



Cost Benefit Analysis HeadStart



Introduction

[HeadStart](#) is a £67.4 million The National Lottery funded programme set up by The [National Lottery Community Fund](#), designed to test new ways to improve the mental health and wellbeing of young people aged 10 to 16, and prevent serious mental health problems from developing. HeadStart understands that the mental health and wellbeing of children and young people is shaped by experiences in different aspects of their lives, including at school, at home, in relationships with family and peers, interactions with digital technology and within broader mental health systems. In collaboration with schools, families, universities, charities, voluntary and community organisations (VCOs), public and clinical services, and young people themselves, HeadStart aims to:

- Build young people's emotional resilience
- Respond to the early signs of common mental health problems
- Provide joined-up, cross-organisational support when and where it is needed.

The programme has implemented a range of universal, evidence-based interventions to meet its aims, and involves six local authority partnerships identified as having higher levels of social and economic deprivation than the national UK average. These are:

- Blackpool
- Cornwall
- Hull
- Kent
- Newham
- Wolverhampton

In addition to their universal programmes, each partnership has also provided targeted support services and interventions for young people experiencing at least one '[vulnerability](#)'. This helps HeadStart provide more specialised and targeted support to young people whose mental health is, or may become, affected by a particular personal, social and/or economic disadvantage at the same time as offering programmes that all young people can engage with and benefit from.



HeadStart Cost Benefit Analysis

The National Children's Bureau (NCB) was commissioned by The National Lottery Community Fund to provide support in sustainability planning for the programme. As part of this support, NCB was asked to undertake an evaluation of the HeadStart partnerships' services. From December 2020 NCB undertook a series of cost benefit analyses of a number of interventions provided by 4 of the HeadStart partnerships.

The aim of the analysis is to help identify the cost benefit of these services and to indicate where there may be cost savings and costs avoided within the local system as a result of the interventions offered by the HeadStart programme. The hypothesis being tested is that by intervening early, these services will reduce and/or avoid the need for other more specialist services.

Two principal models were adopted for the Cost Benefit Analysis.

- A mixed methods approach using a random sample of service users
- A Rapid Review of existing evidence applied to referral numbers provided by the relevant service.

The mixed methods approach involved gathering written data from services on sample cases, discussions with professionals from each service to clarify interpretation of information, and calculation of unit costs comparison of services. This analysis encompassed services for young people including group and one to one support. Parenting services were also evaluated including training and group work.

The second method for Cost Benefit Analysis used a Rapid Review of relevant studies about the potential costs of different categories of support for young people's mental health conditions, such as anxiety or depression, to calculate possible savings or costs avoided through HeadStart services offered. Two services were analysed using this approach, with each offering a multi-agency team who came together to discuss how best to holistically support young people with emotional, social and mental wellbeing difficulties.

Each of the cost benefit approaches and their application to HeadStart services is discussed in further detail below.

A Mixed Methods Cost Benefit Analysis of young people's and parenting services across 3 HeadStart partnership areas

Objective

To identify the cost benefit and predict future savings of HeadStart early help intervention programme.

Aims

1. To identify cost benefits of each HeadStart service individually.
2. To demonstrate the economic efficiency of the HeadStart model as delivered in each of the partnership areas, through an analysis of their potential to make future savings for other services.

Method

The methodology was informed by a previously tested Cost-Benefit Calculator developed by the Childhood Bereavement Network¹ which was adapted for use following consultation with the HeadStart services for this purpose.

To ascertain the cost per child, per service (the cost 'per head'), the annual sum of each service's delivery was divided by the total number of young people worked with in one year by that service. This data was retrieved from HeadStart services who provided the total cost of each service in one sample year and the number of young people accessing each service within the same year. Services provided additional written information, where appropriate, if clarification about the cost or uptake of each service was needed.

After data collection, practitioners provided written answers to a series of questions based on a sample of 20 participants (young people and parents) from each service. The first set contained 15 questions relating to the young people's individual outcomes resulting from the engagement with the service in question, in relation to the relevant outcomes domains below.

- Physical health
- Feelings and behaviour
- Where you live
- Friends
- Being safe
- Confidence and self-esteem
- Relationships
- Education and learning

The second set of questions focused on the young people's individual engagements in the HeadStart service being accessed, both in terms of quality and frequency of participation, and how service professionals felt that this impacted upon the young people's present and future involvement with other services. Questions here focused on whether there was a 'change in level of involvement of other services due to the intervention', and whether practitioners thought there was 'potential service involvement avoided due to the intervention', in relation to the above outcome categories.

Questionnaires were electronic allowing practitioners to submit as much information as they wanted to for each case, and they were given the opportunity to provide full reasoning for their views on the participants' experiences of each service.

Participating services selected a random sample of 20 young people from each service within the sample period. A randomised sample was decided as the most representative and unbiased source of analysis due to the possible associations with or knowledge the professionals may have had around individual cases. Reference numbers were assigned to participants to ensure anonymity and confidentiality. Services were instructed to refrain from including any identifiable features or information about participants in their responses. It was advised that no identifiable information would be used in the study, and that participants would not be referred to individually, even by their reference numbers.

Using a variety of outcomes monitoring, practitioners were able to identify the impact of service interventions for calculations on cost benefit. My Star² outcomes evaluation or similar models such as 'My Mind Star'³ and 'Shooting Star'⁴ were commonly used by practitioners across the HeadStart programme, with one service using the outcome evaluation⁵. These outcome frameworks help to evaluate the child's needs, their perspective on the changes they are experiencing, and to assess whether the changes made by them or their parents are enabling them to thrive. This enabled the HeadStart services to provide data on impact of their service on each case in the sample analysed.

Once service and outcome evaluation data was submitted, meetings were held between the individual service practitioners and NCB to discuss a range of cases within each service sample. These meetings were designed to clarify the data relating to the participants' involvement and its implication for other services and where it was felt that more information would be helpful, this was requested by NCB.

Once the data were agreed, NCB translated it into:

- **Realisable savings:** an intervention reduces costs which were already happening
- **Potential future costs avoided:** an intervention diverts someone from a future which was likely to happen.

Realisable savings were calculated where data confirmed that a young person was already involved with another service and that this had reduced or ended due to HeadStart intervention.



The process for calculation is illustrated in Diagram 1 below:

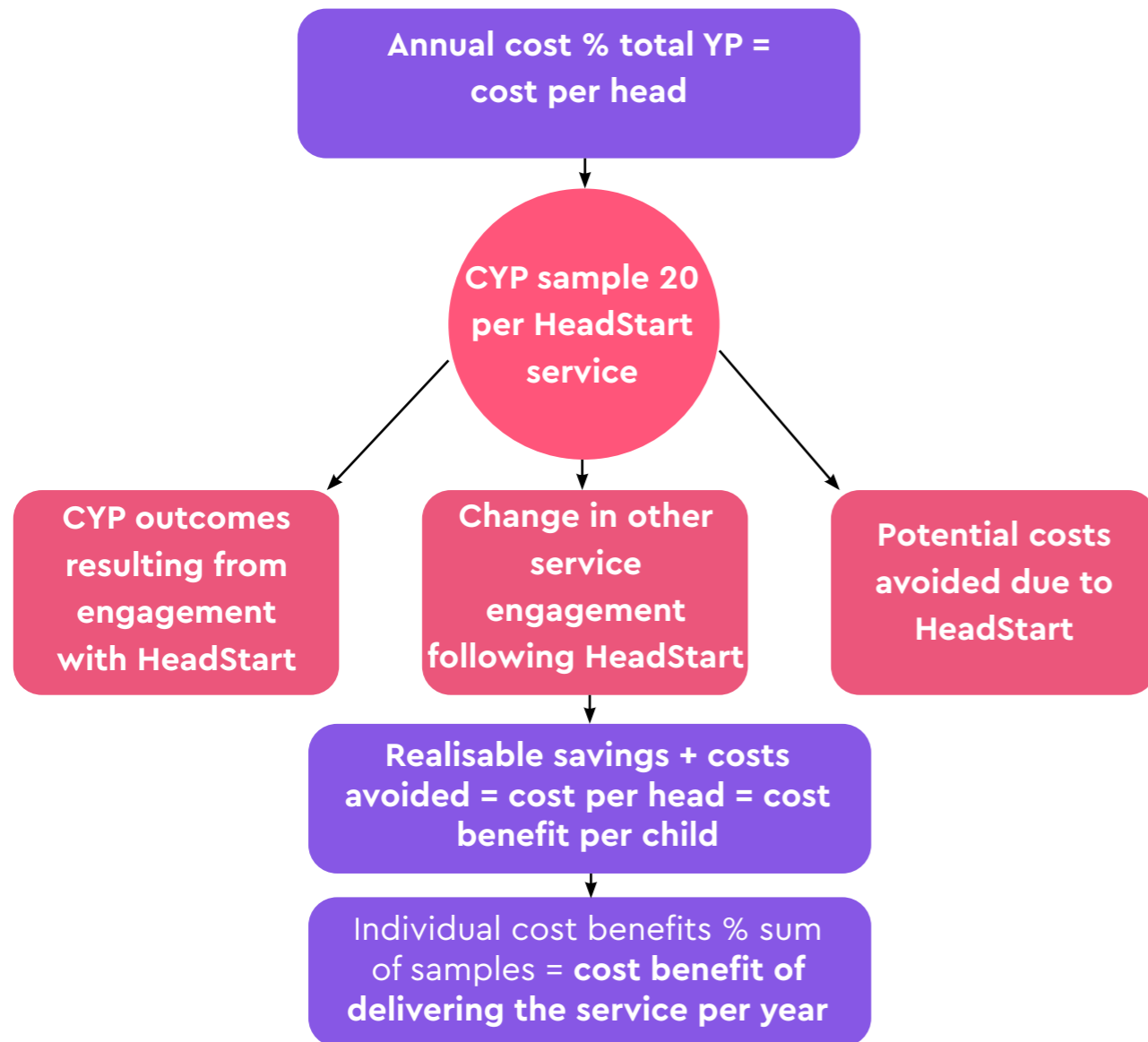


Diagram 1: Illustration of Method for Cost Benefit Analysis

What the Analysis Demonstrates

This methodology applied anticipated costs associated with a range of interventions that would likely be funded or commissioned by local authorities, health and education sectors. Anticipated costs were identified based on practitioners' use of their outcomes data. A range of potential outcomes for young people were considered in relation to having received or not received particular interventions. These outcomes were the basis of the potential costs avoided and savings made assumptions.

In the findings provided to each of the services examined, analysis of 'costs avoided' and 'savings made' identified:

1. The overall cost benefit for the services
2. Costs avoided and realisable savings overall across all services
3. Costs avoided and realisable savings for each service.

Analysis of costs avoided and realisable savings were calculated by considering types of alternative service that may have been used should a young person have not accessed the HeadStart service. This includes primary health/GPs, mental health services such as CAMHS, school-based services, as well as considering costs associated with social care, early help, and criminal justice.

The average net cost benefit per case was calculated for all cases that completed or progressed significantly through the HeadStart services, indicating potential cost and savings merits to earlier intervention in young people's wellbeing. The findings identified the money saved for every £1 spent on HeadStart services and indicated in which cost category the highest potential 'costs avoided' or 'savings realised' were.

Cost Benefit Analysis using Rapid Reviews Method

Objective

To identify the cost benefit and predict future savings of a specified service delivery model of the HeadStart programme to society, families and young people themselves, and to present evidence that can be used for sustainability planning and potential future commissioning decisions.

Aims

1. To identify any potential cost benefits of HeadStart interventions.
2. To contribute towards the demonstration of economic efficiency of those HeadStart interventions through an analysis of their potential to make future savings and avoid costs for other services.



Method

In order to establish the cost benefit of HeadStart services, a range of reasons for referral amongst young people who had received support from HeadStart services were analysed and evaluated against costs associated with service interventions in the wider population.

Costs of interventions were selected from a number of studies such as Bryant, et al⁶, and Bodden, (2006)⁷ which included costs of potential services that would be accessed by families and/ or young people, or impact on earnings as a result of their condition. Studies that identified the importance of early intervention and how this can reduce, if not avoid, some of these potential costs were of particular interest and importance here. For example, Brookes (2007)⁸ estimated that the total costs of exclusions could be cut by at least a quarter through prompt referral to appropriate voluntary sector support. These studies are pertinent to the approach the HeadStart model adopts of early intervention and prevention.

Analysis involved looking at evidence of the potential costs resulting from the (wide ranging) needs with which young people are presenting when referring in to HeadStart service. Key points highlighted by the evidence base were taken alongside more specific findings that have been identified for the individual HeadStart services and the following frequent selected reasons for referral, including: anxiety, self-harm, Obsessive-Compulsive Disorder, depression/low mood, and not attending school regularly.

Once the most relevant referral categories had been agreed in partnership with the HeadStart service, the number of young people referred to each of the categories was determined; this ranged from 257 cases closed during 2019 in one service, and 180 referrals of young people during 2021 in another.

Costs identified by the existing studies were applied to identify the potential costs saved under each category for the total number of cases referred to each HeadStart service, using the following steps, and as illustrated in Diagram 3.

Key Steps in Analysis

The following steps were undertaken by the researchers in consultation with the HeadStart services.

1. Each referral identified was allocated to the most appropriate of these seven key cost categories identified from the cost studies cited above:

- Inpatient/ acute healthcare
- Outpatient/ community healthcare
- Social care
- Criminal justice
- Reduced family income/ productivity
- Education
- Other

2. Costs listed in the relevant studies as monthly, weekly or over other time periods were converted, where possible, into an annual, per young person figure.

3. Costs were also converted to 2020 prices using the Bank of England inflation calculator.

4. A weighting was applied to costs where there was not complete equivalence between the reason for referral and the need considered by the cited study. For example, costs to the health service are split between inpatient/acute and outpatient/community care at a ratio of 53/47%, as indicated in the study by Bodden, Dirkson and Boegels (2006).

5. Annual costs were multiplied by the number of years these costs were likely to be applicable. Generally, using the mean age of referral for the specific referral factor, up to a maximum age of 25.

6. The resulting figure was multiplied by the number of young people in 'cases closed' during the referral period who were identified as having the relevant reason for referral.

This led to the final figure of total potential costs avoided to services, among the sample cases across all five referral factors.

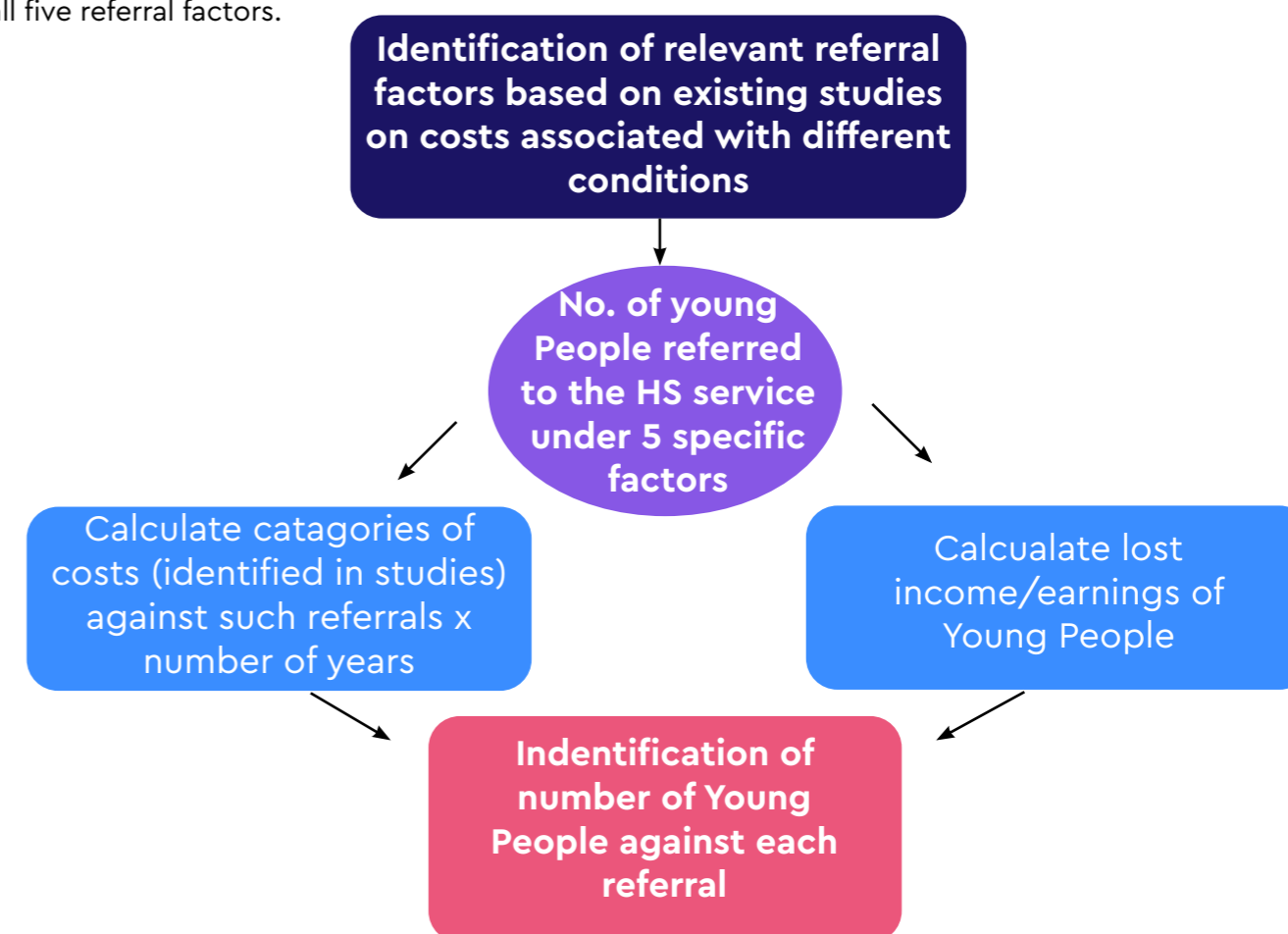


Diagram 3 Illustration of Rapid Review Cost Benefit Analysis process

The maximum age of 25 years was chosen as several of the studies used in the Rapid Review approach focus on children and young people's needs which are not likely to be fully generalisable across the whole life course. In some cases, the age range to which costs are applied starts later (for example in relation to young person's potential earning in the future) or finish earlier (for those relating to social care and education).

As total costs can be calculated on a conservative or less conservative basis, three sets of figures can be arrived at based on three variations of the analysis. These are:

- 'Very conservative' figures, include a maximum of one set of costs for each of the 7 cost categories, listed under step 1, for each young person and where there were two or more possible sets of costs, the lowest figure was taken (e.g. for health the less expensive outpatient care figure was used).
- 'Conservative' figures, calculated in the same way as the 'very conservative' figures, except that where there were 2 or more possible sets of costs for cost category, the highest figure was taken.
- 'Less conservative' figures added all of the estimated potential costs identified including where there were multiple costs for each category.

What the Analysis Demonstrates

Findings from the Rapid Review ultimately set out:

- The total estimated potential costs avoided against all of the reasons for referral that the service receives.
- Potential costs avoided against each cost category (see above), due to interventions provided by the HeadStart service for the young people referred over the sample period.
- The average cost avoided for each young person presenting with at least one referral reason considered in the analysis.
- An ordering of the level of costs avoided across different categories of health, social care, education, criminal justice and loss of family income.



When considering the findings of this analysis it is important to do so within the context of an evidence base that includes the wider impact on children and families. The analysis acknowledges that mental health problems in children and young people can have wide ranging effects including on educational attainment and social relationships. It is also noted that mental health problems can affect life chances and physical health (Murphy and Fonagy 2013).⁹

This analysis suggests that investment in early intervention type services had led, in these cases, to considerable savings. In our analysis costs have been calculated on a 'very conservative' basis consistent with the assumptions about how evidence is used. The 'very conservative' approach includes one set of potential costs identified for each of the cost categories (for example inpatient care, education, social care). This is because during the period the sample was selected, only one presenting need has been identified by the service per young person, therefore where a young person is referred to a HeadStart service with more than one presenting need, the costs saved due to the intervention may be higher because they may have potentially needed more than one alternative provision.

Considerations and Limitations

In applying the findings from these analyses from both methods it is important to be clear on their parameters and potential limitations.

The mixed methods methodology does not allow for the following costs to be calculated, which normally form part of more detailed Social Return on Investment¹⁰ analysis:

- Deadweight – the change that would have occurred even without a service
- Attribution – the amount of change that is due to the service
- Drop-off – the amount of change that reduces over time.

Adjustments were required to ensure the figures were relevant to current costs. Where updated costs could not be found, they were adjusted according to inflation.

Estimated costs were based on the costs at the earliest stage of the service intervention, with conservative assumptions made about the level of use of a service or the use of other services. Reliance was made throughout on the assessments made by practitioners about whether service costs were saved or avoided.

Furthermore, it has been acknowledged that there was difficulty in identifying a comprehensive picture of savings due to availability of data services might hold on other interventions the young people and parents had received. Potential future costs avoided were calculated more often than 'realisable savings' due to services constituting 'early help', and therefore being accessed before further or more intensive intervention is needed. In addition, detail of how most participants were involved with other services was not known by the professionals working at HeadStart, therefore, calculations within the Cost Benefit Analysis erred towards the conservative.

Further investigation with service practitioners should enable a more granular approach to the interpretation of services avoided or reduced, as identifying prevention is inherently challenging. In some cases, this may result in greater cost avoidance or saving identified. It is possible to further explore the burden relieved from key alternative services such as CAMHS where significant avoided costs were identified. In a context where such pressures are a major consideration there may be merit in exploring this further locally.

As was the case with the mixed methods Cost Benefit Analysis approach, in applying the findings from the Rapid Review approach it is equally important to be clear on its parameters. It should be recognised that such an analysis based on economic cost cannot capture the full potential impact of the issues being considered and consequently of the failure to intervene early.

These considerations should be borne in mind when interpreting findings. In addition, figures used across the Rapid Review have not yet been adjusted to 2021 inflation rates and the overall figures provided to services in relation to potential costs saved are subject to change.

How will the Analysis be Utilised?

This work was commissioned with the intention to inform and support the development of HeadStart partnership areas' sustainability planning and present key learning about the efficacy of their services and interventions. Services received a report summarising findings in relation to the potential costs saved and many have used it to evidence the impact and cost effectiveness of their services and incorporate the findings into business cases for sustainability. As well as indicating where there may be cost savings within the local system as a result of the interventions offered, the cost benefit analyses may also help in development of services' offer.

Next steps might involve reviewing how to take the learning from this approach, and what adaptations may maximise knowledge of economic impact of the service models. As part of an ongoing detailed service evaluation, these approaches have the potential to strengthen insights into the efficacy and efficiency of the service or programme.

The report has]... really strengthened HeadStart [area name] sustainability business case... we have paper going to a scrutiny committee.



Appendix

Appendix 1

Services Analysed Using Mixed Methods Approach

Children and Young People's Services

Seven individual HeadStart services supporting young people were evaluated using the mixed methods approach.

Service 1

A trauma-informed service for boys aged 13–16 who have witnessed or experienced domestic violence. The programme mentors boys either through one-to-one sessions or in groups over 24 sessions to promote mindfulness, self-care and healthy relationship-building in a safe setting. The central aim of the programme is for the young people to develop resilience so that they can build a greater capacity to defend against the adversity associated with domestic violence in childhood. The service uses a Resilience Framework to build capacity and identify therapeutic interventions. Broader systemic impacts are for adolescent boys to have improved aspirations and life chances, reduced costs to society in terms of healthcare and the criminal justice system, and reduced risks of offending, violence and further victimisation.

Service 2 and 3

Targeted Group Work (in schools). Provides one-to-one sessions with young people using restorative approaches including teamwork exercises, whole group tasks, discussion in circle time and other appropriate interventions. Sessions cover issue-based themes such as: respect; empathy; relationships; self-esteem; communication; responsibility; trust; choices; diversity; and inclusion. Young people from years 7 – 10 attended group work during term time. These services also engaged the parents/carers of the young people within the group providing family support and outreach, addressing identified issues relating to overall family well-being and resilience and providing signposting to other services and agencies as appropriate.

Service 4

This service offers one-to-one support and befriending to young people aged 10–16 within schools and the community. Peer mentors support with individual issues and give young people the opportunity to discuss worries on a one-to-one basis. Mentors are selected and trained to ensure that they have the skills and knowledge necessary to support young people identified as having emotional health needs, and are able to gain a recognised qualification in Peer Mentoring.

Service 5

A project offering one-to-one support to young people aged 10–16 within schools and the community to build emotional resilience. This support is offered weekly by coaches for up to 10 weeks and includes identifying issues and strategies; such as personal growth and development, identifying goals, action planning and problem solving, reflection, practicing scenarios and motivational interviewing.

Service 6

A counselling service for 10–16-year-olds that delivered one-to-one therapeutic interventions and, where appropriate, therapeutic group work across the locality. The service is provided in the community through a hub and spoke delivery model where children and young people can be seen in a central location as well as in school and locality-based community venues to ensure the service is accessible to all young people who need it.

Service 7

A service for young people aged 5 – 18 years (up to 25 for young people with SEND) offering one-hour weekly sessions over a period of 12 – 18 weeks.

Services for parent/carers

All three of these services existed within one HeadStart partnership area.

Service 8

A parent training service providing support for parents of disabled children and those with Autistic Spectrum Condition (ASC), primarily around positive behaviour support. The service aimed to assist families with emotional wellbeing needs with practitioners providing advice, information, strategies, guidance and peer support to families.

Service 9

A programme for families with children aged 10 to 16 which aimed to improve emotional wellbeing and build resilience within families, children and young people. Parents receive one-to-one support, and time for parent to parent support.

Service 10

Providing group work sessions and one-to-one support delivered by parenting practitioners working alongside parents to support the emotional well-being of their children and young people.



Appendix 2

Services Analysed Using the Rapid Review Method

The services for which this analysis was applied included two similarly designed HeadStart 'models' operating in different partnership areas. The models aimed to fill the gaps in emotional wellbeing and mental health provision by directing children and young people who are experiencing difficulties to local services, groups and interventions which have the potential to best meet their needs, looking beyond traditional or medicalised mental health support and drawing from a range of support providers, including community and voluntary projects.

The first comprises a partnership of over 30 high-quality services ranging from arts and employability projects to substance misuse and criminal justice services, and health providers. It supports timely allocation of cases to organisations, who can begin working with young people quickly, making the best use of their resources and skilled staff teams.

The second comprised a professional consultation model, operating across a county. A multi-agency team were brought together to discuss how best to holistically support young people with emotional, social and mental wellbeing difficulties, and who create a personalised support plan for each young person which draws from community and voluntary sector provision. This model has existed in a pilot form in one locality since November 2014. In 2018, senior partners from HeadStart and CAMHS, extended the model across county. Since November 2019, all localities across the county now operate their own model, with each model overseen by a Locality Steering Group.



Endnotes

1. <https://www.ncb.org.uk/about-us/who-we-are/meet-ncb-family/childhood-bereavement-network>
2. <https://www.outcomesstar.org.uk/using-the-star/see-the-stars/my-star/>
3. <https://www.outcomesstar.org.uk/using-the-star/see-the-stars/my-mind-star/>
4. <https://www.outcomesstar.org.uk/using-the-star/see-the-stars/shooting-star/>
5. <https://warwick.ac.uk/fac/sci/med/research/platform/wemwbs/>
6. Bryant, B et al (2018) Alternative provision market analysis. London: Department for Education
7. Bodden, D. Dirksen, D. and Boegels, S (2006), Societal Burden of Clinically Anxious Youth Referred for Treatment: A cost-of-illness Study
8. Brookes, M. Goodall, E. and Heady, L (2007) Misspent Youth: The Cost of Truancy and Exclusion: A guide for donors and funders. London: New Philanthropy capital
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10. <https://socialvalueuk.org/wp-content/uploads/2016/03/The%20Guide%20to%20Social%20Return%20on%20Investment%202015.pdf>



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The National Children's Bureau brings people and organisations together to drive change in society and deliver a better childhood for the UK. We interrogate policy, uncover evidence and develop better ways of supporting children and families.

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