 3: Top 10 programmes ranked by NPV per child/youth (based on adjusted UK values) that also produced a positive NPV from the original US analysis.**

Rank	Programme	Type of Programme	Cost per child/youth \$	US NPV \$
1	Seattle Social Development Project	Youth development	4,590	9,837
2	Early childhood education for low income 3 and 4 years olds	Pre-kindergarten education	7,301	9,901
3	Home Visiting Programmes for at-risk mothers and children	Child welfare/home visitation	4,892	6,077
4	Nurse Family Partnership for Low Income Women	Child welfare/home visitation	9,118	17,152
5	Parents as teachers	Pre-kindergarten education	3,500	800
6	HIPPY (Home Instruction Programme for Preschool Youngsters)	Pre-kindergarten education	1,837	1,476
7	Teen Outreach Programme	Teen pregnancy prevention	620	181
8	Good Behaviour Game	Youth development	8	196
9	Family Matters	Youth substance abuse prevention	156	1,091
10	Parent-Child Interaction Therapy	Child welfare/home visitation	1,296	3,428

To assess the relative effectiveness of the interventions from the WSIPP study using UK values, the interventions have been grouped by programme type to see which type of programmes appear to be more effective and specifically within each group which programmes are more effective than others. In addition to the programmes analysed in the WSIPP report, some examples of interventions from the UK or successful programmes from the US have been used as case studies of interventions that are currently being undertaken. A full list of the programmes included in the WSIPP study is at Table D12 at the end of this appendix.

After analysing the effectiveness of the programmes in the WSIPP study, an attempt has been made to draw some conclusions about the effectiveness of interventions and factors that tend to help the success of projects. These factors are important when considering the design of new programmes.

### **Pre-kindergarten Programmes (rankings adjusted for UK values)**

There were six pre-kindergarten programmes analysed in the WSIPP study, with half returning strong benefits and the other half returning no identifiable benefit and a negative net present value. The programmes are shown in the table below, ranked according to the UK adjusted analysis, together with their US NPV and BCR values.

**Table D.4: Pre-Kindergarten Education Programmes**

Pre-Kindergarten Education Programmes	BCR	NPV \$
Early childhood education for low income 3 and 4 years olds	2.36	9901
Parents as teachers	1.23	800
HIPPY (Home Instruction Programme for Preschool Youngsters)	1.80	1476
Early head start	0.00	-16203
Parent-Child Home Programme	0.00	-3890
Even start	0.00	-4863

The early childhood education for low-income three and four year olds proved to be the most effective pre-kindergarten education programme for both the US and the UK adjusted analysis. The results for this are made up from a number of enhanced preschool experience programmes using educational approaches to improve student success. The programmes include small-scale pilot studies and some more widespread programmes, including the Perry Preschool Program. The main benefits for this type of programme accrued to the programme participant directly through high school graduation, test scores, and a reduction in child abuse and neglect. The other effective programmes were home visitor programmes for parents and children. The same programmes proved to be effective in the US and the UK analysis. Three examples of pre-kindergarten education programmes have been described in more detail on the following pages.

#### **UK Intervention: Early learning for 2 year olds**

This programme was originally introduced in the UK as a pilot from 2006 to 2008, providing free early years education for disadvantaged two year olds. Local authorities were given the flexibility to define disadvantage in the way that they considered to be most appropriate for their area, so a number of different criteria were used. The aim of the project was to improve children's social and cognitive outcomes and positively influence parent-child relationships.

The pilot appeared to be successful in targeting children experiencing different types of disadvantage. However, there was a high level of deadweight with around half of the children in the control group receiving childcare by the end of the pilot. This indicates some scope for improving the way the programme is targeted, so that it is directed towards the most disadvantaged children who are the least likely to access good quality childcare. In particular, local authorities that use broad geographical and economic indicators to define and target potential beneficiaries could be improved.

Overall, the pilot showed positive impacts for children who attended a setting of high quality, but not for children who attended settings of lower quality. This suggests that only settings with an Ofsted score of at least 'good' should be used when implementing the programme in new areas.

In September 2009, the pilot was rolled out more widely with the extended offer providing 10-15 hours of free, high-quality childcare a week, family support and an effective partnership-working and outreach activity to engage families into childcare.

For more information see: <http://www.dcsf.gov.uk/everychildmatters/earlyyears/localauthorities/lappractice/pilots/twoyearoldsoffer/>

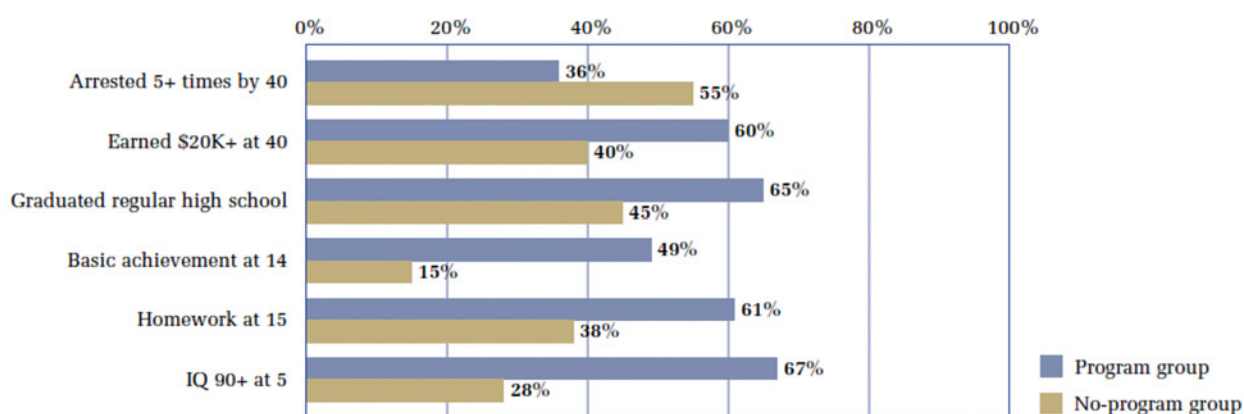
### US Intervention: Perry Pre-school Programme

The Perry Pre-school Programme is a high-quality pre-school programme for 3 and 4 year olds. It has been implemented in the US for African American children who were born into poverty and have a high risk of failing school

HighScope conducted a robust evaluation based on participants to the programme from 1962–1967. The children were randomly assigned to either participate in the programme or to a control group who received no pre-schooling. To assess the longer-term impact of the programme, the study's participants were interviewed at age 40, and data was collected from the subjects' school, social services, and arrest records.

The study found that those who had participated in the programme had higher earnings, were more likely to hold a job, had committed fewer crimes, and were more likely to have graduated from high school than adults who did not attend preschool. The chart below shows the difference between some outcomes for the programme group and non-programme group.

**Figure D.2: Major findings High/Scope Perry Preschool Study at 40**



For more information see: <http://www.highscope.org/content.asp?contentid=219>

### UK Evaluation: The Effective Provision of Pre-school Education (EPPE)

The Effective Provision of Pre-school Education (EPPE) study was conducted in the UK using similar pre-school programmes on 3–7 year olds. The study found a number of factors that made these programmes successful or otherwise. The findings of this study are consistent with those found in other evidence. Some of the key factors determining the success of these programmes are: the quality of the childcare provision; the quality and qualifications of the childcare staff; pre-school programmes tend to benefit disadvantaged more than non-disadvantaged children; and a social mix tend to be important for disadvantaged children with more successful outcomes achieved in these groups than in pre-school programmes with only disadvantaged children.

For more information see: <http://www.dcsf.gov.uk/rsgateway/DB/RRP/u013144/index.shtml>

While this section has identified characteristics of programmes that have been effective and could be implemented in London, it is also helpful to consider programmes where there is little evidence of effectiveness.

Early Head Start is a US programme for low-income pregnant women and families with infants and toddlers. The programme is delivered through a variety of approaches and is tailored to the specific needs of the community. It can be home-based, centre-based, a combination, or locally designed. The different delivery methods make the evaluation more complex because there are many different aspects to the programme that may be effective or ineffective.

Early Head Start did result in modest benefits, particularly for some specific sub-groups but it was quite costly (per child or youth) to implement so it did not result in a positive net present value overall (in either the US or UK-adjusted analysis). The evaluation evidence showed that results were better in areas where the programme was fully implemented, with fidelity, than in areas where it was only partially implemented. Centre-based services did not achieve strong impacts on parenting, parent-child relationships and family support, while home-visiting programmes required a certain level of intensity to be effective<sup>12</sup>.

The Parent-Child Home Program (also known as the Mother-Child Home Program MCHP) is a home visitation programme to show mothers ways to interact more positively with their children and provide educational experiences for them. An evaluation conducted in Bermuda found that the programme had few demonstrable effects on the sample because nearly all the mothers worked, so their children have preschool experiences that are comparable to those provided by the intervention. This programme resulted in negative NPV results for both the original US analysis and the UK-adjusted analysis.

Even Start is a programme designed to improve child and parent literacy skills through early childhood education, parenting education, adult education, and parent-child joint literacy activities. The programme is targeted at a very disadvantaged population. While parents and children made progress in terms of literacy assessments and other measures, they did not improve by more than those in the control group. The reasons suggested for the limited effectiveness of this programme are insufficient intensity of the programme and the quality and content of services provided. Many of the participants also did not take full advantage of the programme. This programme resulted in negative NPV results for both the original US analysis and the UK-adjusted analysis.

### Child welfare and home visitation programmes (rankings adjusted for UK values)

There were eight child welfare/home visitation Programmes included in the study, with less than half of these achieving an identifiable benefit from both the original US and UK adjusted analysis. However, three of the programmes showed very strong benefits on both analyses and proved to be amongst the most effective interventions overall.

**Table D.5: Child welfare/home visitation programmes**

Child welfare/home visitation programmes	BCR	NPV \$
Home visiting programmes for at-risk mothers and children	2.24	6077
Nurse Family Partnership for low income women	2.88	17180
Healthy Families America	0.00	-1263
Parent-Child Interaction Therapy	3.64	3427
System of care/Wraparound programs	0.00	-1914
Family Preservation Services (excluding Washington)	0.00	-2531
Comprehensive Child Development Program	0.00	-37397
Infant Health and Development Program	0.00	-49021

12. Love, J.M., E.E. Kisker, C.M. Ross, P.Z. Schochet, J. Brooks-Gunn, D. Paulsell, K. Boller, J. Constantine, C. Vogel, A.S. Fuligni, and C.Brady-Smith. (2002, June) *Making a difference in the lives of infants and toddlers and their families: The impacts of early Head Start:Executive summary*. Princeton, NJ: Mathematica Policy Research, Inc.

The most effective programmes were home visitor programmes by professionals or highly trained staff that involve coaching and learning for the parent and child. Home visiting programmes for at-risk mothers and children and Nurse Family Partnership for low income women have both proven to be very effective in the US analysis and UK adjusted analysis. The main benefits accrue through a reduction in child abuse and neglect, a reduction in crime and an improvement in test scores later in life.

Healthy Families America returned a negative net present value in the US analysis but because of the different values used it appears more effective in the UK analysis (hence its higher ranking in the table above). The reason for this is due to the difference in the value used for the child abuse and neglect outcome with the valuation used in the UK slightly higher than in the US. The value used for both cases derived from the cost of handling a child abuse or neglect case, in the UK this value is derived from the cost to the children's services department including administrative costs. However, because the programme returned a negative NPV from the US analysis its use has not been promulgated in this analysis.

The home visitation programme, Nurse Family Partnerships, is described in more detail below. As noted in the main report, Nurse Family Partnerships has already been piloted in some areas of the UK with early indications of success. The benefits accrue in terms of an improvement in women's pre-natal health; a reduction in child injuries; fewer subsequent pregnancies and greater intervals between births; increased father involvement; and an improvement in child school readiness. Nurse Family Partnerships is a programme from pregnancy until the child is two years old, so could be used for both pre-natal and post-natal care.

### **UK Intervention: Family Nurse Partnership**

Family Nurse Partnership is a programme that was introduced in the UK in April 2007 at ten pilot sites throughout England. It is based on the US Nurse Family Partnership programme that is designed to improve health, wellbeing and self-sufficiency of young, first-time parents and their children. It is a voluntary home-visitation service that starts in early pregnancy and continues until the child is 24 months old. It is a targeted service, specifically for young mothers with their first child. There are now 50 sites and 4,000 families benefiting from the programme, with further expansion underway.

No evaluation has yet been conducted in the UK that considers a counter-factual, but initial monitoring and evidence from the US suggests that there is a strong economic case for implementing this programme. The main economic benefit appears to be as a result of breaking the cycle of disadvantage experienced by children of teenage mothers. This can come in the form of relatively poor school performance, higher incidences of committing crimes and a greater probability of becoming teenage parents themselves. One of the major challenges for this programme is that the benefits will be incurred in the future by other agencies, the families themselves and victims of crime but the costs will be incurred immediately by the NHS. If the NHS was to consider the cost effectiveness of the programme from short-term costs and savings to the health service alone, the programme may appear to be costly and difficult to justify. The cost is estimated at around £3,000 per client per year that is quite expensive when compared to some other intervention programmes.

An important reason identified for the success of this programme is that it is targeted to a specific group that benefit most from the service. A less targeted version of the programme was trialled in the US and it returned lower benefits.

*For more information see: <http://www.iscfsi.bbk.ac.uk/projects/files/Year-1-report-Barnes-et-al.pdf>*

The following programmes were shown in the US and UK adjusted cost benefit analysis to have poor outcomes in terms of the benefits derived for cost expended. It should be noted that the impacts from these programmes in the original WSIPP analysis were adjusted to account for a number of factors related to research design.

Systems of care/wraparound programmes are community-based programmes for children with serious emotional disturbances who are in foster care or referred by the child welfare system. The main reason identified for programmes not being successful is that they fail to take consideration of the specific or individualised needs of children and families.

Family preservation services are designed to support families in crisis in which children are either at imminent risk of placement or have been placed outside their homes. The programme aims to keep children safe and avoid unnecessary removal and/or long separations from family in out-of-home care. Evaluations have found that adhering to this model is very important in ensuring the effectiveness of the programme.

Comprehensive Child Development Program is a case management and early childhood education programme for low-income families. It did not show significant impacts on the economic self-sufficiency of participating mothers or on their parenting skills; nor did it show significant impacts on the cognitive and social-emotional development of children. Reasons suggested for the poor performance of the programme include: lack of time to start up the programme effectively, services of insufficiently high quality or too diluted to be effective, and that many families in the control group received similar services (ie many families would have received similar services without the intervention).

Infant Health and Development Program aims to reduce the developmental and health problems of low birth-weight premature infants and continues from birth until the age of three. The programme consists of a number of services including home visits, enrolment at a child development centre and parent group meetings. Infants and their families also received medical, developmental and social assessments and referrals for services such as health care. Evaluation of the IHDP found no significant differences between the intervention and control groups, and the few observed positive outcomes faded over time. Participants were more likely to achieve positive outcomes if they were 'heavier' low birth weight babies, and if they participated in the programme most fully. It was noted that for high-risk children, a programme with higher intensity and a longer duration might be necessary to achieve sustained impacts.

### Youth development programmes (adjusted for UK values)

Six youth development programmes were considered in the review and all but one returned a positive net present value from both the US and UK adjusted analysis. These programmes are aimed at school-aged children and returned benefits in terms of reduced crime, improved high school graduation and a reduction in substance misuse.

**Table D.6: Youth development programmes**

Youth development programmes	BCR	NPV\$
Seattle Social Development Project	3.14	9837
Good Behaviour Game	25.92	196
Strengthening Families Programme for Parents and Youth 10-14	7.82	5805
Guiding Good Choices (formerly PDFY)	11.07	6918
Child Development Project	28.42	432
CASASTART (Striving Together to Achieve Rewarding Tomorrows)	0.89	-610



Many of the youth development programmes are implemented through schools or family based interventions. The Seattle Social Development Project is the best youth development programme for both the US and the UK adjusted analysis. In this programme there are benefits to all groups through high school graduation, reduced costs of crime and school repetition. The Seattle Social Development Project was implemented for two different age groups – pupils in their first year of school (age six) and students in fifth grade (age 11). The results of the programme were very significant for the first cohort of students but less so for the second group. It was found that this programme was far more successful when implemented in the earlier years.

Good Behaviour Game is a classroom management strategy designed to improve disruptive/aggressive classroom behaviour and prevent later criminality. This has a very high BCR largely due to the low cost of implementing it in schools<sup>13</sup>.

### **US Intervention: Seattle Social Development Project**

The Seattle Social Development Project (SSDP) is a school-based intervention developed on the premise that youths who are provided with opportunities and skills for greater involvement with their schools and families, and for whom skilful participation is constantly reinforced, ultimately develop strong bonds with their families and schools setting children on a positive development trajectory.

SSDP has been an ongoing longitudinal study of youth and young adult development, testing strategies for reducing childhood risk factors for school failure, drug abuse and delinquency. It was first implemented in 1981, combining teacher, child and parent components. Teachers were trained in proactive classroom management, interactive teaching and cooperative learning. Students were taught interpersonal problem solving skills and refusal skills to avoid problem behaviours. Parents were offered courses in child behaviour management, academic support and skills to reduce their children's risk of drug use.

First graders from five schools were assigned to intervention or control classrooms. This was later expanded to include a cohort of fifth graders as well. Evaluations were conducted at various stages throughout the children's lives. The evaluation at age 21 showed that full-intervention students were more likely to have graduated from high school and were significantly less likely to have used alcohol, tobacco or illicit drugs in the past month or year, or have a court conviction than students in the control group. However, there were no significant differences for the late-intervention group in these areas. This suggests that the programme is more effective when implemented in the first grade rather than in the fifth grade.

While the outcomes of this programme appear to be promising, it is important to note that it has only been implemented in one particular urban area so the programme may not yield the same results if applied in other areas.

*For more information see: <http://depts.washington.edu/ssdp/>*

13. Note that the full costs of this programme may be understated because all of the costs have not been taken into account (eg the cost of teachers); if so this would result in an overstated BCR.

## Mentoring programmes (adjusted for UK values)

Only two mentoring programmes were considered in this study and only one programme returned a positive NPV on both the US and UK adjusted analysis. The returns and benefit-cost ratios were relatively modest when compared to the other types of interventions.

**Table D.7: Mentoring Programmes**

Mentoring Programmes	BCR	NPV \$
Quantum Opportunities Project	0.42	-15022
Big Brothers/Big Sisters	1.01	48

The main benefits of these programmes are through educational improvements and a reduction in crime and substance misuse. The Quantum Opportunities Project is designed to serve disadvantaged high school students by providing education, service and development activities as well as financial incentives for youth's continuing participation.

Big Brothers/Big Sisters is a one-on-one mentoring system where trained community volunteers are matched with youth from single parent families and they spend time together two to four times each month to develop stable, supportive relationships between at-risk youth and caring adults.

### US Intervention: Mentoring Programmes

Mentoring programmes are designed to serve disadvantaged youths by providing educational and development activities. The programmes involve mentors who are trained to befriend young adults who are at risk of social inclusion. Typically, the programmes are targeted at high school aged youths and appear to be most common in the US.

According to Wilder Research it was found that mentoring programmes can produce measurable direct benefits in areas such as improved school attendance, school performance, reduced truancy, improved health outcomes, reduced juvenile crime, reduce cost of adult crime and reduced need for social care. Fisher et al (2009) states that the potential benefits of youth mentoring programmes include gains of a diverse nature ranging from improvements in academic performance, decreased involvement in unhealthy or unsafe activities such as drug or alcohol use, early sexual initiation or risky behaviours, teenage pregnancies, antisocial behaviours and juvenile crime. Whilst it is reasonable to conclude that the benefits exceed the costs, the evaluation results should be considered indicative given both the lack of outcome data and the limited evidence of the value of its potential benefits. The main impacts of the mentoring programmes appear to be a reduction in crime, improved educational outcomes and a reduction in substance abuse.

*For further information see: Wilder Research. 2007. Analysing the social return on investment in youth mentoring programs. A framework for Minnesota. Minnesota*

*Fisher, J. and Moodie, M. 2009. Are youth mentoring programs good value for money? An evaluation of the Big Brothers Big Sisters Melbourne Program. BMC Public Health*

## Youth substance abuse prevention programmes (adjusted for UK values)

Twelve youth substance abuse prevention programmes were included in the study and nearly all proved to be effective. The school-based programmes proved to be particularly cost effective, but family based programmes also showed high returns.

**Table D.8: Youth substance abuse prevention programmes**

Youth substance abuse prevention programmes	BCR	NPV \$
Family matters	8.02	1092
Project Northland	10.39	1423
Adolescent Transitions Program	5.02	1938
Minnesota Smoking Prevention Program	102.29	506
Life Skills Training (LST)	25.61	717
Project STAR (Students Taught Awareness and Resistance)	5.29	694
Other Social Influence/Skills Building Substance Prevention programmes	70.34	485
Project Towards No Tobacco (TNT)	55.84	274
All Stars	3.43	120
Project ALERT (Adolescent Learning Experience in Resistance Training)	18.02	54
STARS for families (Start Taking Alcohol Risks Seriously)	0.00	-18
D.A.R.E (Drug Abuse Resistance Education)	0.00	-99

Most of the youth substance abuse prevention programmes in the study were school-based interventions to prevent tobacco, alcohol and marijuana use which appear to be the most prevalent substances abused in the US. The National Treatment Agency for Substance Misuse (2009) has identified that young people's drug use in the UK is also generally limited to cannabis and alcohol, with few young people appearing to use Class A drugs. In the case of these drugs, the optimal time for preventative interventions is thought to be during childhood and pre-adolescence before problem behaviours start to develop.

Programmes that involved parents appear to be particularly effective. A number of the programmes were also based on understanding and resisting social pressures that influence substance use decisions. The youth substance abuse and prevention programmes identified in this study tend to be targeted towards slightly older children than those that are the focus of our work in this paper, but it shows the importance of continuing preventative interventions throughout the life of the child. Positive family relationships that are established at a young age can be particularly helpful in supporting the prevention of substance misuse.

### US Intervention: Family Matters

Family Matters is a family focused intervention to prevent tobacco and alcohol use among 12-14 year olds. It is delivered by parents from a series of four booklets mailed to the home and follow up telephone calls from educators. The participants were identified by random digit dialling, and were randomly allocated to either receive the programme or serve as a control. The effectiveness of the programme was assessed through telephone interviews with parents and adolescents three months and one year after the programme. Evaluation findings imply that the Family Matters programme reduced the prevalence of both cigarette smoking and alcohol use at three months and one year after the programme. This was due to preventing initiation rather than decreasing the amount used by existing users.

For more information see: [www.sph.unc.edu/familymatters/Programme\\_materials.htm](http://www.sph.unc.edu/familymatters/Programme_materials.htm)

## Teen pregnancy prevention programmes (adjusted for UK values)

In the US the teen pregnancy prevention programmes were generally less effective than the other interventions. Whilst the results were slightly more positive for the UK adjusted analysis, the majority of programmes were still found to be ineffective.

**Table D.9: Teen pregnancy prevention programmes**

Teen pregnancy prevention programmes	BCR	NPV \$
Children's Aid Society-Carrera Project	0.21	-9,093
Adolescent Sibling Pregnancy Prevention Progra	0.21	-2641
Teen Outreach Program	1.29	181
Reducing the Risk Program	0.00	-13
Teen Talk	0.00	-81
School-based clinics for pregnancy prevention	0.00	-805
Postponing Sexual Involvement Program	-5.07	-54

Many of the programmes in the US are focused on promoting abstinence and these have generally proven to be ineffective. Programmes involving lectures appear to be less effective than programmes that are broader, for example those providing activities, academic assistance and health care. The school-based clinics do not appear to provide value for money because they are quite costly yet yields no identifiable benefit. The Postponing Sexual Involvement Program also appears to be correlated with an increase in teen births; however it is not clear whether there is a direct causal relationship between the two.

### UK Intervention: Healthy Child Programme

The Healthy Child Programme (HCP) is a universal service for all children and young people and their families, with additional services for those with specific needs and risks. The programme continues from pregnancy through to adulthood. The 0-5 programme is led by health visitors and is increasingly being delivered through integrated services that bring together Sure Start Children's Centre staff, GPs, midwives and community nurses. The 5-19 programme sets out the good practice framework for prevention and early intervention services for children and young people.

The HCP 0-5 programme is from pregnancy through to the first years of life. It provides a range of universal services and progressive services for higher-risk children. Universal services include: promotion of health and well-being, screening tests, immunisations, parental support, mental health needs assessment and referral to other information and services. Progressive services include support for behaviour change, higher intensity interventions, structured home visitation, referral to specialists and action to safeguard the child.

The programme suggests that focusing on early intervention and prevention, rather than treating a problem after it has developed is both socially and economically more effective in the long term. It covers the whole range of health priorities at each age. One of the priorities of the Healthy Child Programme for children aged 11-19 is a reduction in teenage pregnancy and improved sexual health. A universal service like this can also be useful for identifying the most at-risk and referring them on to more targeted services that are available. Through joint working, the programme has provided targeted support for young people most at risk of early sex and teenage pregnancy, such as young people in or leaving care and those with poor educational attainment. It has also identified links with other risky behaviour such as substance use, most notably alcohol consumption. While no formal economic evaluation is available, some areas where local authorities have fully implemented the strategy have seen teen conception rate reductions of over 30 per cent.

For more information see:

<http://www.dh.gov.uk/en/AdvanceSearchResult/index.htm?searchTerms=healthy+child+programme>

## Juvenile Offender Programmes (adjusted for UK values)

The majority of the interventions considered in the original WSIPP analysis were juvenile offender programmes. Whilst such programmes are extremely effective according to the US analysis, they would appear to be much less effective when using UK values.

**Table D.10: Juvenile offender programmes**

Juvenile offender programmes	BCR	NPV
Adolescent Diversion Project	13.54	22290
Dialectical Behaviour Therapy (in Washington)	38.05	31243
Juvenile Offender Interagency Coordination Programmes	15.48	8100
Aggression Replacement training (excluding Washington)	20.56	14846
Diversion Programmes -with Services (vs. regular juvenile court processing)	5.58	1865
Aggression Replacement training (in Washington)	12.60	8805
Scared Straight	-203.51	-11056
Functional Family Therapy (excluding Washington)	13.25	26216
Other Family-Based Therapy Programmes for Juvenile Offenders	8.68	12441
Multidimensional Treatment Foster Care (vs. regular group care)	10.88	24290
Functional Family Therapy (in Washington)	7.69	14315
Juvenile Intensive Probation Supervision Programmes	0	-1482
Multi-systematic therapy (MST)	2.64	9316
Mentoring (in the juvenile justice system - in Washington)	1.78	5075
Juvenile Intensive Parole Supervision (excluding Washington)	0.00	-5992
Juvenile Boot Camps (excluding Washington)	0.00	-8474

The juvenile offender programmes appeared to be more effective in the US due to the very high costs of crime as a result of incarceration costs. Whilst crime is still costly in London, the value that we place on crime is slightly lower than in the US due to a lesser focus on incarceration.

### UK Intervention: Safer School Partnerships Programme

The Safer School Partnerships Programme (SSP) aims to promote the safety of schools and the pupils attending them. In particular, the programme seeks to address key behavioural issues such as bullying, truancy and anti-social behaviour and offending. The programme gets police and support workers actively engaged with the schools and attempts to reduce the reliance on the use of pupil exclusion.

An evaluation undertaken by the Youth Justice Board attempts to assess the benefits of the programme in terms of reduction in absence and exclusion, improvement in exam results, and a reduction in crime, the fear of crime, problem behaviour and victimisation. Only a small number of schools were evaluated in this study, but it shows that benefits from interventions of this kind have the potential to be very high. Interventions that successfully target young people who are at a high risk of becoming offenders, truant or failing to achieve educational outcomes are most effective. The study suggests that programmes based on early intervention in the lives of children thought likely to be at risk of becoming offenders can reduce youth offending and offending later in life.

Since the initial pilot began in 2002, there are now over 450 Safer School Partnerships operating in England and Wales. While the initial focus was just on crime, broader benefits have been identified such as improved community cohesion, a stronger sense of citizenship among children, and an increased quality of life and opportunities for young people and their families and the wider community around the school.

For more information see: <http://www.yjb.gov.uk/en-gb/yjs/Prevention/SSP/>

**Table D.11: Values used to determine monetary value of benefits**

Benefit	Value (2010£)	Source
Crime	3,657	This is the average cost of a crime against individuals and households from the Home Office Report, 'the economic and social costs of crime against individuals and households 2003/04'. This value does not include crime against commercial or public sector violation, fraud or traffic offences. The value of one crime avoided is £2,975 in 2003/04, adjusted to £3,657 in 2010.
High School Graduation	286,537	This is the value of achieving 5 GCSE A*-C or equivalent compared with no qualification (level 2 compared with no qualification). The values are quoted are £288,151 for boys and £211,250 for girls in 2006. These estimates were taken from DfES using LFS data and were cited in the Full Service Extended Schools Evaluation. An average value for boys and girls was used, and then adjusted to £286,537 in 2010.
Test Scores	165,356	This is the value of achieving 5 GCSE A*-C or equivalent compared with 5 GCSE A*-G (level 2 compared with below level 2). The values quoted are £161,348 for boys and £126,847 for girls in 2006. These estimates are from DfES using LFS data, cited in the Full Service Extended Schools evaluation. An average value for boys and girls was used, and then adjusted to £165,356 in 2010.
K-12 Special Education	3,278	This value is derived from information on the actual costs of providing special education needs support in a sample of schools and local authorities. Costs averaged £2,187 per pupil for the total Key Stage 2 phase (4 years) and £3,526 per pupil for the total Key Stage 3 and 4 phases (5 years). A mid-point cost per pupil was used here. The value was cited in the KPMG Foundation report, "The long term costs of literacy difficulties" 2006. The value has been adjusted to be £3,278 in 2010.
Public Assistance	-	Public assistance is treated as a transfer payment in the WSIPP paper, except for instances where administration costs for the public assistance programmes can be identified. A public assistance values have been treated here as transfer payments or are considered to be negligible
Childcare	-	Childcare costs are treated as incidental offsets in the WSIPP paper so have been treated the same here.
Child Abuse and Neglect	7,462	Value from Curtis and Netten (2006). Estimate for child abuse neglect per child per week is £130 based on median cost. Total cost for a year (assuming one year of requirement) is £6760. This includes all costs falling to social services departments including placement costs and other regular payments, commissioned and directly provided services, social work and other fieldwork, group work and individual work in centres and teams, and miscellaneous costs, and one-off costs and payments. The value has been adjusted to 2010
Teen births (aged under 18)	62,714	This value is calculated by estimating the impact that a teen birth has on the other outcomes assessed in this study, such as high school graduation, crime, and child abuse and neglect.
Tobacco (regular use)	103,380	The estimated value of one person stopping smoking based on a number of sources including Godfrey (2004) and Mason et al (2006) is used to provide a value for tobacco use. Cited in the Full Service Extended Schools evaluation and adjusted to 2010.
Alcohol (disordered use)	8,577	The value of disordered alcohol use is based on the cost per problem drinker from Leontaridi (2003) for the Cabinet Office. This was cited in the Full Service Extended Schools evaluation and adjusted to 2010
Illicit drugs (disordered use)	50,756	The economic and social cost per problematic drug user is estimated by the Home Office as £44,231 per year in their report, 'Measuring different aspects of problem drug use: methodological developments'. The largest part of this value is crime so when there is an effect on both outcomes, just one should be counted. The value has been adjusted to 2010.

**Table D12: Programmes included in WSIPP analysis**

Programme	Type of Programme	Main beneficiaries	Project Description
Adolescent Diversion Project	Juvenile offender programmes	Taxpayers from cost of crime	Stems from research experiments conducted in 1970s and 1980s where youth were diverted from juvenile court to prevent them being labelled delinquent. Programme mentors work with youth in their environment to provide community resources and initiate behavioural change
Adolescent Sibling Pregnancy Prevention Programme	Teen pregnancy prevention programmes	Programme participants through high school graduation, also taxpayer and non-taxpayer benefits	Was founded to prevent pregnancy among adolescents with a pregnant or parenting sibling, a group identified at high risk of early pregnancy. Variety of activities delivered by non-profit social service agencies, school districts, and public health departments to youth aged 11 to 17.
Adolescent Transitions Programme	Youth substance abuse prevention programmes	Programme participants through tobacco and alcohol reduced probability of initiation. Also taxpayer benefits and slight non-taxpayer benefits	A middle and high school based programme that focuses on parenting skills and inform parents about risks associated with problem behaviour and substance use.
Aggression Replacement training (in Washington)	Juvenile offender programmes	Non-taxpayers and tax payers through costs of crime	A ten-week, 30-hour intervention administered to groups of eight to 12 juvenile offenders three times per week. The programme relies on repetitive learning techniques to teach participants to control impulsiveness and anger and use more appropriate behaviours. Group discussion is used to correct anti-social thinking
Aggression Replacement training (excluding Washington)	Juvenile offender programmes	Non-taxpayers closely followed by tax-payers for costs of crime	Same as above but conducted outside Washington State
All Stars	Youth substance abuse prevention programmes	Programme participants and to lesser extent taxpayers through tobacco reduced probability of initiation	School or community based programme to prevent risky behaviour in youth 11 to 15 years old. In 22-29 sessions held over two years, the programme attempts to foster positive personal characteristics of youth and reduce substance use, violence and premature sexual activity
Big Brothers/Big Sisters	Mentoring programmes	Programme participants through improved test scores, reduced probability of initiation of alcohol and illicit drugs. Also taxpayer and non-taxpayer benefits for crime reductions, improved test scores, alcohol and illicit drugs	Provides one-on-one mentoring for youth in single parent families. Trained community volunteers are matched with youth aged five to 18 and they spend time together two to four times each month for a year, on average. The goal of Big Brothers/Big Sisters is to develop stable and supportive relationships between at-risk youth and caring adults



Programme	Type of Programme	Main beneficiaries	Project Description
CASASTART (Striving Together to Achieve Rewarding Tomorrows)	Youth development programmes	Non-taxpayers and taxpayers through costs of crime. Also benefit to programme participants for reduced probability of initiation of illicit drugs, and to lesser extent taxpayers and non-taxpayers	Targets youth aged 11 to 13 in high-risk neighbourhoods. Using case management, after school activities and law enforcement the programme attempts to decrease individual, family and community risk factors while promoting positive behaviour such as school performance and social activities
Child Development Project	Youth development programmes	Programme participants through reduced probability of initiation of alcohol and illicit drugs. Also taxpayer and non-taxpayer benefits for same.	Designed to build students' academic skills and sense of school community through a reading and community building programme
Childhaven	Child welfare/Home visitation programmes	No data available	A day treatment programme for children that provides children with the environment and social conditions needed to overcome their abuse/neglect and thrive
Children's Aid Society-Carrera Project	Teen pregnancy prevention programmes	Programme participants for high school graduation and non-taxpayers and taxpayers. Slight adjustment to public assistance (disbenefit for participants but benefit to taxpayer). Also has benefit for secondary programme recipient through high school graduation, crime and child abuse and neglect	Provides afterschool activities five days a week for teens 13 and older. Programme activities include Job Club, academic assistance, classes in family life and sexuality, an arts component, individual sports one could continue throughout life. The programme provides mental health care, medical care and full dental care
CMCA (Communities Mobilizing for Change on Alcohol)	Youth substance abuse Pprevention programmes	No data available	Community organising effort to reduce teenagers access to alcohol
Comprehensive Child Development Programme	Child welfare/Home visitation programmes	Small public assistance benefit to programme participant and disbenefit to taxpayer	A national demonstration project for disadvantaged new parents. Home visitors provided case management and early childhood education starting before the child's first birthday and extending to the child's fifth birthday
D.A.R.E (Drug Abuse Resistance Education)	Youth substance abuse prevention programmes	No identifiable benefit	Trained, uniformed law enforcement officers taught fifth and sixth graders to resist pressure to use drugs and provided information on the consequences of drug use, decision-making skills, and alternatives to drug use.

Programme	Type of Programme	Main beneficiaries	Project Description
Dialectical Behaviour Therapy (in Washington)	Juvenile offender programmes	Non-taxpayers and tax-payers through costs of crime	A comprehensive cognitive-behavioural treatment for individuals with complex and difficult to treat mental disorders. The programme focuses on four functions: enhancing a youth's behavioural skills to handle difficult situations, motivating the youth to change dysfunctional behaviours, ensuring the new skills are used in daily life, and training and consultation to improve the counsellor's skills.
Diversion Programmes - Simple release without services	Juvenile offender programmes	No data available	
Diversion Programmes -with Services (vs. regular juvenile court processing)	Juvenile offender programmes	Non-taxpayer and taxpayer benefits through costs of crime	Programmes typically designed for low-risk, first time juvenile offenders who would otherwise have their cases handled formally in the juvenile court. These programmes typically have citizen accountability boards with counselling services provided by social service agencies
Diversion Programmes with Services (vs. simple release)	Juvenile offender programmes	No data available	
Early childhood education for low income 3 and 4 years olds	Pre-kindergarten education programmes	Programme participants with high school graduation, test scores and child care. Taxpayers and non-taxpayers with crime, high school graduation, test scores, and taxpayers with K-12 Special education, K-12 Grade repetition, and childcare. Secondary benefits in terms of crime, high school graduation, K-12 Grade repetition, child abuse and neglect	These enhanced preschool experiences are designed for low income three and four year old children. Each programme uses different educational approaches in an attempt to increase student success.
Early head start	Pre-kindergarten education programmes	Programme participants, non-taxpayers and taxpayers for test scores	Programme for low-income women who are pregnant or families with a child younger than 24 months. Families may receive services until the child is 3 years old.
Even start	Pre-kindergarten education programmes	No identifiable benefit	The programme aims to improve the literacy of children and their parents through early childhood education, parenting education, adult education, parent-child joint literacy activities.
Family group conferences	Child welfare/Home visitation programmes	No data available	Intervention emphasising the use of meetings among family members and professionals where family members develop their own plan to overcome identified problems and respond to concerns of child protection professionals.

Programme	Type of Programme	Main beneficiaries	Project Description
Family matters	Youth substance abuse prevention programmes	Programme participants, taxpayers and non-taxpayers for tobacco and illicit drugs probability of initiation	Family-focussed programme to prevent tobacco and alcohol use among 12-14 year old youth. Programme is delivered through a series of booklets mailed to the home and follow up telephone calls from health educators.
Family Preservation Services (excluding Washington)	Child welfare/Home visitation programmes	No identifiable benefit	Short-term, home based crisis intervention services that emphasise placement prevention. The programme emphasises contact with the family within 24 hours of the crisis, staff accessibility around the clock, small caseload sizes, service duration of 4-6 weeks, and provision of intensive, concrete services and counselling
Family to Family		No data available	
FAST (Families and Schools Together)		No data available	
Functional Family Therapy (excluding Washington)	Juvenile offender programmes	Taxpayer and non-taxpayer benefits through costs of crime	See below
Functional Family Therapy (in Washington)	Juvenile offender programmes	Non-taxpayer and taxpayer benefits through costs of crime	A structured, family based intervention that works to enhance protective factors and reduce risk factors in the family. The first phase is designed to motivate the family toward change, the second teaches the family how to change a specific critical problem identified in the first phase, and the final phase helps the family generalise their problem solving skills
Good Behaviour Game	Youth development programmes	Programme participants through tobacco probability of initiation	Classroom management strategy designed to improve aggressive/disruptive classroom behaviour and prevent later criminality.
Guiding Good Choices (formerly PDFY)	Youth development programmes	Non-taxpayer and taxpayer benefits through costs of crime, programme participant, taxpayer and non-taxpayer benefits through alcohol probability of initiation	A family focused programme designed to improve parenting skills. It is a 5 session programme for families with 6th graders to improve parenting techniques and family bonding and teaches children resistance skills
Healthy Families America	Child welfare/Home visitation programmes	Teen pregnancy prevention is measured in terms of the other outcomes so there is no direct identifiable benefit, but there are secondary benefits for child abuse and neglect, crime and high school graduation	A network of programmes that grew out of the Hawaii Healthy Start programme. At-risk mothers are identified and enrolled either during pregnancy or shortly after the birth of a child. The intervention involves home visits by trained paraprofessionals who provide information on parenting and child development, parenting classes and case management

Programme	Type of Programme	Main beneficiaries	Project Description
HIPPY (Home Instruction Programme for Preschool Youngsters)	Pre-kindergarten education programmes	Programme participant for test scores (also for non-taxpayers and taxpayers).	Designed for families with 3 year olds whose parents have a limited education. This programme teaches parents how to teach their children and make their home more conducive to child learning. At the bi-weekly home visits, parents receive books and toys, and the home visitor instructs parents in the use of educational materials. The programme continues until the child completes kindergarten
Home Visiting - Low Birthweight Infants	Child welfare/Home visitation programmes	No data available	Programmes are associated with clinics or hospitals and are designed to help parents learn parenting skills and ways to encourage development of their infants
Home visiting for parents with toddlers	Child welfare/Home visitation programmes	No data available	Use home visits to enhance the effectiveness of disadvantaged parents as teachers of their young children
Home visiting Pprogrammes for at-risk mothers and children	Child welfare/Home visitation programmes	Secondary benefits for the child in terms of test scores, high school graduation, crime and child abuse and neglect	Focus on mothers considered at risk for parenting problems, based on factors such as maternal age, marital status and education, low household income, lack of social support or in some programmes mothers testing positive for drugs at the child's birth.
Infant Health and Development Programme	Child welfare/Home visitation programmes	No identifiable benefit	Clinical trial of a comprehensive early intervention for premature, low birth weight infants. Provides paediatric care and follow up; home visits each week beginning at 12 months of age; and after infants were 12 months old, bimonthly parent group meetings
Iowa Family Development and Self Sufficiency Programme		No data available	
Juvenile Boot Camps (excluding Washington)	Juvenile offender programmes	No identifiable benefit	Intended to apply the discipline and structure of military style environment to offenders as a means of increasing rehabilitation.
Juvenile Intensive Parole Supervision (excluding Washington)	Juvenile offender programmes	No identifiable benefit	When serious juvenile offenders are released from a juvenile institution they are subject to intensive parole conditions that include services and extra supervision/monitoring
Juvenile Intensive Probation (as alternative to incarceration)	Juvenile offender programmes	No identifiable benefit	
Juvenile Intensive Probation Supervision Programmes	Juvenile offender programmes	No identifiable benefit	After sentencing or following a commitment to a juvenile institution, youth are often placed on probation. Numerous programmes aim to put the youth on the right track during this period through more intensive services and supervision than normally offered.
Juvenile Offender Interagency Coordination Programmes	Juvenile offender programmes	Non-taxpayer and taxpayer benefits through costs of crime	Where services in the community were coordinated among several agencies. The approach intended to allow more individualised services, as well as more efficient resource allocation
Juvenile Offender Sex Offender Treatment	Juvenile offender programmes	No data available	

Programme	Type of Programme	Main beneficiaries	Project Description
KYB (Know Your Body)	Youth development programmes	No data available	Comprehensive, skills based school health promotion programme for grades K-6. It is cross-curriculum to be integrated into a range of classes
LEARN (Local Efforts to Address and Reduce Neglect)	Child welfare/Home visitation programmes	No data available	
Life Skills Training (LST)	Youth substance abuse prevention programmes	Programme participant and taxpayer benefits for tobacco, alcohol and illicit drugs probability of initiation	A school-based classroom intervention to prevent and reduce the use of tobacco, alcohol and marijuana. Teachers deliver the programme to middle/junior high school students in 30 sessions over three years. Students in the programme are taught general self-management and social skills and skills related to avoiding drug use
Mentoring (general)	Youth development programmes	No data available	One-on-one or group mentoring for at-risk youth in a community or school setting. School staff, college students or community volunteers serve as mentor. Diversity of goals and objectives
Mentoring (in the juvenile justice system - in Washington)	Juvenile offender programmes	Non-taxpayer and taxpayer benefits through cost of crime	Uses community volunteers to serve as trusted adults who assist Seattle youths transitioning from a JRA facility back into the community.
Minnesota Smoking Prevention Programme	Youth substance abuse prevention programmes	Programme participant and taxpayer benefits from reduced probability of initiation of tobacco use	A school-based tobacco prevention curriculum designed for students in grades 4-8. The programme helps adolescents learn why people smoke, to resist peer pressure, and to develop their own reasons for avoiding tobacco use.
Multidimensional Treatment Foster Care (vs. regular group care)	Juvenile offender programmes	Non-taxpayer and taxpayer benefits through cost of crime	An alternative to group or residential treatment, incarceration, and hospitalisation for adolescents with chronic anti-social behaviour, emotional disturbance, and delinquency. Community families are recruited, trained, and closely supervised to provide MTFC placed adolescents with treatment and intensive supervision at home, in school and in the community.
Multi-systematic therapy (MST)	Juvenile offender programmes	Non-taxpayer and taxpayer benefits through cost of crime	Intervention for youth that focuses on improving the family's capacity to overcome the known causes of delinquency. It aims to promote parents' ability to monitor and discipline their children and replace deviant peer relationships with pro-social friendships.
Nurse Family Partnership for Low Income Women	Child welfare/Home visitation programmes	Non-taxpayer and taxpayer benefits through cost of crime. Secondary benefits for cost of crime, high school graduation, test scores, child abuse and neglect, alcohol and illicit drug disordered use	Provides intensive visitation by nurses during a woman's pregnancy and the first two years after birth. It aims to promote the child's development and provide support and instructive parenting skills to the parents. The programme is designed to serve low-income, at-risk pregnant women bearing their first child
Other Community and Mass Media Programmes to Prevent Substance Use	Youth substance abuse prevention programmes	No data available	Community level focussed programme which includes a variety of efforts to reduce the initiation or prevalence of youth substance use

Programme	Type of Programme	Main beneficiaries	Project Description
Other Comprehensive, Multi-level Programmes to Prevent Substance Abuse	Youth substance abuse prevention programmes	No data available	Programmes that combine a variety of approaches to reduce youth substance use or other detrimental behaviour
Other Family-Based Therapy Programmes for Juvenile Offenders	Juvenile offender programmes	Non-taxpayer and taxpayer benefits through cost of crime	Family based approaches to counselling.
Other Social Influence/Skills Building Substance Prevention Programmes	Youth substance abuse prevention programmes	Programme participant and taxpayers through reduced probability of initiation for tobacco and alcohol usage	Programmes designed to help youth understand the social pressures that influence substance use decisions; how to resist pressures to use tobacco, alcohol, and drugs; and how to improve their decision-making abilities. These are primarily school-based programmes that may also include information about the short and long term consequences of substance use and other health related information
Other Substance Use Prevention Programmes Targeting Youth Risk and Protective Factors	Youth substance abuse prevention programmes	No data available	Variety of programmes designed to change behavioural or environmental factors that may influence substance use, criminality, school achievement, or other outcomes.
Parent-Child Home Programme	Pre-kindergarten education programmes	No identifiable benefit	Targeted at children 24-30 months old whose parents have a limited education. The programme involves biweekly visits by a toy demonstrator over a period of two years. Each week, the visitor brings a new toy or book, and demonstrates ways the parents can engage the child with the toy or encourages the parent to read to the child
Parent-Child Interaction Therapy	Child welfare/Home visitation programmes	Secondary benefit for crime, high school graduation, child abuse and neglect, alcohol and illicit drug disordered use	Aims to restructure the parent-child relationship and provide the child with a secure attachment to the parent. Parents are treated with their children, skills are behaviourally defined, and all skills are directly coached and practiced in parent-child sessions. Therapists observe parent-child interactions through a one-way mirror and coach the parent using a radio earphone
Parents as teachers	Pre-kindergarten education programmes	Secondary benefit particularly for programme participants in terms of test scores	A home visiting programme for parents and children with a main goal of having healthy children ready to learn by the time they go to school. Parent educators with a minimum of some college education visit parents monthly. Visits typically begin during the mother's pregnancy and may continue until the child enters kindergarten.
PATHE (Positive Action Through Holistic Ed)		No data available	
Postponing Sexual Involvement Programme	Teen pregnancy prevention programmes	Disbenefits in terms of high school graduation and secondary disbenefits in terms of high school graduation, crime, child abuse and neglect	A two-stage programme for 8th grade students. The programme consists of five classes on human sexuality taught by teachers, followed by five classes on refusal skills training taught by trained peer educators

Programme	Type of Programme	Main beneficiaries	Project Description
Programmes for Teen Parents	Teen pregnancy prevention programmes	No data available	Designed to help young mothers avoid subsequent teenage births and to continue their educations.
Project 12 Ways/Safecare	Child Welfare/Home Visitation Programmes	No data available	Provides multi-faceted, in-home treatment to families designed to reduce repeated and recidivistic child abuse and neglect among clients. Services include parent-child training, stress reduction, self control, basic skill training, social support, home safety, health maintenance and nutrition
Project ALERT (Adolescent Learning Experience in Resistance Training)	Youth substance abuse prevention programmes	Programme participant and taxpayer benefits in terms of probability of initiation of illicit drugs	A middle/junior high school based programme to prevent tobacco, alcohol and marijuana use. Over 11 sessions, the programme helps students understand that most people do not use drugs and teaches them to identify and resist the internal and social pressures that encourage substance abuse
Project Northland	Youth substance abuse prevention programmes	Programme participant through tobacco, alcohol and illicit drug probability of initiation. Also taxpayer benefits and to lesser extent non-taxpayer benefit for alcohol initiation	A community-wide intervention designed to reduce adolescent alcohol use. The programme spans three years and is multi-level, involving individual students, parents, peers and community members, businesses and organisations
Project STAR (Students Taught Awareness and Resistance)	Youth substance abuse prevention programmes	Programme participant through tobacco, alcohol and illicit drug probability of initiation. Also taxpayer benefits and to lesser extent non-taxpayer benefit for alcohol and illicit drug initiation	A multi-component prevention programme with the goal of reducing adolescent tobacco, alcohol, and marijuana use. The programme consists of 6th and 7th grade intervention supported by parent, community and mass media components addressing the multiple influences of substance abuse
Project Taking Charge	Teen pregnancy prevention programmes	No data available	Pregnancy prevention programme used in junior high home economics classrooms. It promotes abstinence as the correct choice and provides no material on contraception
Project TND (Towards No Drug Use)	Youth substance abuse prevention programmes	No data available	Targeted drug abuse prevention programme with a focus on high school youth aged 14-19 at risk for drug abuse.
Project Towards No Tobacco (TNT)	Youth substance abuse prevention programmes	Programme participant for tobacco probability of initiation. Taxpayer benefit for same	A school-based classroom intervention to prevent and reduce tobacco use in youth from 10-15 years of age. The programme focuses on the multiple causes of tobacco use, develops skills to resist social pressure to use tobacco and provides information about its physical consequences



Programme	Type of Programme	Main beneficiaries	Project Description
Quantum Opportunities Project	Mentoring programmes	Programme participants and all others benefit from high school graduation and small benefit to non-taxpayers and taxpayers from costs of crime. Disbenefit to participant in terms of public assistance but benefit to taxpayers. Secondary benefit for all in terms of high school graduation, taxpayers and non-taxpayers for crime and non-programme participants for child abuse and neglect	Designed to serve disadvantaged high school students by providing education, service and development activities, as well as financial incentives for youth's continuing participation.
Reach for Health Community Youth Service	Youth substance abuse prevention programmes	No data available	Two-year curriculum designed for 7th and 8th graders. In addition to 40 hours of health curriculum each year, students spend three hours a week volunteering in local agencies such as preschools or nursing homes
Reducing the Risk Programme	Teen pregnancy prevention programmes	No identifiable benefit	A 16-session sex education curriculum emphasising information on abstinence and contraception.
Regular parole (vs. not having parole)	Juvenile offender programmes	Large disbenefit to non-programme participants in terms of cost of crime	A natural experiment regarding parole for juvenile offenders occurred following a 1997 law change allowing the comparison of similar groups of juveniles who did and did not receive parole after release
Safer choices	Teen pregnancy prevention programmes	No data available	
Scared Straight	Juvenile offender programmes	Non-taxpayer and taxpayer disbenefits in terms of cost of crime	Takes young juvenile offenders to an adult prison where adult offenders talk to them about how their lives will turn out if they do not change their ways.
School-Based Clinics for Pregnancy Prevention	Teen pregnancy prevention programmes	No identifiable benefit	Located in schools or immediately adjacent to schools in disadvantaged neighbourhoods. Clinics provide general health care in addition to pregnancy and STD counselling and reproductive health services. Depending on the community, the clinics provide contraceptives directly or via arrangement with local family planning clinics
Seattle Social Development Project	Youth development programmes	Programme participants and all others benefit from high school graduation, non-taxpayers and taxpayers benefit from cost of crime. Taxpayer benefit in terms of K-12 grade repetition	A three-part intervention for teachers, parents and students in grades 1 to 6. The focus is on elementary schools in high crime urban areas. The intervention trains teachers to manage classrooms to promote students' bonding to the school. The programme also offers training to parents to promote bonding to family and school. It provides training to children designed to affect attitudes towards school, behaviour in school and academic achievement

Programme	Type of Programme	Main beneficiaries	Project Description
STARS for families (Start Taking Alcohol Risks Seriously)	Youth substance abuse prevention programmes	No identifiable benefit	A health promotion intervention designed to postpone alcohol use among at-risk middle and junior high school youth. This two-year intervention includes a 20 minute nurse consultation, regular mailings to parents and take-home lessons for parents and children. The programme can be implemented in a variety of settings, including schools
Strengthening Families Programme for Parents and Youth 10-14	Youth development programmes	Programme participants in terms of tobacco, alcohol and illicit drugs probability of initiation. Non-programme participants in terms of costs of crime	Family based programme that attempts to reduce behaviour problems and substance use by enhancing parenting skills, parent-child relationships and family communication. The seven-week intervention is designed for 6th grade students and their families
System of Care/ Wraparound Programmes	Child welfare/home visitation programmes	No identifiable benefit	Providing individualised coordinated services among a variety of organisations and agencies that allows the child to remain in the community. It is flexible, culturally competent, neighbourhood based and tailored to individual circumstances
Teen Outreach Programme	Teen pregnancy prevention programmes	Programme participants and all others in terms of high school graduation. Secondary benefits in terms of crime, high school graduation and child abuse and neglect	A school-based intervention to prevent teenage pregnancy and dropping out of school. The focus of this year-long programme is supervised community volunteering. The students must volunteer for a minimum of 20 hours
Teen Talk	Teen pregnancy prevention programmes	No identifiable benefit	Aims to prevent teenage pregnancy for 13-19 year olds. The community- based programme consists of six sessions over a 2-3 week period for a total of 12-15 hours including group lectures on reproductive health, physiology and contraception.
Washington Basic Training Camp	Juvenile offender programmes	Crime benefits and programme costs are positive	Intended to apply the discipline and structure of military style environment to offenders as a means of increasing rehabilitation.
Washington State Department of Health/Client Centered Programmes	Teen pregnancy prevention programmes	No data available	A collection of community based programmes aimed at adolescents considered to be at risk of teenage pregnancy
Youth suicide prevention programmes - in hospitals	Other	No data available	Hospital based therapeutic programmes targeting youth who attempted suicide or are in psychiatric crisis
Youth suicide prevention programmes - in K-12	Other	No data available	School based curriculum programmes usually targeting high school students at risk for dropping out of school and suicide

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