

<b>Title:</b> Transforming children and young people's mental health provision: a green paper <b>IA No:</b> 14001 <b>RPC Reference No:</b> N/A <b>Lead department or agency:</b> Department of Health and Social Care <b>Other departments or agencies:</b> Department for Education	<b>Impact Assessment (IA)</b>			
	<b>Date:</b> 19/07/2018			
	<b>Stage:</b> Final			
	<b>Source of intervention:</b> Domestic			
	<b>Type of measure:</b> Other			
<b>Contact for enquiries:</b> youngmentalhealth@dh.gsi.gov.uk				
<b>Summary: Intervention and Options</b>				<b>RPC Opinion:</b> Not Applicable

Cost of Preferred (or more likely) Option				
Total Net Present Value	Business Net Present Value	Net cost to business per year (EANDCB in 2014 prices)	One-In, Three-Out	Business Impact Target Status
£1,900m	£0m	£0m	Not in scope	Not a regulatory provision

**What is the problem under consideration? Why is government intervention necessary?**

There is a need to increase support to children and young people (CYP) with mild to moderate mental health conditions in England, and to reduce the length of time that those who need specialist NHS Children and Young People's Mental Health Services (CYPMHS) wait for treatment.

**What are the policy objectives and the intended effects?**

The policy objectives are to:

- Promote good mental health and wellbeing amongst all CYP through whole school approaches and effective joint working;
- Increase access to appropriate support for CYP with mild to moderate mental health conditions in England; and
- Improve access to and reduce waiting times for specialist NHS CYPMHS for those who need it.

The intended outcome is to improve mental health and wellbeing amongst CYP, generating benefits for the CYP, their families and wider society.

**What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)**

Option 0: Do nothing.

Option 1: Implement the three proposals outlined in the green paper (published December 2017):

- Incentivise and support all schools and colleges to identify a Designated Senior Lead for Mental Health.
- Create new Mental Health Support Teams working with schools to provide support for those with mild to moderate needs, jointly managed by Designated Senior Leads for Mental Health with a direct link into schools and colleges.
- Implement a series of waiting times pilots for NHS Children and Young People Mental Health Services.

Option 1 is the preferred option.

<b>Will the policy be reviewed?</b> It will be reviewed. <b>If applicable, set review date:</b> Ongoing review				
Does implementation go beyond minimum EU requirements?			Yes	
Are any of these organisations in scope?			<b>Micro</b> No	<b>Small</b> No
			<b>Medium</b> No	<b>Large</b> No
What is the CO <sub>2</sub> equivalent change in greenhouse gas emissions? (Million tonnes CO <sub>2</sub> equivalent)			<b>Traded:</b> N/A	<b>Non-traded:</b> N/A

***I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.***

Signed by the responsible Director: Chris Mullin, Department of Health Chief Economist Date: 19/07/ 2018

# Summary: Analysis & Evidence

Policy Option 0

Description: Business as Usual

## FULL ECONOMIC ASSESSMENT

Price Base Year: 18/19	PV Base Year: 18/19	Time Period (Years): 10	Net Benefit (Present Value (PV)) (£m)		
			Low:	High:	Best Estimate:

COSTS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	0	0	0
High	0	0	0
Best Estimate	0	0	0

Description and scale of key monetised costs by 'main affected groups'

N/A

Other key non-monetised costs by 'main affected groups'

N/A

BENEFITS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	0	0	0
High	0	0	0
Best Estimate	0	0	0

Description and scale of key monetised benefits by 'main affected groups'

N/A

Other key non-monetised benefits by 'main affected groups'

N/A

Key assumptions/sensitivities/risks

N/A

Discount rate (%)

N/A

## BUSINESS ASSESSMENT (Option 0)

Direct impact on business (Equivalent Annual) £m:			Score for Business Impact Target (qualifying provisions only) £m: N/A
Costs: 0	Benefits: 0	Net: 0	

# Summary: Analysis & Evidence

# Policy Option 1

**Description:** Implement the three pillars of the Green Paper proposals

## FULL ECONOMIC ASSESSMENT

Price Base Year: 18/19	PV Base Year: 18/19	Time Period (Years): 10	Net Benefit (Present Value (PV)) (£m)		
			Low: 400	High: 5,100	Best Estimate: 1,900

COSTS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low	10		
High			
Best Estimate			4,500

### Description and scale of key monetised costs by 'main affected groups'

- Funding to train Designated Senior Leads of £100m over five years.
- Cost of training and employing Mental Health Support Teams approximately £1.3bn over appraisal period.
- Funding for waiting times pilots approximately £50m over three years.

Costs to the health system have been increased by a factor of four to reflect the opportunity cost of foregone health spending.

### Other key non-monetised costs by 'main affected groups'

The intervention is expected to reduce the number of inappropriate referrals through improved need identification and assessment but also uncover unmet need that could increase the number of CYP entering treatments. The net effect on CYPMHS is unknown. Opportunity cost of the time spent by Designated Senior Leads for Mental Health on the roles, which could otherwise be spent on different tasks.

Opportunity costs of CYP spending time taking part in interventions in terms of the learning that could have taken place (and associated benefits) or leisure time.

BENEFITS (£m)	Total Transition (Constant Price) Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low	10		4,900
High			9,600
Best Estimate			6,400

### Description and scale of key monetised benefits by 'main affected groups'

Direct health benefits from delivery of evidence-based interventions by MHSTs worth £1.8bn over the appraisal period.

Wider benefits from delivery of evidence-based interventions by MHSTs worth £5.9bn over the appraisal period. Healthcare savings are increased by a factor of four to reflect opportunity cost of spending.

Direct health benefits of CYP spending less time in poorer health state due to waiting times pilots.

### Other key non-monetised benefits by 'main affected groups'

Additional benefits from delivery of evidence-based specialist interventions by teams.

Benefits from delivery of non-specialist support on mental health outcomes (and associated wider benefits).

Additional benefits from waiting times pilots in terms of increased efficacy of treatments on mental health outcomes (and associated wider benefits).

Benefits from additional CYPMHS treatments.

The intervention is expected to reduce the number of inappropriate referrals through improved need identification and assessment but also uncover unmet need that could increase the number of CYP entering treatment. The net effect on CYPMHS is unknown.

### Key assumptions/sensitivities/risks

Discount rate (%) 3.5

This Impact Assessment has been developed using a number of assumptions that are not underpinned by strong evidence.

It is assumed that 10% of CYP have a diagnosable mental health condition and a further 10-15% of CYP have mild-moderate needs.

It is assumed that 60% of children with a diagnosable mental health condition who are not currently referred to CYPMHS would benefit from some form of specialist treatment, and that 60% of those would receive specialist interventions from the new MHSTs.

It is assumed that under the new system 95% of CYPs referred to CYPMHS will receive an intervention

It is assumed that MHSTs have sufficient capacity to meet the anticipated demand for evidence-based interventions within their cluster.

## BUSINESS ASSESSMENT (Option 1)

Direct impact on business (Equivalent Annual) £m:			Score for Business Impact Target (qualifying provisions only) £m: N/A
Costs: 0	Benefits: 0	Net: 0	

# Evidence Base

## A. Problem under Consideration

### *Prevalence of Mental Health Conditions amongst Children and Young People*

1. There are broadly three groups of Children and Young People (CYP) with mental health needs:
  - CYP who are “pre-diagnosable”, with mild or low-level needs which do not constitute a diagnosable mental health condition but are at risk of developing one and would benefit from a form of support.
  - Those who have a recognisable or diagnosable mental health condition, but with mild to moderate needs that do not meet local thresholds for NHS Children and Young People Mental Health Services (CYPMHS) treatment;
  - CYP with diagnosable conditions (with often but not exclusively, more complex or severe needs) that meet thresholds for NHS CYPMHS treatment.
2. In addition, a significant number of CYP who present to mental health services in distress do not have a mental health disorder, but a need that may require different help, such as NHS physical health services or children’s services, and need assistance to access more appropriate help. In many cases this judgement is only possible after clinical assessment.
3. The latest available data, based on a 2004 prevalence survey<sup>1</sup>, estimates that in 2004 around 10% of CYP aged 5-16 had a diagnosable mental health condition. A more up to date edition of this survey is due for publication later this year. This would be equivalent to around 800,000 CYP based on recent population projections.<sup>2</sup> Comparable data is not collected on the number of children without a diagnosable mental health condition but with mild-moderate needs. The Mental Health Foundation cites evidence from the World Health Organisation (2003) which estimates 20% of adolescents may experience a mental health problem in a given year<sup>3</sup>.
4. Emerging evidence on more recent prevalence suggest it is possible that the proportion of CYP with mental health issues may have increased since 2004:
  - Surveys of adult mental health since 2000 have shown a steady increase in mental health issues<sup>4</sup>;
  - An international study comparing mental health prevalence in 1990 and 2010 found that mental health difficulties, in particular anxiety and depression, had increased in developed countries, with the largest increases seen in adolescents and young adults.<sup>5</sup>
  - There is emerging evidence on the prevalence of mental health issues in young children

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<sup>1</sup> Green et al. (2005). Mental health of children and young people in Great Britain, 2004. Basingstoke: Palgrave MacMillan. Available at: <http://digital.nhs.uk/catalogue/PUB06116>

<sup>2</sup> 2016-based national population projections. Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections/bulletins/nationalpopulationprojections/2016basedstatisticalbulletin/relateddatahttps://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationprojections>

<sup>3</sup> Caring for children and adolescents with mental disorders: Setting WHO directions. Geneva: World Health Organization. Available at: [http://www.who.int/mental\\_health/media/en/785.pdf](http://www.who.int/mental_health/media/en/785.pdf)

<sup>4</sup> Children’s Commissioner (2017). Briefing: Children’s Mental Healthcare in England. Available at: <https://www.childrenscommissioner.gov.uk/wp-content/uploads/2017/10/Childrens-Commissioner-for-England-Mental-Health-Briefing-1.1.pdf>

<sup>5</sup> Fink, et al. (2015). Mental health difficulties in early adolescence: A comparison of two cross-sectional studies in England from 2009 to 2014. Journal of Adolescent Health, 56, 502-507. Available at: [http://www.jahonline.org/article/S1054-139X\(15\)00064-6/pdf](http://www.jahonline.org/article/S1054-139X(15)00064-6/pdf)

under 5 years of age.<sup>6</sup>

### *Impact of Mental Health Conditions*

5. There is a wealth of evidence which suggests that CYP with mental health problems often experience issues in many areas of their life:
- CYP with mental health disorders are eighteen times more likely to be excluded from school than those without.<sup>7</sup>
  - A quarter of CYP with mental health problems report not going into school due to concerns about what others think about their mental health problems.<sup>8</sup>
  - CYP with diagnosable mental health problems are more likely to be assessed as being behind in their schooling, with 9% assessed as being two or more years behind.<sup>9</sup>
  - Young people with mental health problems are more likely to experience problems in their future employment. Various longitudinal studies suggesting a long-term impact on economic activity such as receipt of welfare benefits, income, and continuous employment.<sup>10 11 12</sup>
  - One quarter of boys in Youth Offender Institutions reported emotional or mental health problems.<sup>13</sup>
  - Over two fifths of CYP on community orders had emotional and mental health needs.<sup>14</sup>
  - Young people with conduct disorder are more likely to engage in criminal activity. Research suggests they are twenty times more likely to end up in prison, and four times more likely to become dependent on drugs, compared to the general population.<sup>15</sup>
6. When difficulties start below secondary school age, they have particularly long lasting effects on children's prospects. Around half of children with conduct disorder go on to have very poor life chances including an increased risk of a wide range of adult mental illnesses.<sup>16</sup> Compared with their peers, children aged 7-9 with conduct disorder are on average:<sup>17</sup>
- Twice as likely to leave school with no qualifications;

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<sup>6</sup>Fanti, K. A., & Henrich, C. C. (2010). Trajectories of pure and co-occurring internalizing and externalizing problems from age 2 to age 12: findings from the National Institute of Child Health and Human Development Study of Early Child Care. *Developmental psychology*, 46(5), 1159. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/20822230>

<sup>7</sup>Meltzer, et al. (2003). Persistence, onset, risk factors and outcomes of childhood mental disorders. Available at: [http://webarchive.nationalarchives.gov.uk/+http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsStatistics/DH\\_4081089](http://webarchive.nationalarchives.gov.uk/+http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsStatistics/DH_4081089)

<sup>8</sup>Time to Change (2014). Students missing out on education because of mental illness. Available at: <https://www.time-to-change.org.uk/news/students-missing-out-education-because-mental-illness>

<sup>9</sup>PQ 207563, 5 September 2014. Available at: <http://www.parliament.uk/business/publications/written-questions-answers-statements/written-question/Commons/2014-09-01/207563/>

<sup>10</sup>Knapp, et al. (2016). Youth Mental Health: New Economic Evidence. Available at: <http://www.pssru.ac.uk/archive/pdf/5160.pdf>

<sup>11</sup>Childhood mental health and life chances in post-war Britain: Insights from three national birth cohort studies (2009). Available at: [http://www.rcpsych.ac.uk/pdf/life\\_chances\\_summary%20\(2\).pdf](http://www.rcpsych.ac.uk/pdf/life_chances_summary%20(2).pdf)

<sup>12</sup>Goodman, et al. (2011). The long shadow cast by childhood physical and mental problems on adult life. Available at: <http://www.pnas.org/content/108/15/6032.full.pdf>

<sup>13</sup>HMIP (2016). Children in Custody 2015-16: An analysis of 12-18 year olds' perceptions of their experiences in secure training centres and young offender institutions. Available at: [https://www.justiceinspectorates.gov.uk/hmiprisoners/wp-content/uploads/sites/4/2016/11/Children-in-Custody-2015-16\\_WEB.pdf](https://www.justiceinspectorates.gov.uk/hmiprisoners/wp-content/uploads/sites/4/2016/11/Children-in-Custody-2015-16_WEB.pdf)

<sup>14</sup>Healthcare Commission (2009). Actions speak louder: A second review of healthcare in the community for young people who offend. Available at: <http://www.ohrn.nhs.uk/resource/policy/Actionsspeaklouder.pdf>

<sup>15</sup>Parsonage, et al. (2014). Building a better future: the lifetime costs of childhood behavioural problems and the benefits of early intervention. Centre for Mental Health. Available at: [https://www.researchgate.net/publication/308085041\\_Building\\_a\\_better\\_future\\_the\\_lifetime\\_costs\\_of\\_childhood\\_behavioural\\_problems\\_and\\_the\\_benefits\\_of\\_early\\_intervention](https://www.researchgate.net/publication/308085041_Building_a_better_future_the_lifetime_costs_of_childhood_behavioural_problems_and_the_benefits_of_early_intervention)

<sup>16</sup>Moffitt (2006). Life-course-persistent versus adolescence-limited antisocial behaviour: a 10-year research review and a research agenda. In: Cicchetti, & Cohen [Eds.]. Risk, Disorder, and Adaptation, *Developmental Psychopathology*, 3, 720-98. Hoboken, NJ: John Wiley.

<sup>17</sup>Fergusson, et al. (2005). Show me a child at seven: consequences of conduct problems in childhood for psychosocial functioning in adulthood. *Journal of Child Psychology and Psychiatry*, 46, 837 - 849. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/16033632>

- Four times more likely to become drug dependent;
- Six times more likely to die before the age of 30;
- Eight times more likely to be placed on a child protection register; and
- Twenty times more likely to end up in prison.

7. In addition to childhood issues caused by mental health problems, there is good evidence that adult mental health problems begin in childhood or adolescence:

- A British cohort study showed that teenagers who had common mental disorders (CMD)<sup>18</sup> were more than two and a half times more likely to have a common mental disorder at age 36, compared with mentally healthy teenagers. Teenagers with persistent CMD were over six times more likely to have CMD at age 36 and 43, and four times more likely at age 53.<sup>19</sup>
- Longitudinal research from New Zealand shows that half of 26 year old adults with a diagnosable mental health problem also had symptoms before age 15, and almost seventy-five per cent before age 18.<sup>20</sup>
- A study from the US showed that half of lifetime cases of mental illness start by age 14 and seventy-five per cent by age 24.<sup>21</sup>

8. Adults with mental health problems are much more likely to have other disadvantages, including:

- Lower incomes in early adulthood and into middle age;<sup>22</sup>
- Lower probability of being in work in middle age;<sup>23</sup>
- Increased risk of problems with their physical health, including cardiovascular disease, gum disease, serious injury, nicotine dependency, and increased risk of hospitalisation in males,<sup>24</sup><sup>25</sup> and
- Increased involvement in the criminal justice system – both as victims and perpetrators.<sup>26</sup> <sup>27</sup>

9. Child and adolescent mental health problems are costly, with the annual short-term costs estimated at £1.58 billion and the annual long-term costs estimated at £2.35 billion.<sup>28</sup>

### Current Provision

10. The NHS provides mental health care for CYP experiencing severe problems. According to

<sup>18</sup> Jones (2013). Adult mental health disorders and their age at onset. *The British Journal of Psychiatry*, 202, s5-s10. Available at: <http://bjp.rcpsych.org/content/202/s54/s5>

<sup>19</sup> *ibid*

<sup>20</sup> Kim-Cohen, et al (2003). Prior juvenile diagnoses in adults with mental disorder: Developmental follow-back of a prospective-longitudinal cohort. *Archive of General Psychiatry*, 60(7), 709-717. Available at: <http://jamanetwork.com/journals/jamapsychiatry/fullarticle/207619>

<sup>21</sup> Kessler, et al. (2005). Lifetime prevalence and age-of-onset distributions of *DSM-IV* disorders in the National Comorbidity Survey replication. *Archives of General Psychiatry*, 62(6), 593-60.

<sup>22</sup> Goodman, et al. (2011). The long shadow cast by childhood physical and mental problems on adult life. *Proceedings of the National Academy of Sciences*, 108(15), 6032–6037. Available at: <http://www.pnas.org/content/108/15/6032.full>

<sup>23</sup> *ibid*

<sup>24</sup> Odgers, et al. (2007). Prediction of differential adult health burden by conduct problem subtypes in males. *Arch Gen Psychiatry*, 64(4), 476-484. Available at: <http://jamanetwork.com/journals/jamapsychiatry/fullarticle/210006>

<sup>25</sup> Goodman, et al. (2011). The long shadow cast by childhood physical and mental problems on adult life. *Proceedings of the National Academy of Sciences*, 108(15), 6032–6037. Available at: <http://www.pnas.org/content/108/15/6032.full>

<sup>26</sup> Teplin, et al. (2005). Crime victimization in adults with severe mental illness: Comparison with the National Crime Victimization Survey. *Arch Gen Psychiatry*, 62(8), 911-921.

<sup>27</sup> Mental Health and Criminal Justice. Views from consultation across England & Wales (2016). Centre for Mental Health. Available at: <https://www.centreformentalhealth.org.uk/Handlers/Download.ashx?IDMF=83a8bfa6-678f-470e-9f49-de5c0769e752>

<sup>28</sup> Strelitz (2012). The economic case for a shift to prevention. Annual Report of the Chief Medical Officer 2012 – Our Children Deserve Better: Prevention Pays. Available at: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/252653/33571\\_2901304\\_CMO\\_Chapter\\_3.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/252653/33571_2901304_CMO_Chapter_3.pdf)

experimental data from NHS Digital,<sup>29</sup> in 2016/17 there were approximately 460,000 referrals to NHS-funded CYP Mental Health Services a year. Around 200,000 received treatment in NHS-funded services and many were appropriately signposted to other help. Analysis of the last prevalence survey from 2004 indicates 25% of children with a diagnosable need accessed support. Implementing the Five Year Forward View of Mental Health (FYFVMH) commits to raising this to 35% by 2020/21.<sup>30</sup>

11. According to the Care Quality Commission<sup>31</sup>, “most services are rated as good or outstanding and across all services there are examples of good and outstanding practise”. They also state that “too many children and young people have a poor experience of care and some are simply unable to access timely and appropriate support” and “children and young people’s mental health is marked by variation” in terms of the needs of children in different circumstances or ages, across the quality of services.
12. This variability in access and quality can be observed from waiting times data for CYPMHS<sup>32</sup>. Experimental data for 2016/17 showed the average wait for treatment in a CYPMHS was 12 weeks, with the shortest around four weeks and the longest in one provider with waits of up to 100 weeks from referral to treatment.
13. Early intervention and quick access to good quality care is vital, especially for CYP. Mental health specialists encourage earlier intervention to help increase the likelihood of achieving recovery and therefore lead to a lower overall cost of care. In the US, a longer waiting time has been associated with appointment non-attendance, taking into account symptom severity.<sup>33</sup> In Switzerland, waiting time for the first appointment has also been found to be a significant predictor of a patient’s ‘alliance’ with their therapist.<sup>34</sup>

### *The Role of Schools and Colleges*

14. Future in Mind<sup>35</sup> outlined the role of schools and colleges in the promotion of good mental health, identification of need and as a location for the provision of initial support. A survey by the Department for Education (DfE)<sup>36</sup> suggests that the majority of schools currently offer some form of mental health provision across a range of activities from universal prevention and promotion activities to providing targeted support for those with mild to moderate needs, such as school based counselling.

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<sup>29</sup> <https://digital.nhs.uk/data-and-information/data-collections-and-data-sets/data-sets/mental-health-services-data-set> - these figures are from statistics that are classified as experimental and should be used with caution.

<sup>30</sup> The Five Year Forward View for Mental Health, February 2016. Available at: <https://www.england.nhs.uk/wp-content/uploads/2016/07/fyfv-mh.pdf>

<sup>31</sup> Care Quality Commission (2017). Review of children and young people’s mental health services: Phase one report, October 2017. Available at: <http://www.cqc.org.uk/publications/themed-work/review-children-young-peoples-mental-health-services-phase-one-report>

<sup>32</sup> Time from referral to the second contact (NHS Digital 2017). [http://content.digital.nhs.uk/media/25613/NHS-England-CYPMH-Additional-Waiting-Time-StatisticsFINAL/xls/NHS\\_England\\_CYPMH\\_Additional\\_Waiting\\_Time\\_Statistics\\_FINAL.xlsx](http://content.digital.nhs.uk/media/25613/NHS-England-CYPMH-Additional-Waiting-Time-StatisticsFINAL/xls/NHS_England_CYPMH_Additional_Waiting_Time_Statistics_FINAL.xlsx) - These figures are from statistics that are classified as experimental and should be used with caution.

<sup>33</sup> Sherman, et al. (2009). Clinical intake of child and adolescent consumers in a rural community mental health center: does wait-time predict attendance? *Community Mental Health Journal*, 45(1), 78-84. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/18807182>.

<sup>34</sup> Kapp, et al. (2017). Identifying the determinants of perceived quality in outpatient child and adolescent mental health services from the perspectives of parents and patients. *European Child and Adolescent Psychiatry*, 26(10), 1269-1277. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/28382545>

<sup>35</sup> Department of Health and NHS England (2015). Future in Mind: promoting, protecting and improving our children and young people’s mental health and wellbeing. Available at: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/414024/Childrens\\_Mental\\_Health.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/414024/Childrens_Mental_Health.pdf)

<sup>36</sup> Marshall, et al. (2017). Supporting Mental Health in Schools and Colleges: Quantitative survey. *Department for Education*. Available at: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/634726/Supporting\\_Mental-Health\\_survey\\_report.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/634726/Supporting_Mental-Health_survey_report.pdf)

15. The evidence review<sup>37</sup> commissioned to inform “Transforming children and young people’s mental health provision: a green paper”, herein referred to as the Green Paper, reports a number of ways in which schools are well-placed to support children with mental health issues:
- The school setting offers many opportunities for identifying CYP at risk. School staff may be particularly well placed to spot behaviours and risk factors to support the early identification of specific mental health problems (such as eating disorders and self-harm).
  - The school environment is well suited to a graduated approach to children’s mental health, where children at risk can be identified and a range of interventions (including prevention) can be offered to address problems.
  - As the school environment can present triggers for many difficulties (such as social anxiety, test anxiety, peer influences in some conditions), there is a strong case for locating support in the school to help manage these challenges.
  - The school environment is non-stigmatizing and accessible, making interventions offered in this context more acceptable to CYP and their parents.
  - There is evidence to show that staff without a mental health background, including teachers, can be trained to deliver some specific interventions, with outcomes comparable to mental health professionals.
16. In spite of this evidence, schools report difficulty accessing mental health provision and struggle to know what school support services, programmes or activities would be best to invest in to support pupil wellbeing.<sup>38</sup> DfE’s 2016 Teacher Voice survey showed a mixed picture on how confident school staff feel about mental health and wellbeing<sup>39</sup>:
- While 50% of senior leaders who responded to the survey felt that their school was equipped to identify behaviour that may be linked to a mental health issues, almost a third (32%) did not feel equipped.
  - 29% of respondents felt their school was equipped to teach children who have mental health needs, 44% did not.
  - 56% of respondents knew how to help pupils access support in the school, 27% did not.
17. The evaluation of the Mental Health Services and Schools Link Pilot<sup>40</sup> found that, prior to the pilot, areas experienced a range of difficulties in joint working between schools and NHS CYPMHS. These included misunderstanding of referral routes, schools not being able to refer directly into NHS CYPMHS, poor communication and a lack of ability to share data and outcomes relating to referrals.

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<sup>37</sup> Kendall, Fonagy & Piling review – forthcoming.

<sup>38</sup> White, et al. (2017). Supporting Mental Health in Schools and Colleges: Qualitative case studies. Department for Education. Available at: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/634728/Supporting\\_Mental-health\\_Case\\_study\\_report.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/634728/Supporting_Mental-health_Case_study_report.pdf)

<sup>39</sup> Smith, et al (2018). Teacher voice omnibus survey. Summer 2017 Department for Education. Available at: [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/687010/Teacher\\_Voice\\_report\\_Summer\\_2017.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/687010/Teacher_Voice_report_Summer_2017.pdf)

<sup>40</sup> <https://www.gov.uk/government/publications/mental-health-services-and-schools-link-pilot-evaluation>

## B. Policy Objectives

18. Based on the above evidence, the policy objectives for any potential intervention should be to:
- a) Promote good mental health and wellbeing amongst all children and young people through whole school approaches and effective joint working;
  - b) Increase access to appropriate support for children and young people with mild to moderate mental health conditions in England; and
  - c) Improve access to and reduce waiting times for specialist NHS CYPMHS for those who need it.
19. The intended outcome is to **improve mental health and wellbeing amongst CYP**. This outcome can generate a number of benefits for the CYP directly such as:
- Improved mental and physical health;
  - Improved adult mental health; and
  - Improved educational attainment.
20. These effects can then lead to further benefits at the societal level:
- Benefits from increased future earnings and productivity of CYP;
  - Reduced demands on the health and social care system;
  - Reduced demands on the education system;
  - Reduced demands on the criminal justice system; and
  - Improved wellbeing of family, friends and professionals working with CYP.

## C. Description of Options Considered

### Option 0 - Business as Usual

21. The counterfactual is “business as usual” with no new policy intervention.

### Option 1

22. Under Option 1, the three main pillars originally outlined in the Green Paper proposals, refined to reflect feedback from recent consultation, will be implemented. In the Impact Assessment supporting the consultation, each pillar of the proposals was presented as a separate option.<sup>41</sup> It is considered that all three pillars are required in order to achieve the policy objectives because of the interdependencies between each pillar.

#### A. Incentivising every school and college to identify a Designated Senior Lead for Mental Health

23. The Designated Senior Lead (DSL) role will be voluntary and will build on the 49% of schools and colleges which already have an identified lead for mental health.<sup>42</sup> Decisions on who takes the role, how much time will be dedicated to the role and decisions around specific responsibilities and activities will be up to schools and colleges to decide. These decisions are likely to vary based on factors such as the size of the school or college, mix of other professionals on site and the needs of the pupils and students. Schools and colleges will be able to decide what works for them. The role is expected to be strategic in nature rather than DSLs providing mental health interventions themselves. Responsibilities may include:

- Oversight of the whole school approach to mental health and wellbeing, including how it is reflected in the design of behaviour policies, curriculum and pastoral support, how staff are supported with their own mental wellbeing and how pupils and parents are engaged;
- Supporting the identification of at risk children and children exhibiting signs of mental ill health;
- Knowledge of the local mental health services and working with clear links into CYPMHS to refer children and young people where it is appropriate to do so;
- Working closely with the new Mental Health Support Teams to improve outcomes on children and young people’s mental health;
- Coordination of the mental health needs of young people within the school or college and oversight of the delivery of interventions where these are being delivered in the educational setting;
- Support to staff in contact with children with mental health needs to help raise awareness, and give all staff the confidence to work with young people with mental health needs; and
- Overseeing the outcomes of interventions, on children and young people’s education and wellbeing.

24. Two actions will be taken to provide more support for existing Leads, incentivise more schools and colleges to put Leads in place and ensure all Leads have expertise and impact:

- The first will be a national roll-out of the schools-CYPMHS link training to all areas.

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<sup>41</sup> Impact assessment on the children and young people’s mental health green paper. Available at: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/664442/MHGP\\_IA.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/664442/MHGP_IA.pdf)

<sup>42</sup> Marshall, et al. (2017). Supporting Mental Health in Schools and Colleges: Quantitative survey. *Department for Education*. Available at: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/634726/Supporting\\_Mental-Health\\_survey\\_report.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/634726/Supporting_Mental-Health_survey_report.pdf)

- The second will be to enable schools to access high-quality training to build the skills of the Leads. The Department for Education will make funding available to support training providers to develop and extend the reach of appropriate training packages, including through the Teaching and Leadership Innovation Fund (TLIF).

## **B. Funding new Mental Health Support Teams**

25. In addition to the Designated Senior Lead for Mental Health, new Mental Health Support Teams (MHSTs) will provide specific extra capacity for early intervention and ongoing help. Their work will be managed jointly by schools, colleges and the NHS. These teams will be linked to groups of primary and secondary schools and to colleges. An important role of MHSTs will be providing focussed evidence-based specialist interventions, with appropriate clinical supervision. They will also provide additional non-specialist support which may include:

- Providing a link with more specialist NHS mental health services so that children can more swiftly access help they need, if that is necessary;
- Supporting a 'whole school approach' to mental health and wellbeing, integrated with existing support including school pastoral care;
- Supporting existing effective provision in the local area by training other professionals, including family workers, early help workers, social workers and teams who work with young offenders;
- Providing a specific assessment and referral function, and additional support during treatment, including supporting self-care;
- Supporting young people who have experienced trauma (such as bereavement) or traumatic incidents; and
- Working closely with a range of other services including professionals who work closely with schools and colleges, such as educational psychologists, school nurses and counsellors, local authority troubled families teams, social services, peer networks, service user forums, and voluntary and community sector organisations.

26. The provision of evidence-based specialist interventions is expected to be of particular benefit to children and young people who demonstrate mild-moderate conditions including anxiety, low mood and common behavioural difficulties. For example:

- For conduct disorder, a range of interventions can have positive outcomes, such as group and individual parenting programmes, school-based programmes, and functional family therapy.<sup>43</sup>
- Group cognitive behavioural therapy (CBT) in a school setting has been shown to reduce symptoms of anxiety.<sup>44</sup>
- There are a range of other types of interventions which can be helpful for different problems when delivered in schools, such as anti-bullying programmes, psychoeducation, skills based interventions, working with parents and parent programmes.<sup>45</sup>

27. There is expected to be a phased rollout of this policy. Initial implementation will be through a trailblazer approach, allowing local innovation, development and testing of different delivery models. This trailblazer approach will be evaluated and insights will inform later phases of the rollout.

<sup>43</sup> Khan, et al. (2015). Investing in children's mental health: A review of evidence on the costs and benefits of increased service provision. *Centre for Mental Health*. Available at: <https://www.centreformentalhealth.org.uk/investing-in-children-report>

<sup>44</sup> *ibid*

<sup>45</sup> Kendall, Fonagy & Piling review – forthcoming.

**C. Trialling a four week waiting time for access to specialist NHS children and young people's mental health services.**

28. As well as investing in new Mental Health Support Teams and supporting and incentivising Designated Senior Leads for Mental Health in schools and colleges, the policy builds on the expansion of specialist NHS services already underway by piloting new service delivery models that are able to achieve and sustain reduced waiting times for access to CYPMHS. This is to ensure that CYP who need it receive faster access to the appropriate support that they require. This will not be achieved at the expense of reducing access or raising thresholds for accessing services. The reduced waiting times will be piloted in some of the trailblazer areas.
29. The details of how these pilots will be implemented are under development with the geographical size and location, number of pilots and selection criteria still to be determined.

## D. Cost Benefit Analysis

30. This Impact Assessment identifies both monetised and non-monetised impacts of the proposed policy on individuals and groups in the UK. The costs and benefits of Option 1 are compared to the “business as usual” option.
31. In order to develop a picture of the distribution of costs and benefits, a number of modelling assumptions have been developed. **The assumptions and resulting estimates presented throughout this cost-benefit analysis should not be considered targets or commitments for how the policy will be implemented.** Assumptions are presented throughout the following section and where necessary, the level of uncertainty involved and associated risks are highlighted.
32. The summary tables present figures in real 2018/19 prices, unless stated otherwise, rounded to the nearest appropriate multiple based on the order of magnitude or degree of uncertainty. Figures in tables may not sum exactly due to this rounding. Inflation adjustments throughout are applied using the most recent GDP deflator.<sup>46</sup>
33. The measurement and valuation of direct health benefits from a policy intervention is typically performed by estimating the number of quality adjusted life years (QALYs) generated. QALYs account for impacts on length of life (longevity), and health-related quality of life (QoL). One QALY is equivalent to one year of life in full health or 2 years of life at half of full health.<sup>47</sup>
34. In the Department for Health and Social Care, it is considered that an additional QALY (valued by society at £60,000) can be purchased for £15,000. Where proposed health spending redirects resources from alternative use, the opportunity cost of spending is four times the financial cost. Consequently, the cost of MHSTs and Waiting Time Pilots (WTP) are increased by a factor of four to reflect their opportunity cost.

### Option 0: Business as Usual

35. Due to an absence of up to date national data on prevalence for all disorders and ages on which to base assumptions of future prevalence we assume:
- 10% of 5-18 year olds have a diagnosable mental health problem and that this level of prevalence remains constant over the appraisal period. This is based on Green et al (2005).
  - We estimate approximately 10-15% of 5-18 year olds do not have a diagnosable mental health condition but are at risk of developing one and have mild to moderate needs (mild-moderate/pre-diagnosable).<sup>48 49</sup>
36. There is considerable uncertainty in these assumptions. As part of our recent consultation, we asked respondents for recent evidence on the prevalence of mental health conditions. Respondents highlighted the shortage of evidence in this area, a number of references submitted suggest prevalence may in fact be higher than our central estimates above. Consequently, we have incorporated sensitivity analysis which considers the impact of higher prevalence in Section E.

<sup>46</sup> <https://www.gov.uk/government/statistics/gdp-deflators-at-market-prices-and-money-gdp-march-2018-spring-statement>

<sup>47</sup> For further detail on QALYs and their use in CBA, please see the Green Book at

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/220541/green\\_book\\_complete.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/220541/green_book_complete.pdf)

<sup>48</sup> Fink et al (2015), Mental Health Difficulties in Early Adolescence: A Comparison of Two Cross-Sectional Studies in England from 2009 to 2014, Journal of Adolescent Health

<sup>49</sup> Deighton et al (2018), Mental health problems in young people, aged 11 to 14: Results from the first HeadStart annual survey of 30,000 children, EBPU (Evidence Based Practice Unit)

37. Under Option 0, provision of CYPMHS is assumed to continue in line with the trajectory outlined in “Implementing the Five Year Forward View for Mental Health”, which aimed to ensure 35% of all CYPs with a diagnosable mental health condition received treatment by 2020/21. For the purposes of this analysis, we have assumed that this target is achieved by increasing the number of referrals, as opposed to increasing the proportion of CYPs referred who are treated. The estimated volumes under this option are presented in Annex 1.

38. The costs and benefits of not intervening are set at 0, and the costs and benefits of the policy option are assessed against this benchmark.

### **Option 1: Implement Green Paper Proposals**

39. In order to estimate the impact of the policy intervention, we have developed indicative pathways to illustrate how the policy intervention could help divert CYP to access the most appropriate support and treatment. These pathways were developed based on conversations with NHS England and clinical experts<sup>50</sup> and referrals data from NHS Digital’s Mental Health Services Dataset (MHSDS). They are a high level description of potential activity to inform cost estimates and do not describe in detail the complex provision available to CYP. Annex 2 provides a visual summary of these indicative pathways and the underlying assumptions are as followed:

- i. We assume that NHS CYPMHS meets and sustains the FYFVMH commitment to improve access so that by 2020/21 approximately 35%<sup>51</sup> of CYP with a diagnosable mental health condition are getting treatment in the NHS.
- ii. We assume CYP who were previously referred to CYPMHS and not accepted for NHS mental health treatment are instead captured by the MHST pathway.<sup>52</sup>
- iii. Of those CYP with a diagnosable mental health condition not referred to CYPMHS, it is assumed 60% are identified as potentially benefitting from an evidence-based intervention. For CYP with a pre-diagnosable mental health condition, it is assumed 10% are identified as potentially benefitting from an evidence-based intervention.
- iv. Of the above group, it assumed 40% are referred to CYPMHS and 60% receive an evidence-based intervention delivered by MHST practitioners.
- v. CYP with mental health needs but not considered to need an evidence-based intervention in NHS CYPMHS instead receive non-specialist support provided by MHSTs.
- vi. For CYP who receive an evidence-based intervention, we assume 50% of those that received any intervention would have achieved the same outcome without treatment. Of the remaining 50%, we assume one third achieve full recovery and require no further treatment.

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<sup>50</sup> Professor Miranda Wolpert, Professor Stephen Pilling, Professor Tim Kendall, and Professor Peter Fonagy.

<sup>51</sup> Based on 2004 prevalence estimates

<sup>52</sup> This is a consequence of (a) the role of DSLs and MHSTs in identifying needs of CYP; (b) the provision of school-based services for mild-moderate needs; (c) the increased knowledge of mental health amongst professionals working with CYP and (d) the improved joint working between various services.

40. There are a number of uncertainties around how CYP will progress through the new system in practice. This uncertainty will only diminish once the policy has been implemented via the trailblazer approach and robust evaluation has commenced. In Section E, sensitivity testing is presented which looks at the possible impact of:

- a larger proportion of CYP being diverted to evidence-based interventions or CYPMHS than assumed above; and
- a lower proportion of CYP referred to CYPMHS being treated than assumed above.

41. Based on these assumptions it is estimated that by the end of the appraisal period there will be:

- 600k fewer referrals than under our business as usual scenario;
- 400k more treatments than under our business as usual scenario;
- 1m CYP will receive an evidence-based intervention delivered by MHSTs; and
- 3.5m CYP will benefit from non-specialist mental health support.

42. Annex 1 provides a summary of estimated volumes over the appraisal period under both options.

## Monetised Costs

### *Senior Leads Training*

43. The cost to roll out the schools-CYPMHS link training is estimated to be around £7.6m, assumed to be spread over five years. This is based on an indicative unit cost of Single-Point-Of-Contact (SPOC) training of £315, across all schools and colleges in England.

44. To support the development of a suitable range of high-quality training, DfE will provide a further £15-20m per annum from 2019/20 to cover costs until all schools have had a chance to train a DSL (assumed to be 5 years). This funding is based on an average of £3,000 to every primary school and £6,000 to every secondary school, college, special school, pupil referral unit and independent school.

45. The above costs and timings are indicative of eventual implementation and are summarised in Table 1 below:

**Table 1: Cost of Senior Leads Training**

	2019/20	2020/21	2021/22	2022/23	2023/24	Total
Link Training	£1.5m	£1.5m	£1.4m	£1.4m	£1.4m	<b>£7m</b>
Lead Training	£18.6m	£18.3m	£18.0m	£17.7m	£17.4m	<b>£90m</b>
Total	£20.1m	£19.8m	£19.5m	£19.1m	£18.8m	<b>£97m</b>

### *MHST Costs*

46. In order to deliver MHSTs across the country, sufficient funding has been allocated to create a new workforce of around 8,000 staff. This is based on an indicative composition for each MHST, developed with NHS England. It is anticipated teams would mostly be comprised of practitioners (band 4/5/6), alongside supervisors and management (bands 7/8) and administrative support. It is assumed that each team is sufficiently staffed to offer support to children with mental health needs across a cluster of approximately 20 schools (of which there are over 1,000 clusters nationally).

47. It is important to acknowledge that the above composition is not a blueprint for how all MHSTs will be ultimately composed. The structure of each MHST is likely to vary according to local circumstances, the schools and colleges it serves and emerging insights from implementation in trailblazer areas. The actual workforce size will be subject to local areas testing what provision is needed. In addition, roll-out of MHSTs depends on securing the necessary long term funding.

48. The costs of delivering MHSTs was estimated based on the following assumptions:<sup>53</sup>

- New MHST staff will train for the entirety of year 1 and commence activity in year 2;
- The number of staff trained each year will be constrained by the supply of training places. An indicative training trajectory has been provided by Health Education England (HEE);
- Course training costs will be £7,500 per Band 4 and Band 5 practitioner; and £12,000 per Band 6 practitioner or Band 7 supervisor – the full cost of training will include the salary of the practitioner<sup>54</sup>;
- An attrition rate of 20% is assumed. In other words, of those that complete training each year, 80% will go on to commence activity. This has been informed by the adult Improving Access to Psychological Therapies (IAPT) programme.

49. The roll-out profile below has been developed to outline the trailblazer approach to delivery and the speed at which new full-time equivalents (FTE) can (a) be trained and (b) commence activity:

- The “Target Roll-out” profile below denotes the target proportion of MHSTs commencing activity in the following year. It is expressed as a proportion of full roll-out of MHSTs.
- The “Required Training” profile below denotes the proportion of MHSTs that would need to be trained to deliver the target roll-out, given the assumption of a 20% attrition rate.
- The “Available Places” profile is the maximum proportion of MHSTs that can be trained, based on the indicative training trajectory supplied by HEE.
- “MHSTs Trained” is the proportion of MHSTs that have been trained. This reflects the required training versus the supply constraint of available training places.
- “Active MHSTs” shows how the profile of active MHSTs. This reflects the 20% attrition rate and the assumption that MHSTs only commence activity in the year following their training.

**Table 2: Roll-out Profile of MHSTs**

	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28
Target Roll-out (% of full roll-out)	5%	10%	15%	20%	25%	40%	55%	70%	85%	100%
Required Training (% of full roll-out)	6%	13%	19%	25%	31%	50%	69%	88%	106%	125%
Available Places (% of full roll-out)	4%	13%	29%	48%	73%	100%	128%	155%	182%	210%
MHSTs Trained (% of full roll-out)	4%	13%	19%	25%	31%	50%	69%	88%	106%	125%
Active MHSTs (% of full roll-out)	0%	3%	10%	15%	20%	25%	40%	55%	70%	85%

50. Employment costs for MHSTs are based on the relevant salary mid-point for each grade. Costs are also uplifted to include an additional 28% of on-costs<sup>55</sup> and 20% for overheads<sup>56</sup>. These costs are increased further until 2021/22 to reflect proposed reform of NHS pay structures<sup>57</sup> and held in constant real terms thereafter.

<sup>53</sup> Assumptions developed with NHS England

<sup>54</sup> Training requirements for Band 8 staff and administrative staff are unknown and are not included in training cost estimates

<sup>55</sup> National insurance contributions, pensions

<sup>56</sup> Expenses, continuous professional develop, IT, accommodation, human resources.

<sup>57</sup> <https://www.nhsemployers.org/-/.../FINAL-Framework-agreement-21-March-2018.pdf>

51. Because funding is required to both train and employ the new MHSTs, costs will be incurred in the year before any teams can commence activity. Consequently, the required funding profile rises more quickly over time than the increase in coverage. The total costs of delivering MHSTs is summarised below:

**Table 3: Cost of MHSTs**

	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Total
Training Costs	£2m	£5m	£4m	£4m	£3m	£10m	£10m	£10m	£10m	£9m	<b>£70m</b>
Salary Costs	£0m	£10m	£40m	£60m	£80m	£100m	£160m	£220m	£270m	£330m	<b>£1,200m</b>
Total Cost	£2m	£16m	£40m	£60m	£80m	£110m	£170m	£230m	£280m	£340m	<b>£1,300m</b>
Opportunity Cost	£10m	£70m	£170m	£250m	£330m	£430m	£670m	£900m	£1,140m	£1,370m	<b>£5,300m</b>

### *Waiting Times Pilots*

52. In order to implement waiting times pilots, approximately £50m of funding has been allocated between 2018/19 and 2020/21 - £8m in year 1, £20m in year 2 and £20m in year 3. The cost was estimated by DHSC using a stock-and-flow method based on 2016/17 NHS Digital data and 2016 NHS Benchmarking data. The model estimates the cost of delivering a reduced waiting time nationally through increasing CYPMHS clinical capacity to meet anticipated demand. These costs were then adjusted to estimate the cost of roll-out to a select proportion of the population. The opportunity cost of the pilots in each financial year is £32m in year 1, £78m in year 2 and £77m in year 3.

53. The above estimates do not account for the large variation in demand and performance across the country. In simple terms, it will cost more to deliver four week waits in an area with above average waiting times than it would in areas with below average waiting times. Particular areas may also have unique challenges which mean the cost of delivering lower waiting times is higher than average. The extent to which pilots can be rolled-out is highly dependent on the criteria for selecting test-beds and baseline waiting times in those areas. A better understanding of what coverage is feasible with the will only emerge once delivery has been tested in trailblazer areas.

## **Non-monetised Costs**

### *Opportunity Cost of DSL Staff Time*

54. There would be an opportunity cost of the time spent by Designated Senior Leads for Mental Health on the roles, which could otherwise be spent on different tasks. We have not quantified this opportunity cost for the following reasons:

- The time spent by DSLs on their role (both training and activities) is uncertain and is likely to be determined based on the specific circumstances of each school.<sup>58</sup> The level of training received will depend on the individual need of each DSL, which will vary from experienced leads to newly appointed Leads;
- There is no evidence of the benefits of the tasks that would have been completed in the absence of additional responsibilities; and
- The grading of the individual performing the Lead role varies from an assistant teacher through to a Senior Leadership Team (SLT) grade.

<sup>58</sup> Department for Education (DfE) research into mental health provision in schools and colleges found the priority educational institutions attached to their approach to supporting pupils' mental health varied depending based on a number of factors (<https://www.gov.uk/government/publications/supporting-mental-health-in-schools-and-colleges>)

## Opportunity Cost of CYP Time

55. Under Option 1 there would be an opportunity cost of CYP spending time taking part in interventions in terms of the learning that could have taken place (and associated benefits) or leisure time. It is not possible to quantify this cost as we are unable to estimate robustly how much CYP time will be spent receiving interventions.

## CYPMHS Costs from Additional Treatments

56. The intervention is anticipated to increase the number of treatments and reduce the number of referrals through improved need identification and assessment. Although we have estimated the scale of these effects we are unable to quantify the net economic impact on NHS CYPMHS.

## Summary of Costs

57. The total quantified costs of Option 1 are therefore estimated as follows:

**Table 4: Cost Summary for Option 1**

	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Total
DSLs	£0m	£20m	£20m	£19m	£19m	£19m	£0m	£0m	£0m	£0m	£97m
MHSTs	£10m	£70m	£170m	£250m	£330m	£430m	£670m	£900m	£1,140m	£1,370m	£5,300m
WTPs	£32m	£78m	£77m	£0m	£190m						
Total Cost	£0m	£160m	£270m	£270m	£350m	£450m	£670m	£900m	£1140m	£1370m	£5,600m

## Benefits of Option 1

58. The main benefit of the policy option is to improve the health status of children and young people, both now and in their future adult life. The following section outlines these benefits in more detail.

## Monetised Benefits

### *Evidence-Based Specialist Interventions by MHSTs*

59. By 2028/29 it is anticipated that over 1 million CYP will receive an evidence-based intervention by a MHST practitioner. As MHSTs will have discretion over specific interventions delivered (the most appropriate interventions will depend on a variety of factors), we have quantified the magnitude of the expected benefit using an illustrative sample of targeted interventions for children with mild to moderate mental health conditions, recommended as cost-effective by the Centre for Mental Health (2013):<sup>59</sup>

- Conduct Disorder – Good Behaviour Game
- Conduct Disorder – Aggression Replacement Training
- Anxiety Disorder – Group Cognitive Behavioural Therapy for Depressed Adolescents
- ADHD – Incredible Years – Parent Training
- ADHD – Group Multimodal Therapy (MMT) for Children with ADHD
- Anxiety Disorder – Parent Cognitive Behavioural Therapy (CBT) for Anxious Children
- Conduct Disorder – Parent-Child Interaction Therapy for Disruptive Behaviour

<sup>59</sup> Khan, et al. (2015). Investing in children's mental health: A review of evidence on the costs and benefits of increased service provision. *Centre for Mental Health*. Available at: <https://www.centreformentalhealth.org.uk/investing-in-children-report>

60. In order to estimate the benefits of these interventions, we have applied estimates developed by Dartington's Social Research Unit's (DSRU) *Investing in Children* (2013).<sup>60</sup> The analysis uses longitudinal data to predict the lifetime effects of short-term impacts delivered by the interventions (as estimated by the Washington State Institute for Public Policy) in order to estimate the long-term benefits of interventions on the UK economy, through NHS usage, the justice system, and earnings. Direct health benefits of the interventions are not included in the DSRU estimates.
61. Further details on these estimates and their limitations can be found in Annex 3. In the sensitivity analysis, we consider the impact of refining our benefit estimates to reflect these limitations. In particular, the crime benefits estimated by the DSRU make use of US-based data on crime rates. These rates may not necessarily be of the same magnitude in the UK.
62. As part of a recent consultation, we requested alternative evidence on the impact of interventions for CYP with mild-moderate needs that could be delivered by MHSTs. Having reviewed responses which provided information on wider evidence, we were unable to identify any evidence which allowed us to refine our existing estimates of wider impacts.
63. Using the DSRU benefit estimates for the above interventions, we have calculated an average benefit per intervention. This average benefit is a weighted average based on the prevalence of the underlying conditions each intervention intends to treat.<sup>61</sup>

**Table 5: Average Intervention Benefit**

	Healthcare	Earnings	Crime	Education	Total
Average intervention benefit (2018/19 prices)	£1,300	£1,350	£2,750	£200	£5,600

64. Because of the uncertainty involved in what conditions will be presented to MHSTs, the types of interventions that will be delivered and the imperfection of the benefit estimates used, we have applied an optimism bias of 50% to our average benefit. Healthcare savings are increased by a factor of four to reflect the fact that additional QALYs could be purchased from any healthcare savings. This treatment is the same as the treatment applied to costs incurred by DHSC in this Impact Assessment.
65. We have supplemented the above estimates of wider benefits with a proxy estimate of the direct health benefits based on Lynch et al. (2005)<sup>62</sup> who examined the cost-effectiveness of group CBT to prevent depression in at-risk teenagers using a randomised control trial. The intervention group received one-hour group cognitive behavioural therapy (CBT) and the control group received usual care. It is envisioned that MHSTs will provide evidence-based specialist interventions for CYP with mild-moderate conditions. Therefore a number of interventions will likely be delivered with the aim of prevention in similarly "at-risk" children.
66. Intervention participants reported an average of 53 fewer depressed days in the year after intake than control participants. This translated into a significant increase in QALYs for the intervention group, with an average increase in QALYs of 0.059 for the intervention group compared with the control group.
67. It is important to acknowledge that the above benefit estimate does not reflect the diversity of

<sup>60</sup> <http://investinginchildren.eu/>

<sup>61</sup> Based on Green et al. 2005. *Mental health of children and young people in Great Britain, 2004*. Basingstoke: Palgrave MacMillan. Available at: <http://digital.nhs.uk/catalogue/PUB06116>

<sup>62</sup> Lynch, F.L., Hornbrook, M., Clarke, G.N., Perrin, N., Polen, M.R., O'Connor, E., and Dickerson, J. (2005). Cost-effectiveness of an intervention to prevent depression in at-risk teens. *Archives of General Psychiatry*, 62(11), 1241-1248.

interventions being offered or the diversity in recipients receiving interventions. Further detail on the limitations of these estimates is provided in Annex 3 and an optimism bias of 50% is applied to account for the large degree of uncertainty.

68. The overall benefits of the evidence-based interventions are summarised below:

**Table 6: Benefits of Evidence-Based Interventions**

	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Total
Evidence-based Interventions	0	10,000	33,000	50,000	67,000	83,000	133,000	180,000	224,000	264,000	<b>1,000,000</b>
Direct Health Benefit	£0m	£20m	£60m	£90m	£120m	£150m	£240m	£320m	£400m	£470m	<b>£1,800m</b>
Wider Benefit	£0m	£60m	£190m	£280m	£380m	£470m	£750m	£1,010m	£1,260m	£1,490m	<b>£5,900m</b>
Total Benefit	£0m	£70m	£240m	£370m	£490m	£620m	£980m	£1,330m	£1,660m	£1,960m	<b>£7,700m</b>

*Benefits of Waiting Time Pilots*

69. It is assumed that piloting waiting times standards will decrease waiting times, and therefore there would be a quality of life (QoL) gain for the individual for the period of time that they are no longer waiting for treatment in a poorer health state.

70. We have estimated an average QoL gain from CYPMHS treatment based on three UK studies on therapeutic and SSRI<sup>63</sup> treatments for depression and anxiety. The choice of studies reflect current NICE recommendations for treatment:<sup>64</sup>

- Goodyer et al (2016)<sup>65</sup> assessed the cost effectiveness of CBT, short-term psychoanalytical psychotherapy (STPP), and a brief psychosocial intervention (BPI) in adolescents with unipolar major depressive disorder treated in CYPMHS;
- The Adolescent Depression Antidepressant and Psychotherapy Trial (ADAPT) randomised control trial in the UK reported quality of life (QoL) improvements for treatment with SSRIs as well as treatment with both SSRIs and CBT;<sup>66</sup>
- For anxiety we have identified a study by Creswell et al (2017)<sup>67</sup> that reports a QoL benefit of brief guided parent-delivered CBT (GPD CBT) and solution-focused brief therapy for childhood anxiety disorders.

71. The estimated quality of life benefits of interventions by these studies are summarised in table 7 below:

<sup>63</sup> SSRI: Selective serotonin reuptake inhibitors – antidepressant medication.

<sup>64</sup> NICE recommendations is for group therapy for mild depression, cognitive behavioural therapy (CBT) with the option of fluoxetine (a type of SSRI) for moderate to severe depression, and intensive psychological therapy combined with medication for depression unresponsive to treatment/recurrent depression/psychotic depression.

<sup>65</sup> Goodyer, et al. (2016). Cognitive behavioural therapy and short-term psychoanalytical psychotherapy versus a brief psychosocial intervention in adolescents with unipolar major depressive disorder (IMPACT): a multicentre, pragmatic, observer-blind, randomised controlled superiority trial. The Lancet. Available at: [http://www.thelancet.com/journals/lanpsy/article/PIIS2215-0366\(16\)30378-9/abstract](http://www.thelancet.com/journals/lanpsy/article/PIIS2215-0366(16)30378-9/abstract)

<sup>66</sup> Goodyer, et al. (2008). A randomised controlled trial of cognitive behaviour therapy in adolescents with major depression treated by selective serotonin reuptake inhibitors. The ADAPT trial. Health Technology Assessment, 12(14), iii-iv, ix-60. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/18462573>

<sup>67</sup> Creswell, et al. (2017). Clinical outcomes and cost-effectiveness of brief guided parent-delivered cognitive behavioural therapy and solution-focused brief therapy for treatment of childhood anxiety disorders: a randomised controlled trial. Lancet Psychiatry, 4(7), 529-539. Available at: <https://www.ncbi.nlm.nih.gov/pubmed/28527657>

**Table 7: Quality of Life Gain from CYPMHS Interventions**

Study	QoL Benefit
Goodyer et al (depression) - BPI	0.22
Goodyer et al (depression) - CBT	0.20
Goodyer et al (depression) - STPP	0.24
ADAPT trial (depression) - SSRIs	0.28
ADAPT trial (depression) - CBT plus SSRIs	0.25
Creswell et al (anxiety) - GPD CBT	0.05

72. We have used the average improvement in QoL following treatment by the above studies as a proxy for the average gain of a CYPMHS treatment. We believe there is high degree of uncertainty in doing so, for the following reasons:

- The studies do not include a ‘no treatment’ counterfactual, and assume that adolescents would have remained at the baseline QoL forever. They also assume the improvement in health is sustained over time. However, it is plausible that some adolescents would have improved (and some deteriorated) in the absence of the intervention;
- The studies chosen have different follow up periods ranging from 26 weeks to 86 weeks.

73. Receiving treatment one year earlier would be equivalent to a gain of 0.19 QALYs. Monetising at £60,000 per QALY, and applying a 50% optimism bias, receiving treatment a week earlier yields a benefit of approximately £110 per child per week.

74. To estimate the benefits of our Waiting Times Pilots, we assume that in our test-bed areas, waiting times for CYPMHS reduce from the 2016/17 average (12 weeks) to the 4 week standard. It is possible that test-beds have an above-average waiting time or are unrepresentative of national services in some other dimension. The estimated benefit is summarised below:

**Table 8: Benefit of Waiting Time Pilots**

	2018/19	2019/20	2020/21	Total
Low	£13m	£29m	£31m	<b>£70m</b>

## Non-monetised Benefits

### *Further Benefits of Evidence-based Specialist Interventions Delivered by Teams*

75. Evidence-based interventions delivered by MHSTs would be expected to mitigate the negative impacts of mental ill-health outlined in paragraphs 4-8 for the CYP who are treated. Not all of these benefits are included in our DSRU benefits estimates (discussed further in Annex 3):

- Reduced exclusions: Pupils with mental health problems were almost seventeen times more likely to be excluded from school.<sup>68</sup> This is indicative of wider behaviour and conduct problems, which can disrupt the pupil’s education, their peers’ education, and have costs to teachers and schools relating to the management of these problems. New Economy Manchester estimated that the economic cost of exclusion was £9,748 per person, per year.<sup>69</sup>
- Reduced truancy: CYP with mental health issues are seven and a half times more likely to be truant. New Economy Manchester estimated that the total societal cost associated with

<sup>68</sup> Meltzer, et al. (2003). Persistence, onset, risk factors and outcomes of childhood mental disorders. Available at: [http://webarchive.nationalarchives.gov.uk/+http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsStatistics/DH\\_4081089](http://webarchive.nationalarchives.gov.uk/+http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsStatistics/DH_4081089)

<sup>69</sup> New Economy Manchester, Unit Cost Database \*Costs are in 2015/2016 prices. Available at: <http://www.neweconomymanchester.com/media/1446/3316-150327-unit-cost-database-v1-4.xlsx>

truancy was £2,351 per person, per year;<sup>70</sup>

- Reduced pressures on special education needs and disability (SEND) services.

76. Although the benefits to a pupil's peers, their teachers and their school are likely to be over and above those captured in the benefits calculations, some of the economic returns associated with truancy and exclusion in part stem from improved attainment and productivity. Consequently, including additional estimates in full runs the risk of double-counting.

#### *Benefits of Non-specialist Support*

77. We have not quantified any benefits to CYP of other support provided (i.e. not evidence-based interventions). It is expected that this additional support will also improve mental health outcomes (with associated benefits). However, these have not been quantified due to:

- Uncertainty over what will be delivered and the potential benefits: As with evidence-based interventions, DSLs and MHSTs will be given flexibility in how mental health support will be delivered. Other support could take a variety of forms, and not necessarily an intervention delivered by a mental health professional. This support could include advice and counsel to children with a need, and interventions delivered by trained teachers and school staff. Quantifying the benefits of this informal provision is not possible.
- Uncertainty over the existing provision of mental health support: It is not possible to ascertain the current nature and scale of mental health support already being provided in schools with any precision.

#### *Benefits of Waiting Time Pilots*

78. We have quantified the benefit from CYP spending less time in a lower health state as a result of reduced waiting times. There are likely to be additional benefits that have not been quantified:

- There is evidence (para 12) that reducing waiting time would result in better engagement with treatment, and a decreased risk of deterioration while waiting. Therefore it is plausible that it will increase the probability of a sustained improvement in health following treatment;
- The wider benefits derived from improved mental health outcomes are also likely to be higher as a result of pilots providing quicker access to treatment, and the resulting effect of this on the efficacy of treatment;
- We expect that there will also be a substantial benefit to families of CYP of reduced anxiety and distress while waiting for treatment.

#### *Reduced CYPMHS Costs*

79. The intervention is anticipated to increase the number of treatments and reduce the number of referrals through improved need identification and assessment. Although we have estimated the scale of these effects we are unable to quantify the net economic impact on NHS CYPMHS.

#### *Benefits of Additional CYPMHS Treatments*

80. We have not quantified the benefit of the additional treatments delivered by CYPMHS as a result of improved need identification and assessment.

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<sup>70</sup> Ibid.

## Summary of Benefits

81. The total quantified benefits of Option 1 are as outlined in Table 9 below:

**Table 9: Benefits of Option 1**

	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Total
Specialist Interventions	£0m	£70m	£240m	£370m	£490m	£620m	£980m	£1,330m	£1,660m	£1,960m	<b>£7,700m</b>
WTFS	£13m	£29m	£31m	£0m	<b>£70m</b>						
Total Benefit	£10m	£100m	£270m	£370m	£490m	£620m	£980m	£1,330m	£1,660m	£1,960m	<b>£7,800m</b>

## Net Impact of Option 1

82. Annex 1 provides a summary of the quantified costs and benefits, presented in real 2018/19 prices with and with appropriate discounting applied:<sup>71</sup>

83. The **Net Present Social Value (NSPV) of the policy over ten years from 2018/19 is estimated to be approximately £1.9bn**. Given the conservative approach taken in estimating the monetised benefits and the potential scale of the un-monetised benefits, we are satisfied that the intervention would deliver a positive net social benefit. Therefore, option 1 is the preferred policy option.

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<sup>71</sup> We have discounted the costs and benefits throughout the IA to the current financial year (2018/19). For an explanation of discounting, please see the Green Book at [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/220541/green\\_book\\_complete.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/220541/green_book_complete.pdf)

## E. Sensitivity Analysis

84. The estimated NSPV is sensitive to a number of assumptions. The following section contains a sensitivity analysis of some of the more uncertain assumptions underpinning our appraisal of the costs and benefits of option 1. In each instance, the sensitivity is identified and described. Potential alternative assumptions are then applied to test how the ten-year NSPV responds.

### CYP Mental Health Prevalence

85. There is considerable uncertainty regarding the prevalence of mental health conditions amongst CYP. In our central analysis it is assumed:

- 1 in 10 children (5-16 year olds) have a diagnosable mental health problem. This is based on a prevalence survey from 2004.<sup>72</sup>
- Approximately 10-15% of children have mild-moderate mental health problems that do not consist of a diagnosable condition.

86. As part of our recent consultation, we asked respondents for recent evidence on the prevalence of mental health conditions. We received responses which suggested that prevalence could be larger than our central scenario:

- Findings from the UK Longitudinal Household Survey<sup>73</sup> indicated that one in eight children aged 10 to 15 scored high or very high on the Strengths and Difficulties Questionnaire (SDQ);<sup>74</sup>
- In 2017, Researchers from the UCL Institute of Education and the University of Liverpool analysed information on more than 10,000 children born in 2000 and 2001 who are taking part in the Millennium Cohort Study.<sup>75</sup> They found parents' reports suggest CYP have high levels of emotional problems:
  - I. At age 7, about 7 per cent of both boys and girls;
  - II. At age 11, about 12 per cent of both boys and girls;
  - III. At age 14, about 12 per cent of boys and 18 per cent of girls;
- The above research also indicated that, of children aged 14, 1 in 4 girls (24%) and 1 in 10 boys (9%) reported high levels of depressive symptoms.<sup>76</sup>

87. In order to test the sensitivity of our NSPV to increased prevalence of mental health conditions we have modelled increasing prevalence estimates for both diagnosable and pre-diagnosable by a further 10%, 20% and 50%<sup>77</sup>. The impact on the NSPV is shown below in Table 10:

**Table 10: Sensitivity of NSPV to Prevalence Assumptions**

Scenario	NSPV - Central
Central	£1.9bn
+10%	£2.5bn
+20%	£3.2bn
+50%	£5.1bn

<sup>72</sup> Green et al (2005). Mental health of children and young people in Great Britain, 2004. Basingstoke: Palgrave MacMillan. Available at: <http://digital.nhs.uk/catalogue/PUB06116>

<sup>73</sup> ONS (2015). Measuring National Well-being: Insights into children's mental health and well-being. Available at: <https://www.ons.gov.uk/peoplepopulationandcommunity/wellbeing/articles/measuringnationalwellbeing/2015-10-20>

<sup>74</sup> A high or very high score indicates mental ill-health

<sup>75</sup> Institute of Education (2017). Mental ill-health among children of the new century: Trends across childhood with a focus on age 14. Available at: <http://www.cls.ioe.ac.uk/shared/get-file.ashx?itemtype=document&id=3338>

<sup>76</sup> Ibid.

<sup>77</sup> Increase is a percentage increase as opposed to a percentage point increase. Therefore increasing a 10% prevalence estimate by 10% implies an 11% prevalence estimate as opposed to a 20% estimate.

88. A higher prevalence of mental health conditions strengthens the economic case for Policy Option 1. It would therefore remain the preferred option. These estimates assume that MHSTs would be able to meet any additional demand resulting from increased prevalence. There is a risk that MHSTs are not able to meet the demand for support (the impact of this is sensitivity tested below).

### Proportion of Referrals that Receive Intervention

89. It is assumed that the proportion of referrals to NHS CYPMHS that receive an intervention will be 95% under policy option 1. This is a best-case scenario which reflects the expectations that Leads and MHSTs will improve identification of need and appropriateness of referrals. It is possible that the actual rate of CYP receiving an intervention will be lower than 95%. Table 12 below shows the economic case for the proposals remains positive when a lower percentage is assumed:

**Table 12: Sensitivity of NSPV to Rate of CYP Receiving Interventions**

Intervention rate	NSPV
95%	£1.9bn
80%	£1.6bn
65%	£1.1bn
50%	£0.4bn

### Delivery of Option 1

90. The costs of the Mental Health Support Teams have been estimated based on a delivery model which aims to create sufficient capacity for both CYP who need an evidence-based specialist intervention (quantified) and those who would receive non-specialist support (not quantified).

91. It is possible that either the funding allocated does not deliver the anticipated number of MHSTs or MHSTs within each cluster are not able to meet all the demand. The below table summarises the impact on our benefit estimates were the coverage of MHSTs 25% and 50% below our central scenario.

92. The impact on the NSPV is shown below in Table 13. Under these scenarios, Policy Option 1 would remain the preferred option but the reduced delivery of MHSTs is shown to have a substantial effect on the net economic benefit derived from the intervention.

**Table 13: Sensitivity of NSPV to MHST Roll-Out**

% of planned roll-out achieved	NSPV
100%	£1.9bn
75%	£0.4bn
50%	-£1.1bn

### Benefits (Crime)

93. The benefits estimates taken from Dartington Social Research Unit have a number of limitations (outlined in more detail in Annex 3). One particular area of uncertainty is the potential benefit of reduced costs to the criminal justice system of improved mental health outcomes amongst CYP. Crime benefits account for roughly half the estimate benefit of our average evidence-based specialist intervention (as illustrated in table 5 above).

94. Table 14 summarises the impact on the NSPV were the average crime benefit reduced by 50%. Given a 50% optimism bias has already been applied, this additional reduction means the crime

benefit applied is 25% of the DSRU estimate. As a result of this additional adjustment, the ten year NSPV falls to £0.8bn. Under this scenario, Policy Option 1 would remain the preferred option.

**Table 14: Sensitivity of NSPV to Crime Benefits**

<b>Crime Benefits</b>	<b>NSPV</b>
100%	£1.9bn
50%	£0.8bn

## **F. Post-Implementation Review**

95. Because of the nature of the policy, the scale of anticipated costs and the uncertainty surrounding delivery and any benefits, the proposed policy will be subject to robust evaluation.
96. The Department for Health and Social Care and the Department for Education (in collaboration with other stakeholders) are in the process of developing an evaluation framework. This section briefly outlines how the evaluation may be performed based on initial discussions. It is important to note that the eventual specification for the evaluation may differ as planning progresses.
97. The evaluation will seek to achieve the following objectives:
- It will seek to appraise the delivery of the three pillars across the Trailblazer areas to produce learning to inform future phases of delivery.
  - It will seek to provide medium-term evidence of outputs (and emerging outcomes and impacts) to inform future phases of delivery and support funding bids.
  - It will seek to appraise the long-term impacts of the policy.

## Annex 1 – Estimated Volumes

### Business-as-Usual

Year	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28
<b>Diagnosable</b>	920,000	930,000	940,000	960,000	970,000	980,000	980,000	990,000	990,000	990,000
<b>Pre-diagnosable</b>	920,000	930,000	940,000	960,000	970,000	980,000	980,000	990,000	990,000	990,000
<b>Referrals</b>	620,000	670,000	700,000	710,000	710,000	720,000	720,000	730,000	730,000	730,000
<b>Treated by CYPMHS</b>	300,000	320,000	330,000	340,000	340,000	340,000	340,000	350,000	350,000	350,000

### Intervention

Year	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28
<b>Coverage of Active MHSTs</b>	0%	3%	10%	15%	20%	25%	40%	55%	70%	85%
<b>Diagnosable</b>	920,000	930,000	940,000	950,000	960,000	960,000	950,000	940,000	920,000	900,000
<b>Pre-diagnosable</b>	920,000	930,000	940,000	960,000	960,000	970,000	980,000	980,000	970,000	970,000
<b>Referrals</b>	620,000	660,000	680,000	680,000	680,000	680,000	650,000	630,000	600,000	560,000
<b>Treated by CYPMHS</b>	300,000	320,000	340,000	360,000	370,000	380,000	400,000	420,000	440,000	450,000
<b>Evidence-based interventions by MHSTs</b>	0	10,000	30,000	50,000	70,000	80,000	130,000	180,000	220,000	260,000
<b>Non-specialist support</b>	0	30,000	110,000	160,000	220,000	280,000	440,000	610,000	770,000	920,000

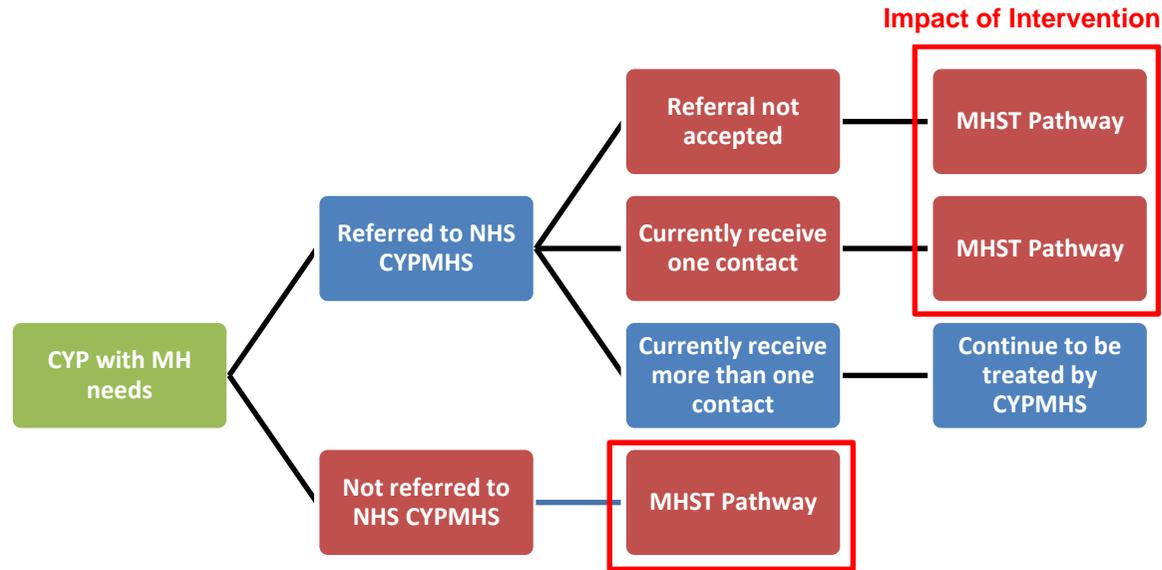
### Net Costs and Benefits

Year	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	2026/27	2027/28	Total
<b>Total Quantified Cost</b>	£0m	£160m	£270m	£270m	£350m	£450m	£670m	£900m	£1,140m	£1,370m	<b>£5,600m</b>
<b>Discounted</b>	£40m	£160m	£250m	£240m	£300m	£380m	£540m	£710m	£860m	£1,010m	<b>£4,500m</b>
<b>Total Quantified Benefit</b>	£10m	£100m	£270m	£370m	£490m	£620m	£980m	£1,330m	£1,660m	£1,960m	<b>£7,800m</b>
<b>Discounted</b>	£10m	£100m	£260m	£340m	£440m	£530m	£820m	£1,080m	£1,310m	£1,500m	<b>£6,400m</b>
<b>Net Benefit</b>	-£30m	-£60m	£10m	£90m	£140m	£150m	£280m	£370m	£450m	£490m	<b>£1,900m</b>

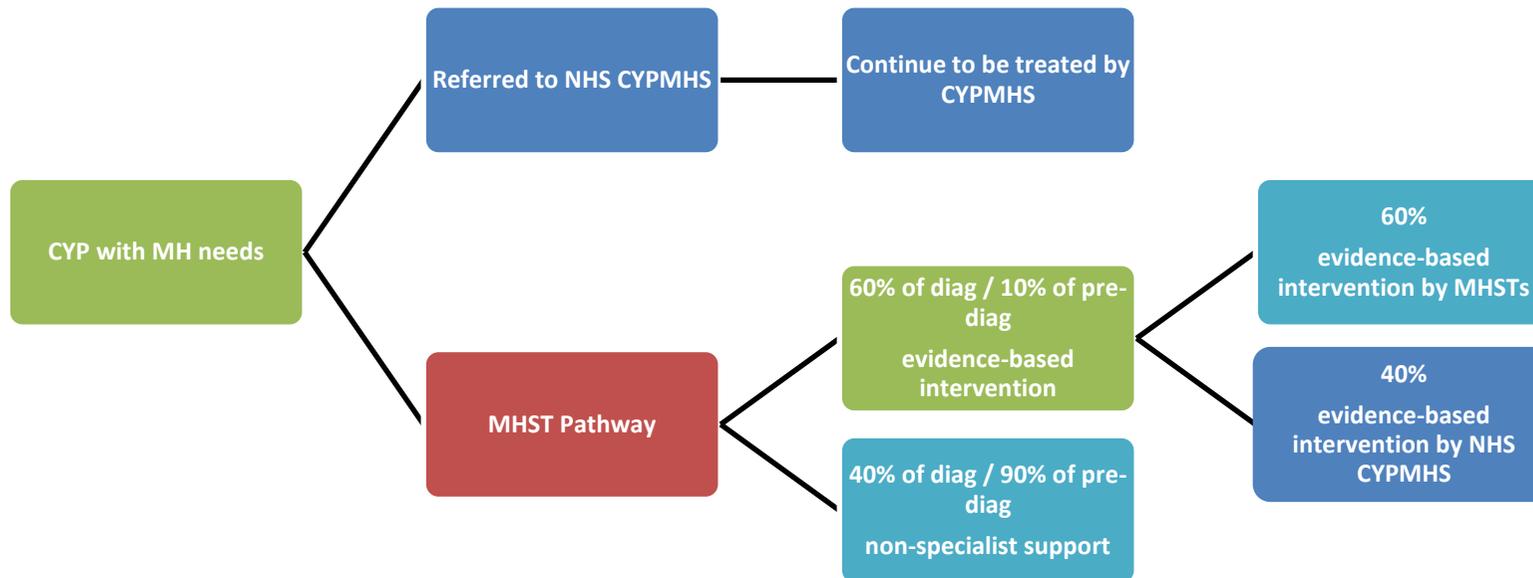
## Annex 2 – Indicative Pathways for Interventions

Note – these pathways have been developed for the purposes of estimating the potential costs and benefits. They are not defined clinical pathways. They are a high level description of potential activity to inform cost estimates and do not describe in detail the complex provision in CYPMH.

**Before**



**After**



## Annex 3 – Intervention Benefits

### Dartington Social Research Unit

We have applied benefits as estimated by Dartington’s Social Research Unit’s (DSRU) Investing in Children (2013).<sup>1</sup> DSRU provide estimates of impacts specifically for the UK based on the Washington State Institute for Public Policy (WSIPP) model for the US.

The WSIPP model uses meta-analysis to estimate the short-term impacts of interventions on short-term outcomes such as test scores or diagnosis with a mental health disorder. The meta-analysis considers international evidence, and as such, estimated short-term impacts are not specific to the UK.

The DSRU’s work then estimates long-term impacts specifically for the UK context. The analysis uses longitudinal data to predict the lifetime effects of the short-term impacts on the UK economy, through NHS usage, the justice system, and earnings. The model estimates the impact on earnings through two different pathways: the impact of increased educational attainment on earnings, as well as the impact of improved health on reductions in sickness absence.

The healthcare use counterfactual modelled throughout the model is the usual treatment that would occur in the absence of these interventions, estimated through various surveys. The healthcare resources costed include contact with paediatricians, paediatric inpatient stays, community nurses, school nurses, dieticians, physiotherapists, occupational therapists, speech therapists, and visits to A&E.

There will be benefits to other government departments from these interventions. Increased earnings will increase tax receipts, benefitting HMRC, and decrease reliance on social support, benefitting Department for Work and Pensions. Reduced crime will generate savings to the Home Office and Ministry of Justice.

Using a selection of interventions, and prevalence data for underlying conditions, we estimate a weighted average intervention benefit. These are summarised for each intervention in Table A1 below:

**Table A1: DSRU Benefit Estimates for Interventions**

Evidence-based Specialist Intervention	Prevalence <sup>2</sup>	Healthcare Saving	Earnings	Crime Saving	Education Saving	Total
1. Conduct Disorder - Good Behaviour Game	5.8%	£550	£2,000	£200	£200	£2,900
2.. Conduct Disorder - Aggression Replacement Training (ART)	5.8%	£0	£4,050	£23,450	£0	£27,500
3. Anxiety Disorder - Group Cognitive Behavioural Therapy (CBT) for Anxious Children	3.3%	£2,400	£4,900	£0	£500	£7,750
4. Depression - Group Cognitive Behavioural Therapy for Depressed Adolescents	0.9%	£1,950	£5,050	£0	£250	£7,250
6. ADHD - Incredible Years - Parent Training	1.5%	£400	£800	£0	£450	£1,650
7. ADHD - Group Multimodal Therapy (MMT) for Children with ADHD	1.5%	£50	£2,700	£100	£150	£3,000

<sup>1</sup> <http://investinginchildren.eu/>

<sup>2</sup> Proportion of CYP with condition taken from Green et al (2005)

8. Anxiety Disorder - Parent Cognitive Behavioural Therapy (CBT) for Anxious Children	3.3%	£600	£1,050	£0	£100	£1,700
9. Conduct Disorder - Parent-Child Interaction Therapy (PCIT) for Disruptive Behaviour	5.8%	£150	£600	£50	£1,100	£1,800
<b>Average intervention (2011/12 prices)<sup>3</sup></b>		<b>£2,300</b>	<b>£2,450</b>	<b>£4,900</b>	<b>£400</b>	<b>£10,000</b>
<b>2018/19 prices</b>		<b>£2,600</b>	<b>£2,700</b>	<b>£5,500</b>	<b>£400</b>	<b>£11,300</b>
<b>w/Optimism Bias</b>		<b>£1,300</b>	<b>£1,350</b>	<b>£2,750</b>	<b>£200</b>	<b>£5,600</b>

DSRU acknowledge a number of limitations in their modelling:

- The benefits that are estimated rely primarily on indirect outcomes rather than direct outcomes. For our interventions, the model does not monetise the improvement in health of the CYP receiving the intervention (typically done by estimating the gain in QALYs), resulting in potential underestimates of benefits.
- In their crime model, it was not possible to locate data on lifetime offending on children with early behaviour problems, for the US or UK. Longitudinal studies were used to estimate the likely future crime of children in the general population, and the likely amount of crime prevented by the programmes. Estimates may therefore be underestimates because it is possible that programme participants were more likely to become future offenders compared to the average child.
- In their crime model, it was not possible to obtain data on baseline rates of crime for the general population over the lifetime for specific crimes. WSIPP figures were therefore used instead, adjusting for the types of crime that were used in the DSRU model.
- There are a number of other system costs or benefits that could be monetised in each policy area that are not taken into account. Examples include additional services that are provided to offenders indirect social benefits of crime prevention such as increased property values in areas with reduced crime rates. This means the benefits estimates are likely to be on the conservative side.
- In the DSRU model, the attainment of A-levels and equivalent qualifications is treated as equivalent to high school graduation in the US, one of the outcomes valued by the WSIPP model by estimating the expected gain in life-cycle labour earnings. There is in an absence of research that supports the fact that these interventions increase the attainment of A-levels in the UK to the same degree as they increase high-school graduations in the US. The same limitations apply to the assumption made about causation between A-levels and earnings differentials.

#### Lynch et al (2005)<sup>4</sup>

Lynch et al (2005) examined the cost-effectiveness of group CBT to prevent depression in at-risk teenagers based on a randomized control trial. Young people in the study had 2 significant risk factors:

1. They were offspring of depressed parents, and
2. They had significant subsyndromal symptoms and/or a past episode of depression.

<sup>3</sup> Healthcare savings inflated by factor of 4 to reflect opportunity cost of purchasing additional QALYs

<sup>4</sup> Lynch, F.L., Hornbrook, M., Clarke, G.N., Perrin, N., Polen, M.R., O'Connor, E., and Dickerson, J. (2005). Cost-effectiveness of an intervention to prevent depression in at-risk teens. *Archives of General Psychiatry*, 62(11), 1241-1248.

The intervention consisted of 15 one-hour cognitive behavioural therapy (CBT) sessions for groups of 6 to 10 adolescents. The control group received usual care.

The randomized controlled examined the ability of the intervention to prevent progression to future episodes of major depression and an incremental cost-effectiveness analysis of the group cognitive behavioural intervention relative to usual care was performed, from the societal perspective, for 1 year after the intervention.

Intervention participants reported significantly fewer “Depression Free Days” with an average of 53 fewer depressed days in the year after intake than control participants. Using utility weights assigned to depression, this translated into a significant increase in QALYs for the intervention group, with an average increase in QALYs of 0.059 for the intervention group compared with controls.

Similar to the DSRU estimates, Lynch et al (2005) acknowledge a series of limitations in their study:

- The effects and costs of group CBT intervention were examined in a single Health Maintenance Organisation (Kaiser Permanente Northwest based in Portland) with a “relatively small” group of teenagers. It is important therefore to acknowledge that results are not necessarily generalizable to other locations or health care systems.
- Cost-effectiveness was evaluated for 12 months after the intervention so it does not offer any evidence on the long-term impact of the intervention.
- To estimate QALYs, they relied on utility weights assigned to depression from published literature. These utility weights were estimated for adults with depression; however, utility weights for teenagers with depression might be different. Epidemiologic information on depression indicates that once a teenager has had 1 episode of depression, that teen may be at risk for a number of adverse outcomes. Therefore, teenagers, parents, or communities might value reducing depression in young people more highly than in adults because of the possibility of preventing these adverse consequences and increasing the total lifetime benefit of improved functioning and productivity.