



realising
ambition

Because I'm worth it

**Costs and Benefits of prevention and early
intervention for reducing youth offending**

**Realising Ambition
Programme Insights: Issue 9**



catch
22



substance.



Programme Insights: This series of Programme Insights shares reflections, learning and practical implications from Realising Ambition, a £25m Big Lottery Fund programme. Realising Ambition has supported the replication of evidence-based and promising interventions designed to improve outcomes for children and young people and prevent them from entering the youth justice system.

This series provides ongoing information about Realising Ambition and its impact rather than combining the analysis into one, lengthy report at the end of the programme.

Our Findings pieces, including this one, describe data and learning from the evaluation activities undertaken by the Dartington Social Research Unit (DSRU), and our reflections upon the implications of these. Words highlighted in blue are defined in the glossary.

About us: The Realising Ambition programme is managed by a consortium committed to improving outcomes for children. It is led by [Catch22](#), alongside the [Dartington Social Research Unit \(DSRU\)](#), [Substance](#) and [The Young Foundation](#). This issue was written by the researchers from DSRU who led on cost-benefit analysis - with contributions from all partners in the consortium.



Realising Ambition Programme Insights: Issue 9

About this issue

In previous issues of the Realising Ambition Programme Insight series we have considered outcomes and the impact of services delivered as part of Realising Ambition (see Issue 4) as well as the costs of delivery (see Issue 8). To date they have each been considered in isolation, something we have urged caution about because one has a bearing on how the other may be interpreted.

In this issue we combine analyses on impact and cost. Where it is possible to do so, we consider the costs and benefits of delivery within the Realising Ambition programme.

In Part 1 we describe what cost-benefit analysis is and why it is important for service delivery organisations, funders and commissioners. In Part 2 we describe our approach to cost-benefit analysis and describe the services within Realising Ambition that we have been able to include in our analysis. We then present the findings of this analysis and some reflections. Part 3 introduces the concept of 'break-even' analysis, which can be carried out when the evidence of impact for a given intervention is not sufficiently robust for a cost-benefit analysis. We provide two illustrative break-even analyses from the Realising Ambition portfolio. In Part 4 we draw out conclusions and implications for policy and practice.

Part I: What is cost-benefit analysis and why is it important?

Now, more than ever, understanding [value for money](#) is at the forefront of the minds of service providers and commissioners: reductions in public expenditure have sharpened the focus. In previous issues of this Programme Insight series we have considered the [impact](#) and [cost](#) of [replicating](#) services for children and young people. At the same time we have also argued that understanding impact or cost alone is insufficient. It is possible to have a well-designed [service](#) that produces a

positive [outcome](#), but it may be so expensive to deliver that the costs outweigh the benefits. One example outside of Realising Ambition is Individual Behavioural Parent Training (BPT) for children with disruptive behavioural disorders: it has a positive impact on reducing disruptive behaviour yet the costs of delivering it on a one-on-one basis mean that the benefits do not outweigh the financial costs. There are numerous other examples of beneficial medical treatments that have a positive health benefit but which are judged by the National Institute for Health and Care Excellence (NICE) as being prohibitively expensive and thus are not made available on the NHS.

Conversely, lower costs do not necessarily mean better value for money: a low-cost service may have little or no impact (or it may even be harmful). One example is Scared Straight – a low cost approach to 'scaring' young people from engaging in antisocial behaviour that not only has no positive impact, but it actually increases the likelihood of offending and thus costs rather than saves money over the long-term. Hence it is important to consider costs in relation to impact.

Understanding [value for money](#) is helpful for commissioners and funders as they make difficult choices about where to invest their limited and decreasing budgets. They want to ensure that their money is spent in a way that maximises [impact](#) within the available resources ([see Programme Insight 7](#)). It is also important, although not often sufficiently considered, for service delivery organisations to understand value for money so that they can communicate it to funders and commissioners, and to inform improvements in their services by increasing value (focusing on reducing costs and/or enhancing impact).

There are a number of approaches to assessing value for money, including [Social Return on Investment \(SROI\)](#), [cost-effectiveness](#) and [cost-benefit analysis](#). It is beyond the scope of this issue to review in depth the function, strengths and weaknesses of each (see the 'further reading' section for some introductions). Nonetheless, a brief overview is provided.

Cost-benefit analysis – the approach we have taken within Realising Ambition – is a process by which costs are considered against expected benefits to determine whether the value and impact of a service outweigh the costs of delivering it. In this approach, both the costs and the benefits are defined in monetary terms. Benefits determined from a robust **experimental evaluation** of impact are put into monetary terms using data on the savings that are generated by improving outcomes, such as reducing the demand on health services or reducing costs to the criminal justice system and costs to victims of crime. The benefits can also come from predicted increased lifetime earnings to service participants.

Cost-benefit analysis differs from **cost-effectiveness analysis**, in which the costs needed to produce a unit change in a measurable outcome indicator are calculated. Cost-benefit analysis also differs from **social return on investment (SROI)** analysis, which works out the monetary value that stakeholders themselves place on the impacts they perceive to be attributable to an intervention. Within SROI there are a variety of methods for estimating benefits and their monetary value: whilst they may be robustly determined, often they are fairly loosely estimated.

One thing common to all approaches is the requirement for an accurate estimate of **costs**: when these are under-estimated, as is often the case, it will in turn undermine efforts to assess value for money. Within Realising Ambition and the analysis we present here, we have taken a thorough and consistent approach to estimating realistic **direct costs** of all Realising Ambition services, as described in [Programme Insight 8](#).

A further critique of many approaches to assessing value for money is that benefits are unreliably

estimated. This may be because the **primary outcomes** of interest do not lend themselves to **monetisation**. An example we'll return to in Part 3 is that of Roots of Empathy – a Realising Ambition service for which the primary outcome is empathy: not something that economists have yet put a financial value on. Or often there is little reliable evidence of impact, and as such, benefits are generously estimated (i.e. made up). Finally, even when estimates of impact are reliable and monetisable they may appear to offer enormous savings but often – as is the case in our subsequent analysis – this is not necessarily equivalent to money that can be 'banked' or realised in the short-term by the provider or commissioner of the service, but rather over the **beneficiary's** life-course, with returns falling to different agencies or stakeholders.

As described in the next part, we temper some of these criticisms in our approach to cost-benefit analysis by using only cautious estimates of impact determined from rigorously conducted **experimental evaluations** of services which are translated into monetary benefits. Yet, as we will consider in due course, relying only on experimental evaluations is a limitation in itself, as few services are evaluated to such a degree (in Part 3 we describe and undertake an alternative approach – a break even analysis – for two Realising Ambition projects that have not been experimentally evaluated).

All approaches to understanding value for money have their strengths and their flaws, which we recognise. However, there is a growing interest from funders and commissioners to weigh costs against economic and social benefits. It is in this spirit we present this analysis.

Part 2: Cost-benefit analysis of Realising Ambition services

The cost-benefit model used in our analysis was developed by the Dartington Social Research Unit (DSRU) via their [Investing in Children](#) cost-benefit model: a UK adaptation of the well-regarded Washington State Institute for Public Policy (WSIPP) model. WSIPP estimates are used by the Washington State legislature to inform expenditure across policy domains such as justice and education. In order to provide the best possible forecasts, WSIPP uses robust research evidence and data and makes cautious assumptions in the model. The latest version of the UK model incorporates WSIPP's recent improvements to their calculations and new UK data on public service use and costs, and produces results in 2016 GBP.

There are six main steps in the analysis. We briefly introduce the approach here. Further details can be found in the [Investing in Children](#) Technical Report (see further reading).

Step 1: Determine the [impact](#) of the [service](#), drawing on data from robust [experimental evaluations](#), and then conservatively account for any [bias](#) in those evaluations.

Step 2: Estimate how benefits and impact from a service may lead to follow-on improvements in [outcomes](#) over subsequent years. For example, a service may have a direct effect on reducing the symptoms of ADHD and involvement in mental health services, as well as an indirect effect of increasing engagement at school leading to higher attainment and subsequent earnings.

Step 3: Estimate base rates and normal trajectories of child and family outcomes, and the difference that the impact of services makes to these.

Step 4: Put a monetary value on these differences, for example by considering how much would be saved by preventing a young person from engaging in crime or from needing to get help from health, education or social care services.

Step 5: Compare the costs of the service to those economic benefits.

Step 6: Make some assessment of the variation and risk in the predictions.

This approach to assessing costs and benefits is robust. However, as described previously, one limitation to this approach is that few services have been rigorously evaluated using [experimental methods](#) to determine their impact (a requirement for inclusion in the model).

That said, Realising Ambition is in the fortunate position of [replicating](#) those services with the strongest possible evidence base. Of the 25 services replicated, nine had been evaluated using an experimental design. It was possible to produce forecasts of the costs and benefits for seven of these (the outcomes of the other two are not yet [monetised](#)). In the absence of experimental evaluation, we have not been able to conduct cost benefit analysis for the remaining 16 services. However, in Part 3 we present an alternative [break-even](#) analysis approach applied to those without an experimental evaluation.

Table I: Services included in our cost-benefit analysis

Service	Summary
All Stars, replicated by Barnardo's Northern Ireland	All Stars is a school-based approach to preventing high-risk behaviours addressing youth substance misuse, violence and premature sexual activity by fostering the development of positive personal characteristics. All Stars consists of highly interactive sessions that can be delivered as part of the school day.
Functional Family Therapy (FFT), replicated by Action for Children	<p>FFT is an intensive, short-term family intervention programme targeting 11 to 18-year-olds with conduct disorders, experiencing family conflict, displaying violent behaviour, at risk of offending, or on the edge of care.</p> <p>The service lasts between three and six months depending on the assessed level of need. Moderate cases would receive, on average, 8 to 13 sessions, with more serious cases receiving 20 to 30.</p>
LifeSkills Training (LST), replicated by Barnardo's Northern Ireland	LST is a universal, multi-component, enhancement-based substance abuse and violence prevention programme that is implemented using a personal and social skills training model. LST consists of 15 sessions of 45 minutes each and includes a student and a facilitator manual that covers personal self-management, general social skills and violence and drug resistance skills.
Multi-Systemic Therapy (MST), replicated by Extern	MST is an evidence-based, intensive, family and community based model of practice that focuses on the whole ecology of the child. MST has been effective in reducing out-of-home placements, retaining young people in school, decreasing drug and alcohol misuse and improving family relationships.
Promoting Alternative Thinking Strategies (PATHS), replicated by Barnardo's Northern Ireland	PATHS is a school-based approach promoting social and emotional learning, resilience and skills development in children. It is provided by teachers to their whole class, from Reception to Year 6 (4-11 years), through two 25-40 minute lessons per week.
Roots of Empathy (ROE), replicated by Action for Children	ROE seeks to reduce children's aggressive behaviour and increase their pro-social behaviour. It involves regularly bringing a mother and baby into a primary school classroom, through 27 sessions over nine months. Through observing the baby's development, children learn to understand the baby's needs and emotions and gain understanding of how to care for a baby safely. Each visit is preceded and followed by a session led by an instructor who helps prepare the children and reinforces learning through group discussions, artwork, maths, drama and writing.
Strengthening Families Programme, 10-14 (SFP 10-14), replicated by Oxford Brookes University, Lifeline, Changing Lives and Dorset Youth Association.	SFP 10-14 (UK) is a seven-week, evidence-based programme to help families with young people aged between 10 and 14 years-old to prepare for teenage years. The service is aimed at reducing alcohol and substance misuse and behavioural problems in adolescence and strengthening the parent/carer-child relationship.

Part 3: Summary of cost-benefit analysis

In Table 2 we summarise the results for our [cost-benefit analysis](#). For each [service](#) we report the following:

- (1) Direct unit costs:** these are the costs that are typically borne by the lead organisation or funder when setting up and running the intervention, and do not include indirect costs for resources such as volunteers' time or time or other contributions provided by external organisations at no charge;
- (2) Benefits to taxpayers:** this includes the income that accrues due to increases in beneficiary employment and earnings (and therefore tax) or savings from a reduced use of services such as healthcare or the criminal justice system;
- (3) Benefits to participants:** this is the value of outcomes experienced by the participants over their life-course. This could be both primary (child) and secondary (parent in a parenting programme) participants of a programme;
- (4) Benefits to others:** this covers the value of outcomes experienced by others in society over the beneficiary life-course – for example, reduced victimisation following a reduction in crime;
- (5) Benefit minus cost:** this gives the net benefit;
- (6) Benefit-cost ratio:** this gives the pounds saved for every pound invested;
- (7) Risk of loss:** this is the likelihood that each service will not break even or produce a benefit. In other words, it indicates how many times the service is likely to produce a net loss if it were implemented 100 times. The higher the percentage the greater the risk of loss.

It is worth emphasising the cost-benefit data we report here are related to Realising Ambition [replication](#) efforts. While benefits are forecast from pre-existing evaluations, the cost element of the equation comes from direct replication costs from the Realising Ambition programme (see Programme Insight 8). As such, estimates may differ from those previously reported in [Investing in Children](#).

There are two estimates for one service: Functional Family Therapy (FFT). This is because the existing data in the model only allow us to estimate benefits for either the general young person population, or for young offenders (because we only have longitudinal data on trajectories of these two populations). Yet the [target population](#) within Realising Ambition (and indeed many implementations of the service) is young people with a range of behavioural difficulties, not just those from a young offending population. As such, we have presented both general population and young offender estimates, and expect that the true average benefits for the service would fall somewhere in this range. It is worth noting that the service will still likely [break even](#) if implemented with a general population, a small proportion of whom would be likely to commit crimes in the future.

Table 2: Summary of cost-benefit analysis

Service	Direct unit costs	Benefits to participants	Benefits to taxpayers	Benefits to others	Total benefits	Benefits minus costs	Benefit to cost ratio	Risk of loss
All Stars	£52	£975	£550	£17	£1,541	£1,489	£29.61	3%
Life Skills Training (LST)	£23	£415	£222	£8	£644	£620	£27.75	21%
Multi-Systemic Therapy (MST)	£4,848	£1,583	£3,715	£11,085	£16,383	£11,535	£3.39	5%
PATHS (excluding Friendship groups) ⁴	£237	£1,619	£851	£0	£2,470	£2,233	£10.44	38%
Roots of Empathy ⁵	£138	£50	£61	£1	£112	-£26	£0.81	54%
Strengthening Families Programme 10-14	£810	£967	£521	£10	£1,498	£688	£1.85	41%
FFT (for young offenders)	£3,542	£2,926	£6,766	£19,985	£29,677	£26,135	£8.39	0%
FFT (for the general population)	£3,542	£1,689	£1,394	£593	£3,676	£134	£1.04	54%

⁴ Replication of PATHS within Realising Ambition also included an additional service component called Friendship Groups: a group-based activity for children in need of further support. We focus cost-benefit analysis solely on the PATHS element as the evaluation of the Friendship Group element was not suitable for inclusion.

⁵ We have greyed out the findings for Roots of Empathy as the analysis is only a partial picture. The primary outcome – empathy – is not at this point in time possible to monetise and include in our cost-benefit model. As such, data presented relate only to secondary outcomes. See subsequent discussion.

As presented in Table 2, **cost-benefit analysis** of those **evidence-based services** replicated as part of Realising Ambition tend to represent good value for money. School-wide **prevention** programmes, such as PATHS, LST or All Stars represent a strong return on investment, predicated on a low **direct unit-cost**, wide reach and long-term benefits over the life-course. **Early intervention** and **treatment services**, such as MST or FFT, may be perceived as more expensive due to their intensive nature, but also represent excellent value for money, particularly given the more entrenched challenges the intended target population faces.

The importance of targeting services at the intended population is well illustrated by the cost-benefit analysis of FFT. If delivered to a general population of young people without elevated risk of involvement in the criminal justice system, then it will only just about **break-even** (with a reasonable chance of making a loss). Yet when targeted at those young people with more established difficulties then the **cost-benefit ratio** is dramatically increased.

The **cost-benefit analysis** of Roots of Empathy is intentionally greyed out, in Table 2. This is because, as we referred to in Part 1, not all **outcomes** are **monetisable**. Roots of Empathy is a good case in

point, as the **primary outcome** is empathy – not something we are currently able to monetise in the cost-benefit model. As such, the presentation of the benefits is partial and somewhat misleading as the forecast is coming only from **secondary outcomes** (including conduct problems and emotional problems) for which, by definition, smaller effects would be expected. That said, even in this context, the service performs relatively well, as we forecast that it will recoup 81pence per £1 spent. This illustrates the importance of decision-makers considering the wider potential benefits of a service, not just those that carry a monetary value.

The age of children receiving the service, alongside the targeted outcomes and associated benefits, have a strong bearing on how quickly benefits begin to appear and accrue. **Prevention** services delivered to all children in the primary school-age years that address behavioural and educational outcomes – such as All Stars, LST and PATHS – primarily lead to benefits in terms of reduced education services costs and increased earnings (for example, see Figure 1 for further details related to PATHS). The savings to the education system are generally over a medium-term timeframe, whereas the benefits in terms of increased earnings (and therefore taxes paid) will accrue over a much longer period.

Figure 1: How benefits accrue over the life-course (for PATHS)

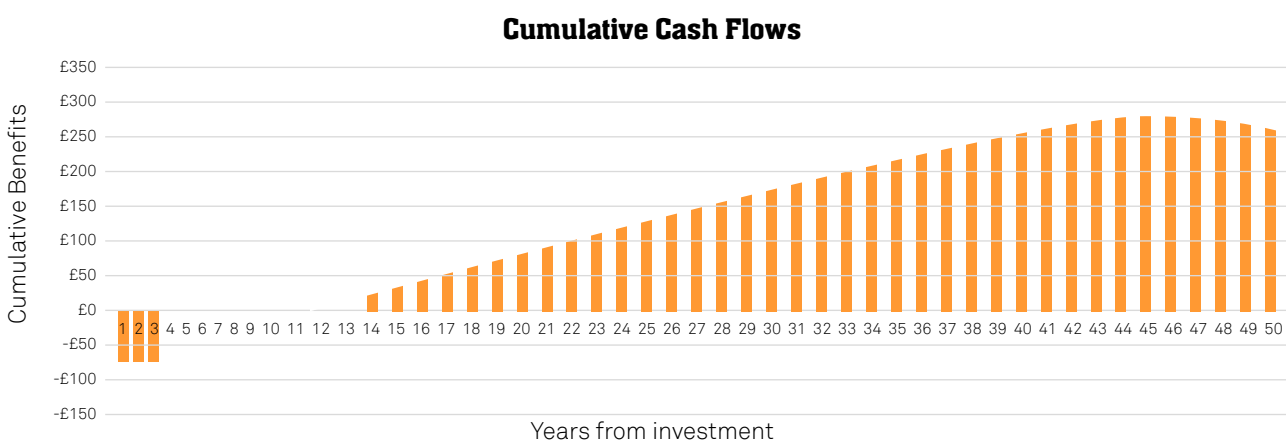
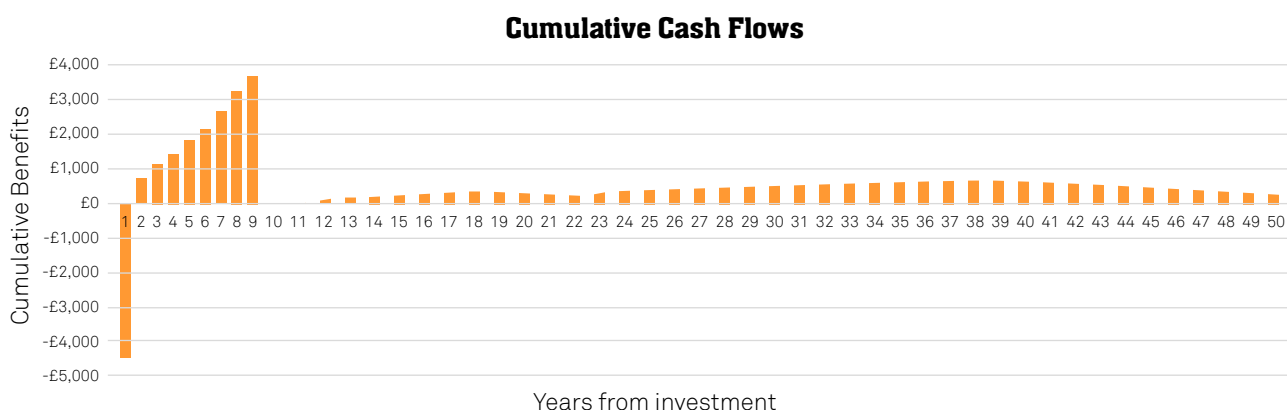


Figure 2: How benefits accrue over the life-course (for MST)



Early intervention or treatment services that address young people’s antisocial or criminal behaviour – such as FFT and MST – will likely show larger and more immediate benefits in terms of crimes prevented, but these benefits are also likely to diminish as the young person gets older. However, smaller indirect effects in terms of improved educational outcomes, which in turn lead to increased earnings (and taxes), will likely accrue over a much longer period (see illustrative accrual curve for MST in Figure 2, but note the different scale on the y-axis of the graph).

Estimating value for money without rigorous evaluation of impact

We are fortunate within Realising Ambition to be able to undertake a robust cost-benefit analysis of several services because they were selected for inclusion in the programme, in part, on the basis of having been evaluated by experimental methods. However, within Realising Ambition, and certainly in the wider service delivery environment, this is not the norm, and therefore, rigorous cost-benefit analysis is not possible. As such, when an estimation of value for money is undertaken, it is usually some form of SROI in which benefits are estimated rather than being actually forecast using evidence (we considered some of the limitations of this in Part 2).

An alternative approach when a programme has not been evaluated in a controlled trial is to undertake a break-even analysis. In this approach, a cost-benefit model is used to calculate what size impact the service would need to achieve in order to at least break-even. A summary of the method is presented below.

Summary of break-even method

A break-even analysis can be conducted when the direct unit cost, target population and targeted primary outcome of a service is known. The break-even element of the cost-benefit model can estimate the effect size that would be required on the primary outcome for that service to generate enough benefits to just cover the costs. The results of this analysis can then be used to determine whether the effect size could reasonably be expected for the service, based on research conducted on similar types of services. They also enable consideration of the costs of a service: if the effect size required to break even is unreasonably high, the service may be too expensive. The break-even analysis results can also be used to determine whether a service is ready to proceed with an evaluation, i.e. if the outcomes seem achievable and measurable. They can also help researchers and statisticians to determine how many participants would be needed in a study to detect the expected effect.

We have undertaken a break-even analysis for two of the Realising Ambition projects: Conflict Resolution: Uncut (developed and delivered by Working with Men) and PlusOne Mentoring (developed and delivered by YMCA Scotland). These two projects were selected as case studies because there was sufficient literature about the impact of similar conflict resolution and mentoring approaches against which to consider the subsequent results of the break-even analysis.

As illustrated in Table 3, the direct unit cost for the PlusOne Mentoring service is £3,185. For this cost to be covered by the benefits of the service, it will need to make a considerable impact on the participants' behaviour (the model suggests that an effect size of 0.4 would be needed to break-even). This is at the upper end of the effects found for similar services when evaluated by experimental methods. For example, 0.4 was just in the range of effects found in a review of mentoring programmes by DuBois et al (2011).

The direct unit cost for Conflict Resolution: Uncut is £570. If this service were targeted at those with serious and established behavioural difficulties then a relatively small impact would be required to break-even (an effect size of 0.1). If it were targeted at the general population of young people, then a much larger impact would be required for this cost to be covered by the benefits of the service (an effect size of 0.6, which is highly unlikely to

be achieved given evidence from other similar conflict resolution approaches (Garrard & Lipsey, 2007; Matjasko et al, 2012). In reality, the target population for Conflict Resolution: Uncut sits somewhere between the general population and those with serious and established behavioural difficulties. As such, the effect size required to break even will sit somewhere between 0.1 and 0.6. Reviews of existing evidence for conflict resolution approaches suggest that effect sizes in the range of 0.3 and 0.4 are reasonable to expect (Garrard & Lipsey, 2007; Matjasko et al, 2012).

As such, for both PlusOne Mentoring and Conflict Resolution: Uncut, if a commissioner or funder opted to support either service they would do well to be clear about who the service is intended for and the quality of delivery to get the best value for money.

Furthermore, most of the likely benefits from both services come from increased beneficiary earnings via A-Level attainment and savings to the education system. Given this, it may be advisable to measure educational outcomes in addition to behavioural problems in any future evaluation of these services. These are all things that both YMCA Scotland and Working with Men have been paying attention to as they refine their service, drawing upon the best available evidence of existing services.

Table 3: Break-even analysis of PlusOne Mentoring and Conflict Resolution: Uncut

Service	Estimated required effect size	Population	Age	Direct unit costs	Outcome considered	Benefits accrued via
PlusOne Mentoring	0.4	Children with disruptive behaviour disorder symptoms	11	£3,185	Disruptive behaviour disorder symptoms	Reduction in crime, increased earnings, reduction in healthcare and CAMHS costs, and reduction in education system costs
Conflict Resolution: Uncut (targeted)	0.1	Children with disruptive behaviour disorder symptoms	13	£570	Disruptive behaviour disorder symptoms	Reduction in crime, increased earnings, reduction in healthcare and CAMHS costs, and reduction in education system costs
Conflict Resolution: Uncut (universal)	0.6	Universal population	13	£570	Disruptive behaviour disorder symptoms	Reduction in crime, increased earnings, reduction in healthcare and CAMHS costs, and reduction in education system costs

Break-even analysis is an under-utilised method in the field of commissioning and philanthropy. It offers an affordable approach to forecasting **value for money** before a service is even commissioned and can provide the foundation for sensible conversations between innovators and investors about what might realistically be achieved in terms of outcomes, and a range for acceptable costs. It can also help inform decisions about the value in commissioning an extensive and costly **experimental evaluation** of **impact**, as well as guiding service refinement activities. There are, of course, limitations. Many services seek to affect a wide range of outcomes, some of which cannot be **monetised**, and it is challenging to model the effects of multiple outcomes. As with any model, the figures can only ever be an estimate with many factors influencing impact that cannot be accommodated in a spreadsheet.

Part 4: Summary and conclusions

As illustrated in Part 3, investments in **evidence-based prevention** and **early intervention** can pay off. The analysis here gives some weight to the old adage that an ounce of prevention is better than a pound of cure! Most of the services **replicated** as part of Realising Ambition that have been evaluated by a rigorous **experimental evaluation** show a likely positive **return on investment** over the life course. This assumes, of course, that they are delivered well and in line with when they were previously evaluated – something we have supported and encouraged within Realising Ambition ([see Programme Insight Issue 3](#)).

We have tried to show how combining information on ‘**cost**’ with evidence on ‘**impact**’ can help funders, commissioners and providers to make a more cogent argument for the value of a service. There is, of course, a cost and investment required to generating these data and evidence themselves. To be done well it often requires bringing in experts

and ideally building the organisational capacity to generate and analyse data on cost and benefits. The costs of doing so may be shouldered by delivery organisations, or ideally, also in part by funders and commissioners (within Realising Ambition we were fortunate to have dedicated resource and expertise within the consortium to undertake the cost-benefit analysis). It will be for commissioners and service providers to judge whether approaches like cost-benefit analysis add value. Yet we would argue that making decisions about service improvement or commissioning without these types of data is like shooting in the dark.

That said, these types of data only provide a partial illumination. A good **cost-benefit ratio** is a necessary requirement but certainly not sufficient for informing decisions about service commissioning alone. Consideration must also be given to factors such as the nature and quantity of need in a community or population, other existing services and organisational capacity. Moreover, some of the services described here produce relatively quick returns and others take decades. These are all things to factor into decision-making.

We have also introduced the concept of, and some insights from, undertaking a **break-even analysis**. In a context where very few services have been evaluated by a well-conducted, **experimental evaluation**, the approach provides an initial pointer as to whether the service is likely to break even and thus whether investment in further service refinement, evaluation or commissioning may be worthwhile. We think the approach has significant merit and is currently under-utilised.

Key Learning Points

- **Information about costs and benefits in isolation are limited.** One cannot usefully be reported without consideration of the other.
- **Understanding cost-benefit is important for funders and commissioners as they make difficult choices about where to invest limited resources.** It can help ensure that money is spent in a way that maximises personal outcomes and social impact.
- **Lower costs do not necessarily represent better value for money.** Understanding value for money requires considering whether benefits outweigh the costs of delivery, as well as ensuring a good fit between the service and the complexity of need being addressed.
- **Understanding cost-benefit is important for service delivery organisations.** It can help them communicate value for money to funders and commissioners as well as guide improvement and refinement efforts.
- **Our analysis gives some weight to the old adage that an ounce of prevention is better than a pound of cure!** Many well implemented, evidence-based services represent good value for money and will likely make a strong return on investment over the life-course of beneficiaries. There is a strong case to be made for preventing difficulties in childhood from emerging in the first place or intervening early in the development of difficulties in order to reduce the likelihood of involvement in the criminal justice system.
- **Ensuring that services are delivered to the intended target population is important for increasing the likelihood of a return on investment.** Services delivered to a population they were not intended for will increase the likelihood that benefits do not outweigh the costs of delivery.
- **Not all outcomes can be monetised.** There are often other potential benefits – to individuals or society – that cannot be adequately captured in a cost-benefit model. Decision-makers should consider the wider potential benefits of a service, not just those that carry a monetary value.
- **Benefits vary in how long they take to materialise and to whom benefits fall.** Some may be realised relatively quickly, particularly in the case of more treatment-orientated services, but others, particularly for preventative services, may take many years to materialise. This has important implications for what benefits may be 'cashable', to which agencies and over what period of time.
- **Break-even analysis is a powerful and under-utilised approach to considering likely value for money.** In the absence of reliable evidence of impact, it can help provide reasonable estimates of whether a service may be worth supporting as well as guide service refinement and evaluation plans.

Glossary of Terms

- **Beneficiary**

Individuals who participate in the service.

- **Bias**

Systematic error whereby the service impact is either overestimated or underestimated.

- **Break-even**

Net benefits are zero, that is the costs equal the benefits.

- **Break-even analysis**

An analysis that calculates a break-even point at which a return on investment begins to be made per unit. In the context of cost-benefit analysis, this point is shown in terms of the size of an effect on outcomes that would yield sufficient monetary benefits to break-even after accounting for unit costs.

- **Cost**

The cost or unit cost is the cost of everything required to deliver a programme to a participant or a family. A unit cost is normally expressed as an average cost per child or family, but can also be expressed as a range (for example, unit costs ranging for “high need” to “low need” cases).

- **Cost-benefit analysis**

The estimation of financial returns on an investment or service. Returns are typically estimated for individual recipients of service, agencies providing the service and the state. Cost-benefit analyses rely upon accurate cost information and robust evidence of impact (ideally from experimental evaluations). Cost-benefit analysis may produce a calculation of net cost (benefits minus cost) or the ratio of costs and benefits.

- **Cost-benefit ratio**

This gives the pounds saved for every pound invested.

- **Cost-effectiveness**

This is a method of economic analysis where the costs of different courses of action achieving the same outcome is compared. Where outcomes are similar, they can be converted to a common outcome so that the cost per unit of the outcome can be compared.

- **Direct cost**

These are the costs that are typically borne by the lead organisation or funder when setting up and running the intervention, and do not include costs for resources such as volunteers' time or time or other contributions provided by external organisations at no charge.

- **Early intervention**

Intervening in the early stages in the development of difficulties (not necessarily at an early age). Early intervention activities or services seek to stop the escalation of difficulties with the aim of promoting subsequent health and development.

- **Effect size**

An effect size is a statistic that is used to quantify the difference between two groups.

- **Evidence-based service**

A discrete, organised package of practices or services – often accompanied by implementation manuals, training and technical support – that has been tested through rigorous experimental evaluation, comparing the outcomes of those receiving the service with those who do not, and found to be effective, i.e. it has a clear positive effect on child outcomes. In the Standards of Evidence developed by the Dartington Social Research Unit, used by Project Oracle, NESTA and others, this relates to ‘at least Level 3’ on the Standards.

- **Experimental evaluation**

An evaluation that compares the outcomes of children and young people who receive a service to those of a control group of similar children and young people who do not. The control group may be identified by randomly allocating children and young people who meet the target group criteria – a randomised controlled trial or RCT – or by identifying a comparable group of children and young people in receipt of similar service – a quasi-experimental design or QED.

Glossary of Terms

- **Impact**

The impact (positive or negative) of a programme or service on relevant outcomes (ideally according to one or more robust impact evaluations).

- **Prevention**

Activities or services designed to stop difficulties or possible impairments from happening in the first place.

- **Primary outcome**

The main outcome targeted by an intervention. There are generally one or two primary outcomes.

- **Monetisation**

Refers to converting something into monetary terms, or ascribing a monetary value.

- **Outcome**

Outcomes refer to the 'impact' or change that is brought about, such as a change in behaviour or physical or mental health. In Realising Ambition, all services seek to improve outcomes associated with a reduced likelihood of involvement in the criminal justice system.

- **Replication**

Delivering a service into a new geographical area or to new or different audiences. Replication is distinct from scaling-up in that replication is just one way of scaling 'wide' – i.e. reaching a greater number of beneficiaries in new places.

- **Return on investment**

Savings or income accrued as a result of the investment.

- **Secondary outcome**

Outcomes that an intervention may not be designed to explicitly target, nonetheless is hypothesised to have an effect on. Secondary outcomes may also be intermediate outcomes that are targeted in order to change the main outcome.

- **Service**

A group of activities or programmes delivered to group of people to improve their outcomes.

- **Social Return on Investment (SROI)**

A method for measuring social value based on the monetary value attributed to an intervention by the stakeholders. It takes into account the social and environmental value, along with the economic value.

- **Target population**

Those young people who fit the target criteria for a specific service or programme. This could be based upon factors such as their age or gender, or relate to the difficulties they may be experiencing such as homelessness, conduct disorder, or educational problems. Those young people who are eligible for a service or programme should be the same young people who are likely to benefit most from receiving it.

- **Treatment services**

A service targeted at people who are identified as suffering from a recognisable disorder. The service could aim to provide relief from the disorder or manage the disorder, reduce the likelihood of future co-occurring disorders or prevent the disorder from worsening.

- **Value for money**

It is the utility derived from every pound/money unit spent. In this context, it refers to whether or not an intervention is worth the cost.

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Further Reading

We have drawn on many sources in the production of this Programme Insight. Our top picks for further reading on the themes discussed are listed below.

- Charles, J., & Edwards, R. (n.d.) Guide to Health Economics for Those Working in Public Health. Bangor University.
<http://cheme.bangor.ac.uk/documents/guide-handbook-en.pdf>
- Dartington Social Research Unit (2017) Investing in Children Technical Report.
http://dartington.org.uk/inc/uploads/DSRU_Technical_Report_January_2017_FINAL.pdf
- DuBois, D. L., Portillo, N., Rhodes, J. E., Silverthorn, N., & Valentine, J. C. (2011). How effective are mentoring programs for youth? A systematic assessment of the evidence. *Psychological Science in the Public Interest*, 12, 2, 57-91.
<http://www.mpmn.org/Files/DuBoisPortilloRhodesSilverthornValentine2011.pdf>
- Garrard, W. M., & Lipsey, M. W. (2007). Conflict resolution education and antisocial behavior in U.S. schools: A meta-analysis. *Conflict Resolution Quarterly*, 25, 1, 9-38
- Hounton, S., & Newlands, D. (2012). Applying the net-benefit framework for assessing cost-effectiveness of interventions towards universal health coverage. *Cost Effectiveness and Resource Allocation*, 10, 1, 8.
<https://resource-allocation.biomedcentral.com/articles/10.1186/1478-7547-10-8>
- Hutubessy, R., Chisholm, D., & Edejer, T. T. T. (2003). Generalized cost-effectiveness analysis for national-level priority-setting in the health sector. *Cost effectiveness and resource allocation*, 1(1), 8.
<https://resource-allocation.biomedcentral.com/articles/10.1186/1478-7547-1-8>
- Lee, S., Drake, E., Pennucci, A., Bjornstad, G., & Edovald, T. (2012). Economic evaluation of early childhood education in a policy context. *Journal of Children's Services*, 7, 1, 53-63
- Matjasko, J. L., Vivolo-Kantor, A. M., Massetti, G. M., Holland, K. M., Holt, M. K., & Dela, C. J. (2012). Systematic Meta-Review of Evaluations of Youth Violence Prevention Programs: Common and Divergent Findings From 25 Years of Meta-Analyses and Systematic Reviews. *Aggression and Violent Behavior*, 17, 6
- The SROI Network (2012) A Guide to Social Return on Investment, London, Cabinet Office.
<http://www.socialvalueuk.org/app/uploads/2016/03/The%20Guide%20to%20Social%20Return%20on%20Investment%202015.pdf>
- Tuan, M. T. (2008). Measuring and/or estimating social value creation: Insights into eight integrated cost approaches. The Gates Foundation.
<http://cmapspublic.ihmc.us/rid=1LHK87JH8-F72NLO-2R6P/WWL-report-measuring-estimating-social-value-creation%5B1%5D.pdf>
- Washington State Institute for Public Policy (2017) Benefit-Cost Technical Documentation.
<http://www.wsipp.wa.gov/TechnicalDocumentation/WsippBenefitCostTechnicalDocumentation.pdf>

You can find a full list of additional resources we have drawn on at the Realising Ambition website:
catch-22.org.uk/realising-ambition.

Service	Reason for exclusion
Lions Quest Skills for Adolescence (Ambition)	Primary outcome, drug use, cannot yet be monetised in the cost-benefit model
Children's Programme (Be Safe Service)	Impact evaluation identified did not have a no-treatment control group, and costs of the comparison group were not reported.
Friends of the Children (Trelya)	No experimental impact evaluation
The Co-operative Primary School (Success for All)	
Anne Frank Schools and Ambassadors Programme (Anne Frank Trust)	
Early Intervention and Family Support Programme (Malachi Trust)	
Early Intervention Mentoring (Chance UK)	
Children's Parliament Community Initiative (Children's Parliament)	
It's not OK! (Ariel Trust)	
Positive Assertive Confidence Skills (Kidscape)	
Respect Young People's Programme (Respect)	
Safer Schools Partnership (Remedi)	
Shelter Realising Ambition (Shelter)	
Stepping Up (The Bridge Foundation)	
Strength 2 Strength (BANG Edutainment)	
Switch (Winston's Wish)	
Conflict Resolution: Uncut (Working With Men)	No impact evaluation but break-even analysis conducted.
PlusOne Mentoring (YMCA Scotland)	

Find out more

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