PRO BONO ECONOMICS




Estimating and Presenting Impact

A report for YCT

Nathalie Larsen

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1 Introduction

YCT approached Pro Bono Economics (PBE) to help it demonstrate and present the impact of YCT counselling and therapeutic support to all who benefit. PBE matched YCT with a volunteer analyst from the National Audit Office to undertake an assessment of YCT's current impact measurement and to make an attempt at assessing the economic benefits to society. PBE assisted throughout the process.

YCT is a local charity based in Essex whose objective is to support children and young people with mental health issues by providing counselling and therapeutic support. It does so through a network of contracted therapists, counting 32 at the end of 2016. Collectively they provide over 250 hours of therapy a week and a range of services such as one to one counselling and one to one play therapy.

In this document, we:

- present the potential impact of YCT by setting out its theory of change and some of the evidence that supports it
- attempt to identify costs, savings and impacts of YCT's work to the wider society.

For the economic analysis, we draw heavily on the methodology employed by the Place2Be publication in 2010 "Cost Effective Positive Outcomes for Children and Families". There are significant limitations to some of the data and methods we have used and stress that this analysis is a starting point and a rough (but honest) estimation. Further economic analysis, including longitudinal studies with control groups, would be of significant value to the sector and add weight to the economic figures presented later on. We also note that qualitative impact reporting remains crucial to capturing the complexity of children's lives and the intricacies of how the support provided by YCT affects them.

Overall, we found that YCT's counselling in the 2015/16 academic year achieved at least 90 cases of mental health improvement and prevention of mental disorders and problems in the short and long term. We estimated that the total savings over the lifetime of this group could be some £8.3 million and by extension YCT has a potential cost-benefit ratio of £1:£20. Much of the evidence which this calculation is based on is speculative regarding the assumptions, but it looks as if the interventions provided by YCT are definitely benefitting young people in the short-term, and if these benefits are maintained, they likely lead to cost effective positive outcomes for both the clients themselves and wider society. We recommend, amongst other things, that YCT explores whether and how it can collect evidence that could shed light on whether the short-term impact is sustained.

2 Mental health issues in Children and Young People

A substantial body of evidence exists which suggests that approximately 1 in 10 children and young people in the UK have a diagnosed mental health problem. Despite this significant proportion, mental health issues are more likely to be missed in young people than in any other age group.[1]

Not only does this have immediate consequences and implications, the period of adolescence and early adulthood is one in which individuals are highly susceptible to the development of mental health issues. Specifically, it is estimated that 75% of mental illness in adult life (excluding dementia) starts in adolescence, where reluctance to use mental health services is also at its peak. This leads to many young people not receiving any clinical intervention. [2]

Unidentified and untreated mental health issues at this stage in life can have devastating and costly consequences:

- worse physical health in both the short-term and long-term
- poorer health behaviours: in particular misuse of alcohol, smoking, and substance use
- poor social, educational and employment outcomes.

Recent UK government reports and policy documents recognise deficiencies in the way that services respond to the mental health needs of young people, particularly those who are most vulnerable[3]. These manifest themselves for example by an increasing number of children and young people refused CAMHS (Children & Adolescent Mental Health Service) access or delays to their treatment. The Children and Young People's Mental Health and Wellbeing Task Force was set up in September 2014 by the Government in response to growing awareness and concerns about what was perceived as a growing crisis in the delivery of care to young people.

[1] *Young Mental Health: New Economic Evidence*, PSSRU, Mental Health Task Force, 2016
[2] *Young Mental Health: New Economic Evidence*, PSSRU, Mental Health Task Force, 2016
[3] *Five Year Forward View for Mental Health*, Independent Mental Health Taskforce to the NHS in England, 2016

3 A brief overview of YCT

Need

YCT operates mainly in Harlow, Essex. Harlow is one of the most deprived districts in Essex and is the district which has the 3rd highest number of children and young people living in poverty in Essex[4]. Research suggests that children from households with the lowest 20% of incomes have a threefold increased risk of mental health problems than children from households with the highest 20% of incomes[5]. According to YCT, predictably, figures showed Harlow with the second highest rates of total Child and Adolescent Mental Health Services (Tier 2 and 3) interventions in Essex. This takes place in a context where Essex Country Council in the financial year 2016/17 spending on youth services had been cut to £2.4 from £12m in the financial year 2011/12[6].

YCT also found at the end of 2016, that despite delivering 23 hours of counselling per week when it was only funded to deliver 14, their waiting list had increased both in number of young people and amount of times they had to week. It is the organisation's understanding that this is purely due to need and the effect of the threshold (degree of mental health problems) for Child and Adolescent Mental Health Services support locally being so high.

Activities

YCT offers a range of counselling and therapy services. This includes one to one, face to face, weekly counselling; online counselling; one to one play therapy; supervision and consultancy to professional working with children; parent and child counselling; and drama therapy.

Young people access YCT either through self-referral (via telephone or email), or as a result of being referred by their doctor, a family member, school or other professionals. Young people most often receive 1 hour counselling over 8 sessions outside of school/college hours, however, further support is provided where it is deemed unethical or harmful to stop after 8 sessions.

Clients, e.g. young people, are not charged for YCT's services. Historically, YCT has relied on statutory grant funding to support the majority if its services. In the past few years, to deal with funding cuts, it has developed partnerships with schools and other education settings to offer counselling services as part of their pastoral offer. This now forms an important income generation stream for YCT – around 84% of its 2016 income.

Within the surrounding areas of all YCT's community based venues, there are no equivalent, open access and free counselling services.

Costs

In 2016, YCT's outgoing expenses (and therefore total services cost) were £397,000. We have not within the scope of this project identified any inputs that aren't costed.

In 2016, 9,419 hours of support was provided to 898 children. Hence the average cost per child per annum for YCT's services was £442 (=cost/children) and the average cost of an hours support provided was £42 (=cost/hours).

[4] YCT Funding Proposal 2017, primary source not confirmed

[5] Green, McGinnity and Meltzer 2005

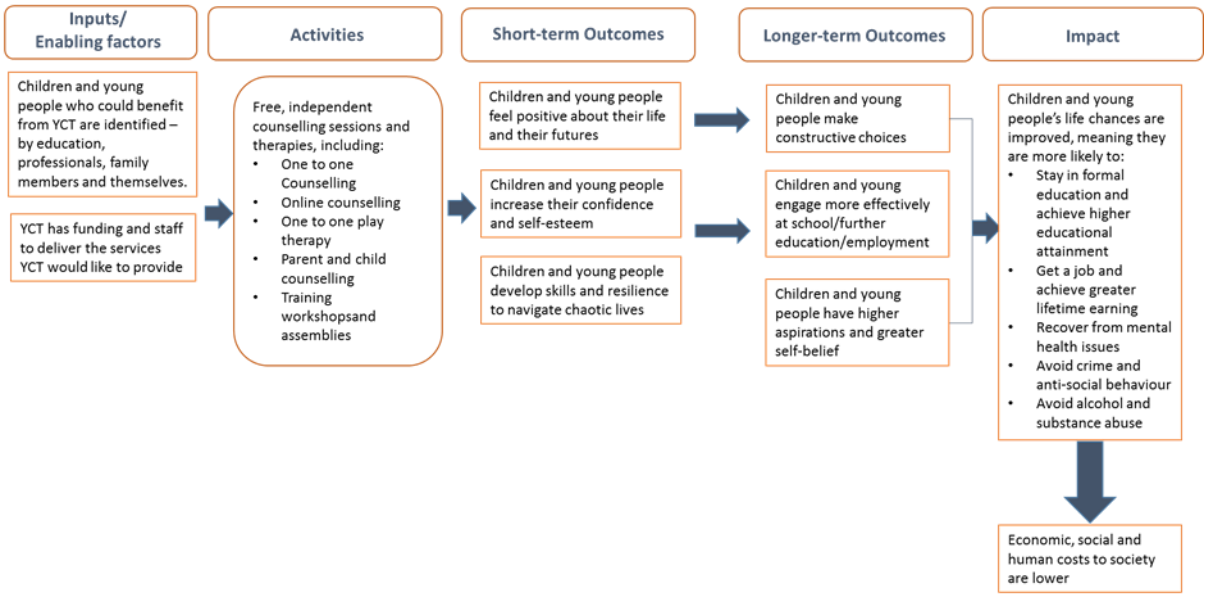
[6] http://www.cypnow.co.uk/cyp/news/1142426/essex-youth-service-boss-upbeat-despite-budget-cut

4 YCT Outcomes

The activities YCT is performing through its organization of counsellors, as well as the impacts of these activities can be summarised in a figure called a theory of change (Figure 1). This has been developed as part of this project for YCT because:

- It is a good starting place for thinking about impact, both when it comes to assessing it and then demonstrating it.
- It helps identify the outcomes an organisation is expecting to achieve and sets out a theory for how the activities an organisation carries out might bring about these outcomes, e.g. the change.
- It can also provide a helpful, visual tool for explaining the activities and impact of an organisation to funders – or others who don't know the organisation very well.

Figure 1 – YCT Theory of Change (TOC)



The TOC should evolve over time as evidence accumulates on the pathways to change, and provides the maximum utility if all stakeholders within the organisation are involved in creating or updating it, such that it is more likely it is accurate, meaningful and embedded.

YCT currently evaluates the short-term outcomes of its counselling activities using two validated and widely used outcome measures. YCT uses these different measures predominantly due to their appropriateness with respect to their age group (Table 1).

Table 1

Age Group	**Main outcome measurement tool**
Primary aged children: 6-10 years	Goodman's Strengths and Difficulties Questionnaire (SDQ) – a validated screening tool to assess the emotional and behavioural strengths and difficulties of children (completed by parents and teachers at beginning, middle and end)

Young people: 11 – 16 years	The Young Person's Clinical Outcomes for Routine Evaluation (YP-CORE)[7] – a validated screening tool to assess the psychological wellbeing health of young people (completed by young people at beginning, middle and end)
Young people: 16 years and above	The Clinical Outcomes for Routine Evaluation Outcome Measure (34 question – long CORE) - a validated screening tool to assess the psychological wellbeing health.

Above measurement tools cover the majority of YCT work. However YCT also run smaller programmes such as work done with parents and children together[8]. In such an instance, YCT measures impact through Goal-based outcome record sheets and the Measurement of Empathy in Adult-Child Interaction (MEACI) rating form. In all instances described, YCT also collects qualitative information via an optional feedback form.

This optional feedback form consists of 7 or 6 statements (depending on age group) answered on a suitable 5-point scale from strongly agree to strongly disagree. There is also an option to add comments on the three questions: 'What do you think what have happened if you had not received support from YCT?', 'I think YCT is:' and 'YCT would be better if'. This allows YCT to collect further evidence on YCT and its impact, which can lend support to YCT's theory of change, or shed light on different pathways of impact if saved, stored and reviewed systematically.

YCT does not currently collect evidence in support of the longer-term outcomes and the eventual impact which is assumed to lead to lower economic and social costs to society. However a breadth of evidence and research exists which supports this hypothesis. Most of this research focuses on the negative impact of mental health and it consequences into adulthood as referred to in section 2, but some new evidence looks also at the impact of youth mental health services in the UK. Table 2 and Appendix 2 sets out some recent examples in more detail[9].

Table 2

Year	**Publication Name**	**Publication Authors**	**Summary**
2016	Young Mental Health: New Economics Evidence	M. Knapp et al. PSSRU at LSE	- A review of UK and international evidence on youth mental health issues and their treatment found very little previous research on economic aspects of mental health issues or on services for young people in the UK or elsewhere. - Young people aged 16 to 25 with mental health issues at baseline were significantly more likely to not be in employment, education or training than those without. They were also more likely to be on welfare benefits and have

[7] Hertfordshire long core

[8] Parent-child DYAD definition

[9] We return to the economics costs and figures outlined by the reports in section 5.

			contact with criminal justice services. All of which have economic costs. - A key theme emerging from the research was the substantial unmet need for services for young people with mental health problems. - Tentative findings from two local specialist youth mental health services[10] suggest that such services can contribute to improving young people's mental health
2016	Forward View for Mental Health	Mental Health Taskforce	- Half of all mental health problems have been established by the age of 14, rising to 75 per cent by age 24. One in ten children aged 5 – 16 has a diagnosable problem such as conduct disorder (6 per cent), anxiety disorder (3 per cent), attention deficit hyperactivity disorder (ADHD) (2 per cent) or depression (2 per cent). - Children from low income families are at highest risk, three times that of those from the highest. Those with conduct disorder - persistent, disobedient, disruptive and aggressive behaviour - are twice as likely to leave school without any qualifications, three times more likely to become a teenage parent, four times more likely to become dependent on drugs and 20 times more likely to end up in prison. Yet most children and young people get no support.
2015	Future in Mind: Promoting, protecting and improving our children and young people's mental health and wellbeing	NHS	- The B-CAMHS surveys of mental health of children and adolescents show all forms of mental disorder are associated with an increased risk of disruption to education and school absence. Research on the longer-term consequences of mental health problems in childhood adolescence has found associations with poorer educational attainment and poorer employment prospects, including the probability of 'not being in education, employment or training'

[10] YCT is not equivalent to a specialist youth service (but a targeted)

5 Economic Analysis

Outcome measurement tools

Our economic analysis covers the counselling services provided by YCT (of which the majority is one to one – 93%), which used the two outcome measurement tools described earlier.

The SDQ produces a 'total difficulties' score for negative emotional symptoms and behaviours, and a total 'prosocial score' for positive behaviours. A higher total difficulties score indicates more serious mental health problems and emotional and behavioural difficulties in children; a higher prosocial score indicates good mental health. These are categorised into three bandings (Table 3). The SDQ is used for children in primary school.

Table 3

	Parent-rated SDQ total difficulties score	Teacher--rated SDQ total difficulties score
Abnormal	17-40	16-40
Borderline	14-16	12-15
Normal	0-13	0-11

The YP-CORE produces a total 'global distress' score where the minimum score that can be achieved is 0 and the maximum is 40 (Table 4), where lower scores indicate lower levels of psychological distress. The 'risk' cut-off score is understood to be 3. The SDQ is used for children in secondary school.

Table 4

	Self-completed total 'global distress' score
0-5	Healthy
6-10	Low level
11-15	Mild
16-20	Moderate
21-25	Moderate severe
Over 25	Severe

Given the objective of YCT, and other mental health services, to help relieve existing mental health problems and to prevent the children in the high risk and moderate risk categories from developing worse problems, the indicator of success is an improvement in a SDQ or CORE score that moves them from one category into one that is better.

Outcome measurement findings

Our analysis covers the school year 2015/16, e.g. 01/09/2015 – 31/08/16, in which YCT worked with 916 children and young people. Of these 373 had a full set of scores (41%), e.g. had completed assessment surveys both pre- and post-intervention[11]. The scores are seen in table 5 and 6.

[11] Pre-intervention assessment surveys are completed in the first session of counselling. Post-intervention assessment surveys are completed at the last session, or at the penultimate session. The latter ensures a higher completion rate as many choose not to attend their last session. The timing is discussed in section 6.

Table 5

Number of children in the SQQ clinical categories pre-intervention		Teacher-rating		
		Abnormal	Borderline	Normal
Parent-rating	Abnormal	13	4	4
	Borderline	1	0	0
	Normal	3	0	6

Total: 31 (19, in red, where teacher and parent agreed on the clinical category pre-intervention)

Table 6

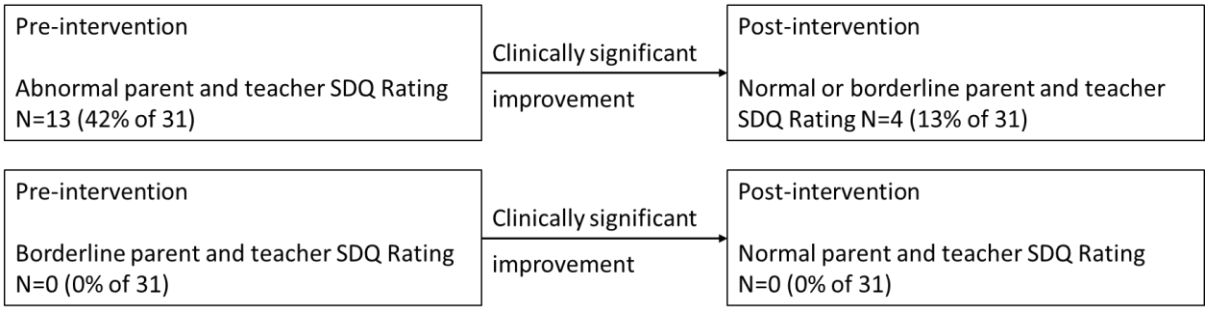
CORE clinical category	Number of children in the CORE clinical categories pre-intervention
Healthy	21
Low level	30
Mild	46
Moderate	49
Moderate severe	49
Severe	66

Total: 261 (excludes 81 for which data exists but is on the Long-CORE and not immediately comparable).

SDQ

Post-intervention, only 4 children showed the same improved SDQ category on both the parent and teacher rating. All these 4 children were high risk pre-intervention who had moved into the moderate or no risk categories (Figure 2). As the literature does not suggest whether one rating should be prioritised over the other, we can only use the cases where there is consistency between parent and teacher assessments. Therefore we decide to discard the SDQ data in light of this small sample from which no inferences can be made.

Figure 2



(Short) CORE

Post-intervention, 179 children of the 240 who did not fall in the healthy category to begin with showed clinically significant improved CORE scores, e.g. sufficient improvement to move into a clinical category below the one at which the child was pre-intervention (Figure 3 and 4).

Figure 3

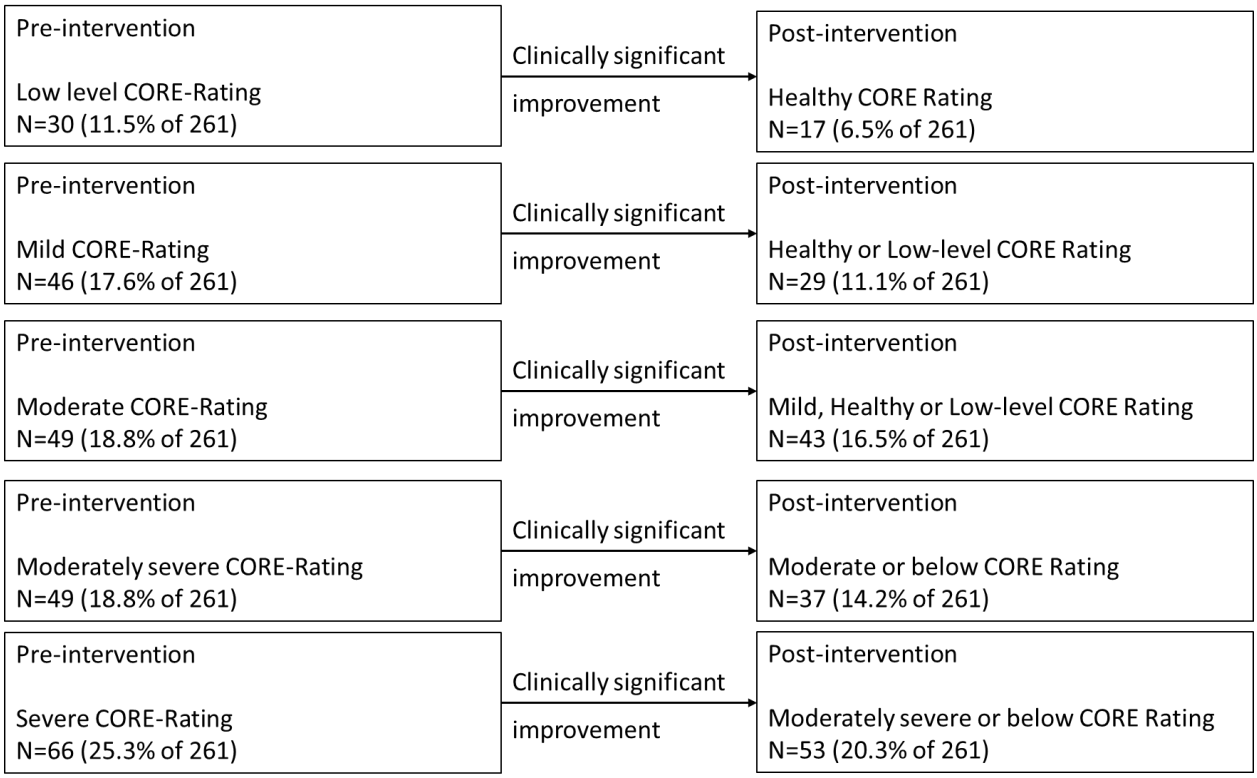
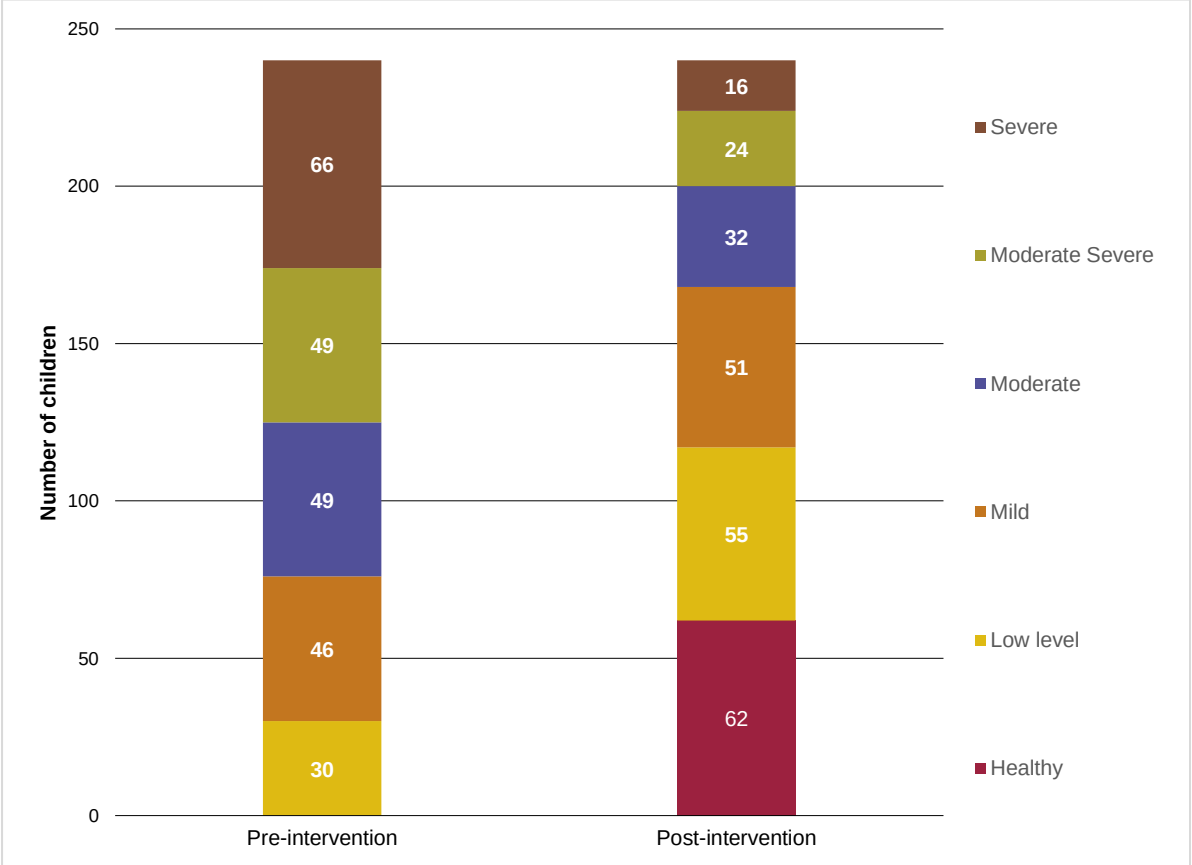


Figure 4



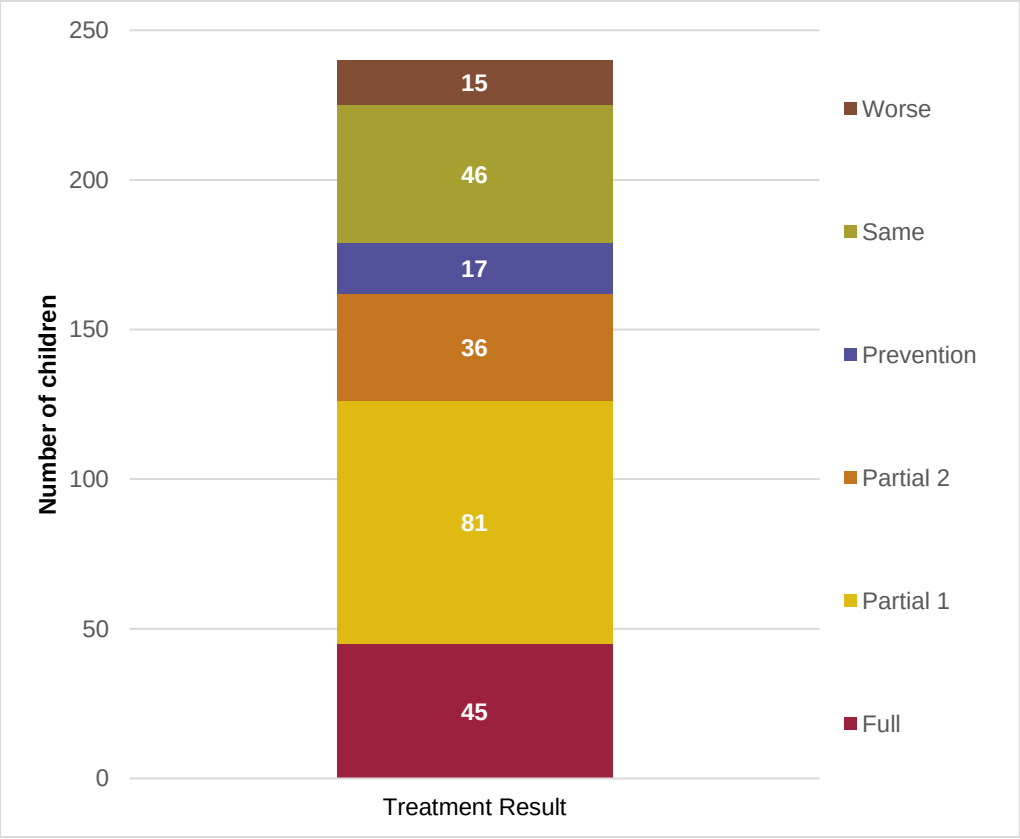
The improvements in these 179 children can be further categorised into three groups for the purposes of impact and economic analysis, as seen in Table 1 and Figure 5:

- Full improvement: Defined as movement into the healthy category from a worse category above low level
- Partial 1 improvement: Defined as movement either from mild to low level, or from moderate and above into either mild or low level
- Partial 2 improvement: Defined as movement from moderate and above into a category below it above moderate
- Prevention: Defined as movement from low level to healthy

Table 7

Improvement made	Count
Full	45
Partial 1	81 (12 + 69)
Partial 2	36 (13 + 23)
Prevention	17
Same	46
Worse	15
Total	**240 (179 excluding Same and Worse)**

Figure 5



In summary, 179 of the 240 children who could be classified as non-healthy pre-intervention had reported improvements in their mental heath risk post-intervention.

Long-term benefits

To determine the longer-term benefits of YCT's intervention, we estimate how many of these children would have continued to experience mental disorders and problems into adulthood and over their lifetime. Research shows:

- The majority of mental illnesses start during adolescence and persist into adulthood (Kim-Cohen et al 2003; Kessler, Berglund et al 2005, PSSRU 2016).
- Half of all mental health problems have been established by the age of 14, rising to 75 per cent by age 24 – excluding dementia (PSSRU 2016, Mental Health Task Force, 2016)[12].

A very conservative estimate is therefore that without YCT's intervention, 50% of these children's mental disorders and problems would have continued throughout childhood and 50% would have persisted into adulthood and continued over the individual's lifetime. These estimates are in line which those done used by Place2Be at a time when there was even less evidence available to support the endurance of mental health illness throughout childhood and into adulthood across the literature[13]. It remains, however, an assumption based on the absence of better evidence.

Thus it is estimated that YCT's counselling services in the 15/16 academic year achieved short and long term mental health improvement in 90 children: 22 cases of full improvement, 60 cases of partial improvement and 8 cases where mental health problems were prevented. (Table 8)

Table 8

Due to the intervention	Among 343 participants of YCT counselling in 2015/16	
	Mental health problems otherwise last during childhood only	Mental health problems otherwise last during childhood and adulthood
Full improvement	Number of children = 45/2/2 = 11	Number of children = 45/2/2 = 11
Partial 1 improvement	Number of children = 81/2/2 = 20	Number of children = 81/2/2 = 20
Partial 2 improvement	Number of children = 36/2/2 = 9	Number of children = 36/2/2 = 9
Prevention	Number of children = 17/2/2 = 4	Number of children = 17/2/2 = 4

Cost-savings

The economic and social costs of mental illness can be described under three main headings:

- the costs of health and social care, covering such costs as the services provided by the NHS and local authorities for people suffering from mental health problems and any consequential illnesses, and also the costs of informal care given by family and friends;
- the human costs of mental illness, corresponding to the adverse effects of mental illness and any consequential illnesses, on the health-related quality of life;

[12] This is more than the 20-50% than the Place2Be publication stated due to more recent research.
[13] The Place2Be (2010) *Cost-effective positive outcomes for children and families: An economic analysis of The Place2Be's integrated school-based services*

- and the costs of output losses in the economy which result from the negative impact of mental illness, and any consequential illnesses, on an individual's ability to work

They correspond to a measure of the benefits to be secured if mental illness were eliminated.

Table 9 lists all these extra costs of a case of mental disorder over a lifetime, from age nine to age 64. It is adapted from the economic analysis conducted by Place2Be in 2010 by adjusting for 2015 prices using the official ONS Consumer Price Index. There are certain likely costs that are not included in this table such as costs of criminal activity and drug or alcohol abuse in adult life – a next step would be to include it. As it has not been possible to find updated research to replace all the costs determined in the Place2Be study, and therefore can not replicate the exact methodology, it would be misleading due to inconsistency to include such costs or update any in this exercise.

Overall then the total cost of a case of mental disorder is £302,705 in 2015 prices, 13% of which are costs during childhood (£39,352) and 87% over adulthood (£263,353) - using the same ratios as the Place2Be report[14].

Table 9

Costs		2007/2008 prices	2015 prices	% of total costs
Human costs	Morbidity of mental disorder	£137,052	£167,545	55%
	Mortality of mental disorder	£80	£98	0%
Health and social service	Health and social service	£25,017	£30,583	10%
Education service	Education service	£3,449	£4,216	1%
Impact on carers	Health and social service used by carers	£973	£1,189	0%
	Time off work due to caring responsibility	£1,708	£2,008	1%
Output loss	Unemployment	£47,004	£57,462	19%
	Sick leave	£18,370	£22,457	7%
	Mortality of mental disorder	£69	£84	0%
Benefits	Benefits payment	£13,552	£16,567	5%
	Cost of administering payments	£339	£414	0%
Total		£247,613	£302,705	100%

The Place2Be reports uses a number of studies to help calculate the cost-savings of moving a case from one level of mental health level to another which leads to adjustment factors of 117% for full improvement, 82% for partial improvement, and 35% for prevention. It is not clear at this stage how this was done.

In light of this, but also because their analysis was based on different SDQ categories and only had one partial category, instead we take their percentages as a guideline and estimate adjustment factors that are more conservative: 100% for full improvement, 75% for partial 1 improvement, 50%

[14] For Place2Be's original calculation of costs in 2007/08 prices, future values were discounted by 3.5%, in line with HM Treasury approved methodology (HM Treasury, 2003). The calculation also assumes that costs grow in line with real GDP – an approach taken by other cost-of-illness studies (McCrone et al, 2008; Sainsbury Centre for Mental Health, 2003).

for partial 2 improvement, and 25% for prevention. This a big assumption, and appendix 1 models how the calculation changes as we vary this assumption.

Table 10

Due to the intervention				Mental health problems otherwise last during childhood only		Mental problems health otherwise last during childhood and adulthood	
				Saving per child	£39,352	Saving per child	£302,705
	Adj. factor	No. of children	Total saving	Adj saving per child	Total cost saving	Adj saving per child	Total cost saving
Full	100%	11	£3,762,627	£39,352	£432,872	£302,705	£3,329,755
Partial 1	75%	20	£5,130,855	£29,514	£590,280	£227,029	£4,540,575
Partial 2	50%	9	*£1,539,257*	£19,676	£177,084	£151,353	*£1,362,173*
Prevention	25%	4	£322,381	£4,919	£19,676	£75,676	£302,705
Total		44	**£10,755,120**		£1,219,912		£9,535,208

From this it can be deduced that the potential cost savings that could be achieved by YCT's counselling services with this group of 90 children could be £10.76 million over their lifetime. This breaks down into £3.76 million for those children achieving full mental health improvement; £6.67 million for those achieving partial improvement, and £0.32 million for those where development of mental health problems was prevented.

While these cost-savings should be treated with caution given the strong assumptions and the counterfactual being assumption based, they do exceed the costs of providing YCT services by just over £10 million *if* impacts on the clients are sustained over the long-term. This is a potential net return on investment of 2609%, or a preliminary estimated cost-benefit ratio of £1:£26. However, we must also consider more carefully the age of those receiving services from YCT, which we have not done thus far.

When estimating the cost of a case of mental disorder over a lifetime, we did so from age nine onwards. However, a number of YCT's clients will have received YCT's services after the age of 9 and costs to prior to that will not have been avoided. Of all YCT's 916 clients, 16% were younger than 10 years old, 60% were between 11-16 years old, and 24% were older than 16 years old. The 343 clients with a full set of scores had a similar age distribution, with an average and median age of 15, and on average childhood costs of mental health issues might already have materialised. Only 10 were 9 years old or younger when receiving counselling from YCT.

One way of scaling down the estimate to deal with the overstatement resulting from above, would be to remove the 50% of children who would only have had mental health problems during childhood from the estimate, and to remove the childhood cost-savings from the 50% who would have had lasting mental health problems (Table 11). The estimate remains high at £1:£20 as the brunt of the estimated costs of a case of mental disorder is borne by those who case would continue

during adulthood. This is a closer representation, but it is still problematic – in this model we are effectively treating all clients as being 15 of age when receiving the YCT intervention and thereby assuming that the costs saved for younger clients equal the costs not yet saved by those older than 15. We do not know to what extent that is the case.

Table 11

Due to the intervention				Mental problems health otherwise last during adulthood	
				Saving per child	£263,353
	Adj. factor	No. of children	Total saving	Adj saving per child	Total cost saving
Full	100%	11	£2,896,883	£263,353	£2,896,883
Partial 1	75%	20	£3,950,300	£197,515	£3,950,300
Partial 2	50%	9	*£1,185,093*	£131,677	*£1,185,093*
Prevention	25%	4	£263,352	£65,838	£263,352
Total		44	**£8,295,628**		£8,295,628

6 Discussion and Conclusions

It must be restated that the evidence on which the economic analysis has been performed is limited. This refers both to the quality of hard data available and research upon which assumptions and cost estimates are made. Additionally, the methodology has a number of flaws, such as the inability to address the unknown of how much improvement can be attributed solely to the YCT intervention. Although this methodology was used by Place2Be more than 7 years ago, it has not been possible during this project to uncover a different methodology in the realm of mental health research that could help estimate the cost-benefit of an YCT intervention.

To accommodate these uncertainties we have made conservative assumptions (such as only 50% of childhood mental health problems persisting through childhood) and chosen not to estimate/scale-up the figures to reflect that YCT's work in 2015/2016 is likely to have also have had some positive – albeit probably smaller – impact that would lead to cost savings for those 542 young people we were not able include in the analysis (no data).

Based on these estimates, this economic analysis then shows that of 916 young people receiving counselling from YCT in one year at a cost of £397,000, at least 90 will avoid long-term mental health problems over their childhood or lifetime, with a consequent saving of some £10.8 million in health and welfare spending, lost productivity and other costs to the national economy. Adjusting for the fact that most of YCT's clients do not start the invention during childhood, this amounts to a saving of some £8.3 million and a cost-benefit ratio of **£1:£20**.

With even more conservative estimates, such as only 25% of young people's problems persisting into adulthood – the cost-benefit ratio would still be sizable at £1:4.

What is clear is that the interventions provided by YCT help many young people in the short-term at least and, if these short-term benefits are maintained and provide a foundation for long-term improved resilience and mental wellbeing, then financial and human cost savings are likely to accrue.

On the basis of this project, the next steps for the sector as a whole would focus on: improving and consolidating research around the costs of mental health in children and young people; designing an improved methodology for estimating the cost-effectiveness of mental health interventions; and investigating the possibility of conducting longitudinal studies which compare improvements in mental health over time in both a treatment group and a control group (to deal with the issues of causality).

However in light of the size of YCT as an organisation and its available resources, these do not appear suitable steps forward for YCT as a sole organisation. Instead, what YCT could do to improve the robustness of the estimated positive impact here, and help evidence its theory of change, is to consider collecting data from children and young people on their mental health for a time period after the intervention, to see whether the short-term benefits reported in assessment questionnaires are indeed maintained. Further recommendations to YCT on how to prove and present the impact of YCT counselling are set out in the next section.

7 Recommendations for YCT

1. *Continue to develop and embed the YCT Theory of Change in the organisation*
   The Theory of Change (also termed Logic Map) is a useful and compelling way of presenting the impact of YCT counselling and therapeutic support on all who benefit both to external stakeholders and internally.

2. *Draw on published research to demonstrate societal benefits from YCT interventions*
   There is a range of research already published by other organisations, academia and the NHS which supports the YCT theory of change. Although YCT should continue to collect outcomes data, it should continue to draw on this research where possible and relevant to help show the positive impact YCT is likely to be making.

3. *Emphasising the caveats, use the estimate to describe and quantify the potential scale of cost-savings to society in the long-term (assuming that the impact measured is sustained) when communicating to stakeholder*
   Although this report has set out the limitations of the data available and difficulties in developing a suitable method, it has been possible to estimate a positive cost-benefit ratio (which remains positive and significant when adapting the assumptions significantly – exemplified in appendix 2). This can be used externally but it should not become to be-it-and-end-all of outcome measurement.

4. *Seek to improve the response rate of outcome evaluations*
   Only 41% of children supported by YCT in 2016 had completed outcome evaluation data sets. For a fuller assessment of the outcomes of YCT's services, it would be helpful to understand further the reasons behind this response rate and to improve it.

5. *Collect data post-conclusion of YCT's counselling and therapeutic support*
   One of the key assumptions when estimating the cost-benefit analysis that can not be resolved by research is that the short-term improvements reported by children having received support would be sustained. It would be beneficial to the robustness of the cost-benefit analysis if greater confidence surrounding the sustainability of the outcomes could be had. Unfortunately it has not been possible to determine from academic research and research into similar organisations the appropriate intervals at which to follow up on the emotional well-being of the children supported. A personal bet would be 6 months as anything shorter would still be considered short-term.

6. *Consider whether the YP-CORE measurement can be supplemented with further outcome and experience measures completed by parents, practitioners or teachers.*
   Research has both raised concerns about the reliability of self-reported data from children and wished to prioritise the voice of the child where possible (Deighton et al., 2013, 2014; Patalay, Deighton, Fonagy, Vostanis & Wolpert, 2014). Furthermore research has consistently found poor correlation between child, parent, teacher and practitioner views on the nature of difficulties and outcomes (Yeh & Weisz, 2001). However, as there are no objective measures of mental health comparable to some areas of physical health, one must therefore rely on proxies of outcomes including self-report questionnaire responses by those accessing services. As there is not a clear answer about which perspective to take, all have

value in terms of understanding the impact of services (Wolpert et al., 2015).

7. *Stay abreast with developments from CORC (Child Outcomes Research Consortium)*
   The Child Outcomes Research Consortium (CORC) is the UK's leading membership organisation that collects and uses evidence to improve children and young people's mental health and wellbeing. Given YCT's size, it does not from a cost-perspective make much sense becoming a member of the consortium. However, their website and training events are good resources for YCT to be aware of, as it continues its journey to demonstrate its impact.

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Appendix 1 – Sensitivity Analysis

In arriving at the estimate in the main body, we made a number of decisions and assumptions that if altered slightly could change the estimate significantly. These include:

- Not to consider the age of the children and young people counselled by YCT (already in body)
- To what extent the young people would have continued to experience mental disorders and problems into adulthood and over their lifetime
- To what extent moving a case from one level of mental health level to another leads to the full potential cost-savings
- Not to estimate the impact and consequential potential cost-savings of the 543 children and young people YCT also worked with in 2015-16 but did not have a full set of scores for

Persistence of mental disorders and problems

We estimated that without YCT's intervention, 50% of children's mental disorders and problems would have continued throughout childhood and 50% would have persisted into adulthood and continued over the individual's lifetime. Leaving aside the age issue for a moment, this was when we arrived at cost savings of £10.75 million. Table 12 summarises how this cost saving would change as we varied this percentage:

Table 12

Childhood only	Childhood and adulthood	Childhood only	Childhood and adulthood	Total savings	Cost : Benefit Ratio
50%	50%	£1,219,912	£9,535,208	£10,755,120	£1:£26
50%	25%	£1,219,912	£4,691,928	£5,911,840	£1:£14
25%	25%	£600,118	£4,691,928	£5,292,046	£1:£12
25%	13%	£600,118	£2,118,935	£2,719,053	£1:£4

Similarly, taking into account the age of YCT clients we can similar vary our assumption regarding the proportion of children whose mental disorders would have persisted into adulthood and continued:

Table 13

Childhood and adulthood	Total savings	Cost: Benefit Ratio
50%	£8,295,628	£1:£20
25%	£4,081,976	£1:£10
13%	£1,975,150	£1:£4

Translating partial recovery into cost-savings

To calculate the cost-savings of moving a case from one level of mental health to another we estimated a number of adjustment factors, using those chosen by Place2Be as a guideline, but making them more conservative. Again we could vary this assumption as seen in table 14 and 15.

Table 14

Adjustment factors	Total savings (childhood + childhood and adulthood)	Cost : Benefit Ratio
Place2Be (Full 117%, Partial 82%, Prevention 35%)	£13,015,269	£1:£32
Main body	£10,755,120	£1:£26
Full 100%, Partial 50%, Partial 2 25%, Prevention 10%	£8,089,648	£1:£20
Full 80%, Partial 50%, Partial 2 25%, Prevention 10%	£7,337,123	£1:£17

Table 15

Adjustment factors	Total savings (adulthood only)	Cost : Benefit Ratio
Place2Be (Full 117%, Partial 82%, Prevention 35%)	£9,915,239	£1:£24
Main body	£8,295,619	£1:£20
Full 100%, Partial 50%, Partial 2 25%, Prevention 10%	£6,386,309	£1:£15
Full 80%, Partial 50%, Partial 2 25%, Prevention 10%	£5,806,933	£1:£14

Considering the rest of YCT's clients

We only had full scores for 343 of the 916 young people YCT counselled during the 2015/16 school year. We have chosen not to scale up the estimate of the economic impact to reflect the potential positive impact of the counselling with the remaining clients. This is because we do not feel we have a sufficient understanding of the reasons for those clients not having filled in their assessments to assume that the counselling improved their mental health well-being in the same proportion as the clients who did complete their assessment. For example, did a client not show up to the last session where the form was filled out because they were already feeling much better or because they did not feel the counselling was helping them. It is worth nothing however that *if* there were an abundance of reasons for the 550 or so clients who did not have a full set of scores that were positive (in the sense that it implied a successful counselling intervention), the YCT return of investment would be increasing for each and every single case, as the costs of these clients is already accounted for in our calculations.

Appendix 2 – Summary Table of Literature

Name	Authors	Year	Method	Findings or Description
Systematic review of the effectiveness of interventions to promote mental wellbeing in children in primary education	Adi Y, Killoran A, Janmohamed K & Stewart-Brown S	2007	Systematic Review of 31 studies: 15 randomised controlled trials (RCTs; n=15,631) and 16 controlled clinical trials (CCTs; n>14,000). One of the studies classed as a CCT featured the combined results of 7 studies of RCTs, CCTs and before-and-after studies	This review of interventions to promote mental well-being in primary school children concluded that there is good evidence to support the implementation of programmes that include a significant component of teacher training and programmes that include a parenting support component.
The economic and social costs of mental health problems in 2009/10	Centre for Mental Health	2010	Uses a range of methods, previously published studies data. Monetary valuation of the human costs of mental illness for this study has entailed two main steps: ❖ using a general measure of health status (the quality-adjusted life year or QALY) to quantify the adverse health effects of mental illness in the population as a whole each year. This calculation results in an estimate of the total number of QALYs lost	Costs under three headings: the costs of health and social care, covering such costs as the services provided by the NHS and local authorities for people with mental health problems; the costs of output losses in the economy that result from the adverse effects of mental health problems on people's ability to work; and an imputed monetary valuation of the less tangible but crucially important human costs of mental health problems, representing their negative impact on the quality of life. Timely and effective responses to people with mental health difficulties are excellent value for public money. Providing good quality parenting support to people with young children, extending access to psychological therapy, early identification of distress at work, diverting offenders with mental health difficulties from custody and assisting people with severe mental health problems into paid work all make a massive difference to people's lives and create both immediate and long-term savings to public finances and to the wider economy.

			annually as a result of mental health problems; and ❖ deriving an estimate of the monetary value of a QALY and using this to convert the estimated total number of QALYs lost to a monetary equivalent	The aggregate cost of mental health problems in England increased to £105.2 billion in 2009/10.
Unit Costs of Health and Social Care 2009	Curtis, L.	2009	Review of research, surveys and routine data collection by health and social care services	Brings together information from a variety of sources to estimate the most up-to-date nationally-applicable unit costs for a wide range of health and social care services in England. Based in economic theory, the volumes present the unit costs and the estimation methods used, provide references for data sources and other cost-related research, as well as short articles and commentaries. The most up to date version that exists is Unit Costs of Health and Social Care 2016 – in a larger project, many of the costs from our calculation could updated/re-shaped using this publication.
Final project report	Foresight Mental Capital and Wellbeing Project	2008	The Project's analysis has: ●Drawn upon the advice of over 4006 leading experts and stakeholders from across the world; ●Looked across the lifecourse: it has considered how experiences and interventions at one stage of life can affect an individual's mental capital and wellbeing for years and even decades.	Mental ill-health can have diverse and long-term effects on individuals, families and society. Estimates place the costs at about £77 billion per year for England when wider impacts on wellbeing are included, and £49 billion for economic costs alone. The pervasive importance and long-term costs of mental ill-health in society suggest the need to reappraise the resources devoted to it: currently only about 13% of the NHS budget. Many people experience mental ill-health: for example, about 16% of adults and 10% of children are affected by common mental disorders such as depression and anxiety at any one time. However, whilst all disorders are best detected and treated early, many go undiagnosed or are only treated when advanced, and when the impacts are severe for the individual and families.

			● Spanned the interests of key departments across Whitehall, and of diverse stakeholders outside of Government. The state-of-the-art in 80 areas of science have been reviewed7 to develop an understanding of how mental capital and wellbeing evolve through the lifecourse, and to identify which aspects are most critical for meeting future challenges.	
Mental health promotion: building an economic case	Friedli L, Parsonage M	2007	Uses a variety of methods to add an economic component to the wider evidence base, the report explores two main issues: the general case for mental health promotion and possible priorities in the choice between interventions.	It is calculated that the overall cost of mental health problems in the UK amounted to over £110 billion in 2006/07. The cost of mental illness is also very large relative to other health conditions, accounting for more disability adjusted life years (DALY) lost. One example of a common mental health problem for which there is robust evidence of effective interventions is conduct disorder. According to new estimates presented in the report: Preventing conduct disorders in those children who are most disturbed would save around £150,000 per case in lifetime costs. Promoting positive mental health in those children with moderate mental health would yield benefits over the lifetime of around £75,000 per case.
The Five Year Forward View for Mental Health	Independent Mental Health Taskforce to the NHS in England	2016	Review of evidence and workgroups/ interviews with 20,000 people involved in the sector.	Half of all mental health problems have been established by the age of 14, rising to 75 per cent by age 24. One in ten children aged 5 – 16 has a diagnosable problem such as conduct disorder (6 per cent), anxiety disorder (3 per cent), attention deficit hyperactivity disorder (ADHD) (2

				per cent) or depression (2 per cent). Children from low income families are at highest risk, three times that of those from the highest. Those with conduct disorder - persistent, disobedient, disruptive and aggressive behaviour - are twice as likely to leave school without any qualifications, three times more likely to become a teenage parent, four times more likely to become dependent on drugs and 20 times more likely to end up in prison. Yet most children and young people get no support. Even for those that do the average wait for routine appointments for psychological therapy was 32 weeks in 2015/16.
Hidden costs of mental illness	Knapp M.	2003	Review of published studies	What is frequently overlooked is a number of often substantial economic consequences, sometimes referred to as the indirect costs. These costs fall to the social care, education, housing, criminal justice and social security systems, and often they are especially felt by individuals with mental health problems and their families.
Youth Mental Health: New Economic Evidence	Knapp M, Ardino V, Brimblecombe N, Evans-Lacko S, Lemmie V, King D, Snell T, Murguia S, Mbeah-Bankas H, Crane S, Harris A, Fowler D, Hodgekins J, Wilson J	2016	Summarises findings from a review of the international evidence on the economic impact of youth mental health services, an analysis of the economic implications of youth mental health problems – including the failure to recognise or treat them – and an evaluation of two models of youth mental health service provision in England.	Mental health issues account for a significant proportion of the burden of ill-health experienced by young people in the UK. Approximately 1 in 10 children and young people have a diagnosed mental health problem. However, mental health issues are more likely to be missed in young people than in any other age-group*. The period of adolescence and early adulthood is one in which individuals are highly susceptible to the development of mental health issues: 75% of mental illness in adult life (excluding dementia) starts during adolescence and existing mental health issues often become more complex during adolescence. * Analysis of 1999 BCAMHS data found that more than half (55%) of 12–15-year olds with mental health issues had no contact with services in connection with their mental health needs. Analysis of the APMS found that the treatment gap is much wider for adolescents and young adults than it is for any other age group: 55% of young people aged 16 to 25 with a mental health issue

				were not receiving mental health services. The gap is especially wide for those aged 21–25: nearly two-thirds (64%) of young people aged 21 to 25 with mental health issue were not getting support from mental health service. Young people aged 12–15 at baseline assessment (aged 15–18 by the end of the follow-up period), mental health-related average costs over the three-year follow-up period totalled £1,778 a year; 90% of this cost was incurred by the education sector. The total cost comprised: £24 for primary care, £30 for paediatrics, £60 for mental health services, £100 for social care, and £908 for frontline education and £656 for special education resources. Total costs were highest for 12–15 year olds with hyperkinetic disorders with a mean annual cost of £2,780. Average annual costs were £1,789 for 12–15 year olds with conduct disorders and £1,353 for those with emotional disorders. Young people aged 16 to 25 with mental health issues at baseline were significantly more likely not to be in employment, education or training (NEET) than those without such issues (27% vs 16%). This has economic consequences for those young people and for society. Young people with mental health issues at baseline were also significantly more likely to be on welfare benefits than those without mental health issues (27% vs 14%). Also found that young people with a mental health issue at baseline (compared to not) were 8 times more likely to have contact with criminal justice services 18 months later. This type of service use also has economic costs.
Paying the price: the cost of mental health care in England to 2026	McCrone P, Dhanasiri S, Patel A, Knapp M, LawtonSmith S	2008	Mental health need was assessed by obtaining prevalence data on specific conditions	The number of people in England who experience a mental health problem within the diagnostic groups studied is projected to increase by 14.2 per cent from 8.65 million in 2007 to 9.88 million in 2026 – a rise of more than 1.2 million people.

			covering major mental health problems and combining these prevalence rates with population projections for England. Typical service packages were defined from survey data and individual studies and costs were calculated. These were then combined with the numbers of people in each disorder group to measure the overall costs of services. 'Service costs' and 'total costs' were estimated. The former included direct health and social care costs, and, where possible, informal care and criminal justice services; the latter is service costs plus the costs of lost employment (considered relevant where a significant proportion of those experiencing the mental disorder were of working age). It has been assumed that health and social care costs increase at an annual rate of 2	Current service costs, estimated to be £22.50 billion, are projected to increase by 45 per cent to £32.6 billion in 2026 (at 2007 prices). This is primarily due to an estimated increase in service costs for people with dementia of £9.0 billion. Costs will increase by 111 per cent to £47.5 billion if the real pay and price effect (a 2 per cent annual increase in health prices over and above GDP deflator) is taken into account. All the evidence-based interventions examined had the potential to reduce costs and should be pursued, so that scarce resources can be directed to best effect. However, in no cases would any savings from such interventions – which might be counted in millions of pounds – make a significant impact on the overall level of mental health costs, which can be counted in billions of pounds. The one exception would be reducing the prevalence of dementia in those aged under 85.

			per cent above general inflation (the GDP deflator) – which is in line with similar reports. To estimate the cost of lost employment we also assumed that earnings in the population as a whole increase by 2 per cent a year over and above the GDP deflator.	
Mental health of children and adolescents in Great Britain	Meltzer H, Gatward R, Goodman R, Ford	2000	The surveyed population comprised children and adolescents, aged 5-15, living in private households in England, Scotland and Wales. Data collection included information gathered from parents, teachers, and the children themselves (if aged 11-15).	10% of children aged 5 -15 years had a mental disorder: 5% had clinically significant conduct disorders; 4% were assessed as having emotional disorders - anxiety and depression - and 1% were rated as hyperactive. 25% of 11-15 year olds reported that at one point in their lives they had been in trouble with the police, which included 43% of children with a disorder and 21% of children with no disorder. 1 in 5 children had officially recognised special educational needs - those with a disorder were about three times more likely than other children to have special needs: 49% compared with 15%.
Future in Mind	NHS England	2015	This report has taken feedback from 4 working groups in the Taskforce, the engagement with children and young people, parents, carers and professionals and collated it with the established evidence base	In 2012/13, NHS expenditure on child and adolescent mental health disorders was estimated to be £700 million (ie £0.70bn) or 6% of the total spend on mental health. Between 2006/7 and 2012/13, the proportion of mental health spending on children and young people has fallen. Mental health problems in young people can result in lower educational attainment (for example, children with conduct disorder are twice as likely as other children to leave school with no qualifications) and are strongly associated

			and previous reports.	with behaviours that pose a risk to their health, such as smoking, drug and alcohol abuse and risky sexual behaviour. The B-CAMHS surveys of mental health of children and adolescents show all forms of mental disorder are associated with an increased risk of disruption to education and school absence.22,23 Research on the longer-term consequences of mental health problems in childhood adolescence has found associations with poorer educational attainment and poorer employment prospects, including the probability of 'not being in education, employment or training' (NEET) The economic case for investment is strong. 75% of mental health problems in adult life (excluding dementia) start by the age of 18. Failure to support children and young people with mental health needs costs lives and money. Early intervention avoids young people falling into crisis and avoids expensive and longer term interventions in adulthood. Those with acute conduct disorder incur substantial costs above those with some conduct problems, but not conduct disorder. A study by Friedli and Parsonage estimated additional lifetime costs of around £150,000 per case – or around £5.3bn for a single cohort of children in the UK. Costs relating to crime are the largest component, accounting for 71% of the total, followed by costs resulting from mental illness in adulthood (13%) and differences in lifetime earnings (7%). More widely, in 2012/13, it was estimated the total NHS expenditure on dedicated children's mental health services was £0.70bn. The Centre for Mental Health has analysed the return on investment from addressing the four common disorders in childhood. For instance, it has been estimated that children with early conduct disorder are 10

				times more costly to the public sector by the age of 28 than other children. The impact of mental health disorders extends beyond the use of public services. Taking this wider societal viewpoint, it has been estimated that the overall lifetime costs associated with a moderate behavioural problem amount to £85,000 per child and with a severe behavioural problem £260,000 per child.
Childhood mental health and lifetime chances in post-war Britain: Insights from three national birth cohort studies	Richards M, Abbott R, in conjunction with Collis G, Hackett P, Hotopf M, Kuh D, Jones P, Maughan B, Parsonage M		Examined three national birth cohorts that have been tracking large representative samples of people born in the UK in 1946, 1958 and 1970.	Found that conduct problems in childhood were strongly associated with a wide range of adverse outcomes in adult life, and more so for severe than for mild problems. Most of these effects could not be accounted for by either socio-economic background or childhood IQ. People with mild conduct problems were twice as likely as other people to have no educational qualifications in early adulthood. For those with severe conduct problems, the odds were up to four times. Both mild and severe adolescent conduct problems were associated with significantly elevated odds of chronic economic inactivity. And those in work earned up to 30% less. Adolescent conduct problems were strongly associated with never marrying (in women), with divorce and with teenage parenthood. People with severe adolescent conduct problems were over four times more likely to have been arrested in early adulthood and over three times more likely to have a court conviction
The economic and social costs of mental illness	Sainsbury Centre for Mental Health	2003	Uses a range of methods, previously published studies data.	The costs of health and social care for mental illness are of two main types, corresponding broadly to the distinction between public funding and private funding. The former covers public expenditure on all services and support for people with mental health problems funded by the NHS, local authorities and other public sector agencies. The latter refers partly to private spending on services by individuals or by private sector bodies such as voluntary and charitable organisations but more importantly to the costs of informal care provided for people

				with mental health problems by family and friends. The bulk of public spending on mental health is accounted for by expenditure on health and social services, but two other categories of cost falling to the public sector may also be considered. These are social security costs and the costs of accommodation for people who are homeless and have a mental health problem.
Childhood and adolescent mental health: understanding the lifetime impacts	St John T, Leon L, McCulloch	2004	In April 2004 the Office of Health Economics and the Mental Health Foundation held a seminar focusing on the economics of childhood and adolescent mental health as part of their commitment to improving mental health provision for children and young people in the UK. This report is an attempt to draw together the themes from the discussions, along with general conclusions from the day.	Recent research has shown an increasing prevalence of mental health problems in children. The recent Office for National Statistics (ONS) survey showed that 10% of children aged 5 to 15 experienceclinically defined mental health problems (i.e. a psychiatric disorder)2 and the prevalence of problems has been increasing over the past 50 years. Overall figures from epidemiological studies of children and adolescents spanning years 5 to 15, suggest that 10% of children had a mental health disorder; diagnosable anxiety disorders affect around 4% of this age range, conduct disorders around 5%, and 1% were described as hyperactive. Less common disorders (autistic spectrum disorders, eating disorders and tics) were attributed to half a percent of the sampled population. The ONS study also shows that problems experienced by children and young people with mental health disorders ripple out and affect other aspects of the child's life, family and community life, educational achievement, and physical health and social functioning. The National Child Development Study (NCDS), a continuing, multi-disciplinary longitudinal study, tracked everyone born in one week in 1958 over 30 years, looking at other aspects of functioning affected by mental health disorders. Results show strong unfavourable correlation between childhood conduct disorder and:

				◆ qualifications and employment ◆ relationships and family formation ◆ health and disability by age 33.
A systematic review of reviews of interventions to promote mental health and prevent mental health problems in children and young people	Tennant R, Goens C, Barlow J, Day C, Stewart-Brown SL	2007	A search was undertaken of ten electronic databases using a combination of medical subject headings (MeSH) and free text searches. Systematic reviews covering mental health promotion or mental illness prevention interventions aimed at infants, children or young people up to age 19 were included	A variety of programmes have been shown to be effective in promoting children's mental health, albeit with modest effect sizes. Based on this evidence, arguments are advanced for the preferential provision of early preventive programmes.
Cost-effective positive outcomes for children and families: An economic analysis of The Place2Be's integrated school-based services	The Place2Be	2010	Described throughout main body – economic analysis	By drawing on studies of the costs of mental disorder and the savings from preventing childhood conduct disorder to calculate the potential total cost savings that could be achieved by The Place2Be's individual and group counselling, it can be estimated that the total savings over the lifetimes of this group of 112 children could be £15 million. This breaks down into £10.2 million for those children achieving full mental health improvement; £4.4 million for those achieving partial improvement; and £0.58 million for those where development of mental health problems was prevented.