ESTIMATING THE COSTS OF CHILD SEXUAL ABUSE IN THE UK

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Introduction

1. There is a moral imperative for society to do everything it can to prevent and treat child sexual abuse (CSA). At the NSPCC we campaign for the rights of children and aim to end cruelty to children in the UK – the economic case for preventing and treating child sexual abuse seeks to complement the strong moral argument. It can also provide a basis for estimating the benefits of prevention and treatment services which could allow for cost-benefit comparisons with other interventions.

2. This is the first paper, as far as we are aware, to confront the critical issue of the overall costs of child sexual abuse in the UK. It is important to have an understanding about the costs of abuse for a number of reasons. Firstly, knowing the costs of CSA allow for better informed decisions about expenditure on its prevention and treatment, as well as raising awareness of its scale and impact. Secondly, it enables policy makers to put spending on child sexual abuse in the context of other costly public health issues such as obesity and smoking. Attempting to calculate the costs of CSA also highlight gaps in our knowledge where we can work on improving evidence in the future. Finally, this project provides a framework for estimating the costs of other forms of child abuse and neglect in the UK.

3. Child sexual abuse is a crime which can devastate a victim’s life. Research shows that for many, the effects of child sexual abuse are significant (Finkelhor and Browne 1985, Kendall-Tackett et al 1993, Putnam 2003). These negative impacts can be long-lasting, and continue into adulthood (Widom 1995, Kendler et al 2000, Felitti et al 1998). Adverse consequences of sexual abuse can include acute feelings of betrayal, powerlessness, stigmatisation, guilt and traumatic sexualisation as well as difficulties forming and maintaining relationships, mental health-related problems resulting from trauma and physical health problems (Meadows et al 2011).
4. One reason for the long-term impacts of CSA is that the majority of CSA is either undisclosed or the disclosures are not ‘heard’ by professionals. When CSA is reported, often it is some time after the abuse has occurred (Allnock 2010). This delayed disclosure means most children and young people are unable to access timely treatment despite a growing body of evidence about successful interventions (Allnock and Hynes 2011). Trauma that is not dealt with can lead to further problems.

5. Readers should note that in this paper we are referring to all child sexual abuse which includes child sexual exploitation, though this is not dealt with separately. For a definition of child sexual abuse see the Prevalence of child sexual abuse section.

6. There are many difficulties in calculating the costs of CSA for any country. CSA is so varied in terms of the forms it can take and in how victims respond. We know that not all victims will be affected in the same way. There is also substantial uncertainty around many factors that affect the costs of child sexual abuse. These include uncertainty about the number of victims of child sexual abuse and about the different outcomes that the abuse has on its victims. Due to the uncertainty we present a range of figures for the costs.

7. We have had to make a number of assumptions in order to calculate the costs of child sexual abuse. However we have made every effort to be transparent and make evidence based assumptions which are outlined in detail in the appendix. We have also made assumptions to get relatively conservative cost estimates (see the Costs section for more information).

8. The analysis is intended as a starting point to stimulate discussion and raise awareness about issues relating to child sexual abuse. We hope that this paper will encourage policymakers to think about how much they spend on prevention and treatment services. We also hope that more victims of child sexual abuse who have previously not accessed any support services seek out help.

9. We are grateful to expert reviewers in the UK and internationally for their valuable comments and advice and we welcome suggestions for improvements.
Background

How impacts lead to costs

10. The literature suggests that there are a number of adverse consequences of child maltreatment including anxiety and depression, behavioural symptoms, suicide ideation, physical health problems in childhood and adulthood, educational attainment, disciplinary problems at school, effects on interpersonal relationships, aggressive behaviour, victimisation as an adult and delinquent behaviour.

11. From this wide range of outcomes, a series of impacts can be identified that will have an economic cost attached to them. It is worth pointing out that the costs will be incurred by different parties at different points in time. The flow chart below summarises how we think about the relationship between outcomes and economic impacts.

Prevalence costs vs. incidence costs

12. Studies estimating the costs of child maltreatment either estimate prevalence costs or incidence costs. It is important to understand the difference between the two cost types and to be aware that it is incorrect to compare them, since it would not be comparing like with like.

**Prevalence costs** – these are the costs of child maltreatment that occur to all victims **in one year**. In one year there will be a cross-section of current and former victims of child abuse ranging from young babies to elderly adults.
Incidence costs – these measure lifetime costs of all new cases of maltreatment that occur in a year. As long as abuse continues, measuring the lifetime costs of all cases of maltreatment would be very large as every new generation incurs lifetime costs. To get a more meaningful number, this approach measures the lifetime costs only of new cases in one year.

13. Some of the literature reviewed below is based on calculations of prevalence costs and some of it is based on incidence costs. The cost estimates in this paper are prevalence costs.

The literature

14. After reviewing the literature, we have found no recent estimates for the costs of child sexual abuse for the UK. There is a small body of evidence looking at the cost of overall child maltreatment which includes sexual abuse but also other forms of child abuse such as physical abuse. All of the studies refer to the US or Australia. Since the health and social systems in those countries are different to the UK, as well as the number of individuals living in both countries, we would not expect the costs to be similar for the UK. However, we can learn from the approaches used and apply them to child sexual abuse in the UK.

15. The first attempt to estimate an overall cost is Fromm (2001), who calculates the total annual cost of child abuse in the US (a prevalence cost). She identifies a number of key cost categories of child maltreatment e.g. health, law enforcement. For most of the categories, Fromm works out the effect of child maltreatment and applies this to an estimated average cost of the activity. For example, she assumes that 30% of victims of abuse suffer chronic health problems. To find the number of people affected she takes 30% of the estimated number of victims of child maltreatment (1,553,800) which is 466,140. To get an overall cost of chronic health she multiples the number of people affected by the average cost of treating an incident of asthma in hospital ($6,410) which gives $2.99 billion.

16. Fromm’s approach gives an estimate of the total annual cost of child abuse in the US of $94.1 billion which she describes as conservative. Almost 60% of this cost is from adult criminality. Fromm cites a finding that 13% of all violence can be attributed to earlier child maltreatment (Miller et al 1996). To get a cost figure, she uses 13% of the total costs of violent crime in the US.

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1 This assumption is from a paper by Hammerle, published in 1992. Note, from the publication it is not clear whether or not this paper has been peer-reviewed.
17. The second study is by Wang and Holton (2007). They use the same prevalence based approach as Fromm but seek to improve the analysis by changing some of the assumptions used, adjusting for inflation and using more up to date figures. An example of an assumption they change is in the indirect mental health costs category. Both papers use the increased costs of healthcare expenditure of women victims of child abuse from the same authors. Fromm assumes that the extra health care costs in adulthood for male child abuse victims are half that of women while Wang and Holton assume that the costs of adult males will be the same as females. Neither of these assumptions are referenced but the choice has a substantial impact on the costs.

18. Wang and Holton estimate the total annual cost of child abuse in the US to be $103.8 billion (in 2007 dollars). The largest cost driver was lost productivity (32%) followed by adult criminality (27%).

19. In 2008 Taylor et al published ‘The cost of Child Abuse in Australia’. This report estimates both prevalence and incidence costs of child maltreatment in Australia. They include central, low and high cost estimates for a number of key cost impacts. The best estimate for the annual costs of child maltreatment in 2007 is 3.9 billion Australian dollars, excluding the costs from the burden of disease. The largest cost driver of the annual best estimate (excluding the burden of disease) is government expenditure on care and protection.

20. The most recent study by Fang et al (2012) estimated the economic burden from child maltreatment in the US by calculating the lifetime costs of all new cases in a base year. This is an incidence cost estimate. They calculate the average lifetime costs per child maltreatment victim in the following categories: health care (short-term and long-term), productivity losses, child welfare, criminal justice and special education. They multiply this by the number of new child maltreatment cases in 2008 to get a total lifetime economic burden from new cases of child maltreatment in the US of $124 billion (in 2010 dollars, includes both fatal and non-fatal cases).

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Methodology

21. This paper estimates a prevalence cost of child sexual abuse in UK, i.e. the costs incurred in one year. Following the existing literature on estimating the cost of child abuse, this paper calculates the costs of each significant impact of child sexual abuse. The impacts that are included have been selected based on a review of the literature about the long-term and short-term effects of child sexual abuse. Papers were restricted to good quality evidence (defined below). The following impacts are included:

- **Health** – Child mental health (depression only), child suicide and self-harm, adult mental health (depression and post-traumatic stress disorder (PTSD)), adult physical health (from alcohol and drug misuse)

- **Criminal Justice System (CJS)** – criminal justice system costs incurred because of the perpetrator of child sexual abuse, criminal justice system costs incurred because of the former victims of CSA (both juveniles and adults)

- **Services for Children** – children social care and NSPCC service costs

- **Lost productivity to society** – from unemployment and reduced earnings as a result of being a victim of child sexual abuse.

22. It is important to note that each unique case of child sexual abuse will result in different consequences for each individual. Some victims will experience impacts that are not included in the list above e.g. eating disorders/sleep disorders. We have attempted to include all the key impacts where there is both i) evidence of an impact from child sexual abuse and ii) information about service usage and costs. The purpose of this paper is not to attempt to perfectly capture how child sexual abuse affects every individual victim. It is to use the existing academic literature to calculate a ballpark figure for how much child sexual abuse costs the victims and society.
23. A minority of the existing literature includes costs to the victims from suffering the abuse which we term the human and emotional costs. For example, Taylor et al (2008) measure the burden of disease which is the costs to victims’ quality of life from suffering fear, mental anguish, and physical pain as a consequence of child maltreatment. We estimate the human and emotional costs following the method used by Walby (2004) to measure the human and emotional costs of domestic violence. Since we use strong assumptions to apply Walby’s method directly to child sexual abuse, we present the human and emotional costs separately after the main results section.

24. It is important to stress that while there is evidence that being a victim of child sexual abuse can increase the likelihood of all the impacts listed above, that does not mean that all victims experience all of the impacts. We know that the consequences of child sexual abuse vary hugely, just as the nature of sexual abuse varies hugely. However sadly for many victims of child sexual abuse, the impacts will be significant and can endure.

Approach

25. To calculate a cost the following information is needed for each impact:

i. The size of the impact of child sexual abuse e.g. how much does child sexual abuse increase the likelihood of childhood depression?

ii. The number of people affected by the impact – we need to know whether the impact applies to current child victims of sexual abuse or does the impact only affect the adult population of former CSA victims? The assumptions used about prevalence of child sexual abuse are outlined below.

iii. The costs of each impact in the UK e.g. what is the unit cost per year of treating a child for depression in the UK?
Impacts of child sexual abuse

26. When reviewing the literature about the impacts of child sexual abuse, only high-quality estimates were used to inform the size of the impact of child sexual abuse.

27. In order to be included, estimates of impacts had to demonstrate as many of the following properties as possible:

i. They had to use a relatively large sample

ii. They had to consider the impacts of child sexual abuse separately from other forms of abuse.

iii. They had to attempt to isolate the impact of child sexual abuse by controlling for other characteristics that may influence the size of an impact. For example, if an estimate considers the impact of child sexual abuse without controlling for parental mental health, it may be picking up the impact of having a parent with a mental health condition rather than resulting from child sexual abuse. In reality, no papers control for all possible factors but we only used papers where key controls were included such as parental mental health and family circumstances. We are still making an assumption that a strong association of an impact resulting from child sexual abuse is equivalent to saying that sexual abuse causes that impact.

iv. Papers should be printed in peer-reviewed publications.

v. The samples used should be as close as possible to the UK population i.e. ideally all the studies would be with UK samples. However, very few papers use UK data so we drew on studies with populations that we believe to be similar to the UK e.g. high income developed countries such as the US.

28. Based on the selected research findings, we make assumptions about the size of each impact of CSA that we are measuring. For example we assume that victims of CSA are twice as likely to suffer from depression during their childhood than children who are not sexually abused. Table 1 below shows the assumed size of each impact of CSA, and cites the supporting evidence.
Table 1: The size of the impacts of child sexual abuse and supporting evidence

<table>
<thead>
<tr>
<th>Category</th>
<th>Impact</th>
<th>Stage of life</th>
<th>Assumed impact on victims of CSA</th>
<th>Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health – mental</td>
<td>Depression</td>
<td>Child</td>
<td>Assume victims of CSA <strong>twice</strong> as likely to suffer from depression</td>
<td>Conservative assumption based on Diaz et al (2002)</td>
</tr>
<tr>
<td></td>
<td>Self-harm</td>
<td>Child</td>
<td>Assume victims of CSA <strong>three times</strong> as likely to self-harm</td>
<td>Estimate based on Hawton et al (2002)</td>
</tr>
<tr>
<td></td>
<td>Depression</td>
<td>&gt;17</td>
<td>Assume victims of CSA <strong>twice</strong> as likely to suffer depression</td>
<td>Conservative assumption based on Putnam (2003), Fergusson et al (1996)</td>
</tr>
<tr>
<td></td>
<td>PTSD</td>
<td>&gt;17</td>
<td>Assume victim <strong>three times</strong> more likely to suffer from lifetime PTSD</td>
<td>Conservative assumption based on Molnar et al (2001), Saunders et al (1999)</td>
</tr>
<tr>
<td>Health – physical</td>
<td>Alcohol misuse</td>
<td>&gt;17</td>
<td>Assume victims of CSA <strong>twice</strong> as likely to report they are dependent on alcohol</td>
<td>Conservative assumption based on Kendler et al (2000) and Feletti et al (1998)</td>
</tr>
<tr>
<td></td>
<td>Drug misuse</td>
<td>&gt;17</td>
<td>Assume victims of CSA <strong>twice</strong> as likely to regularly use illicit drugs</td>
<td>Conservative assumption based on Kendler et al (2000) and Feletti et al (1998)</td>
</tr>
<tr>
<td>Criminal Justice System</td>
<td>For perpetrator</td>
<td>Use figures of individuals flowing through CJS (police, courts, penal system)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>For victim</td>
<td>Juvenile and adult</td>
<td>Assume victims are between 10–24% more likely to commit certain crimes</td>
<td>Estimates from Currie and Tekin (2006)</td>
</tr>
<tr>
<td>Services for Children</td>
<td>Children’s Social Care</td>
<td>Use figures for the number of assessments, referrals, CPP/Rs, looked after children</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>NSPCC Sexual Abuse Service Costs</td>
<td>Use internal NSPCC cost model information</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lost productivity</td>
<td>Lower earnings and more likely to be unemployed</td>
<td>&gt;17</td>
<td>Assume victims of contact CSA <strong>lose 5%</strong> earnings a year through loss in productivity</td>
<td>Conservative assumption based on Daro (1992) and Currie and Widom (2010)</td>
</tr>
</tbody>
</table>
This approach for finding the size of the impacts of CSA is implicitly making a number of assumptions. We are assuming that the size of each impact is constant over time so that children who have been sexually abused are twice as likely to suffer depression as those who have not been abused, whether they were abused in 2012 or in 1980. We also assume that the impacts found for people in the US/Australia would be the same for people in the UK.

**Prevalence of child sexual abuse**

30. We are estimating the annual cost of child sexual abuse in the UK. These are the costs of child maltreatment that occur to all victims in one year. Sadly we know that in any given year, in the UK there will be a cross-section of current and former victims of child sexual abuse ranging from very young children to retired adults. We include the impacts on former victims as evidence shows that child sexual abuse can have long lasting negative effects (Beitcham 1992, Fergusson et al 2008, Zielinski 2009). From this point on the phrase ‘victims of child sexual abuse’ will be used to signify current and former victims of CSA unless otherwise stated.

31. While the true number of victims of child sexual abuse is unknown, we need to estimate the numbers to calculate an annual cost. To deal with the uncertainty, we use a central and a low estimate for number of victims. We use prevalence figures based on the NSPCC research report Child Abuse and Neglect in the UK Today (Radford et al 2011), to be consistent with recent NSPCC research reports How Safe Are Our Children? While limitations of self-reported data are noted, it is our view that these are currently the best available figures on the prevalence of child sexual abuse.

32. The definition of sexual abuse in Radford et al 2011 is taken from HM Government guidance for professionals ‘Working together to safeguard children’ (DCSF 2010). Specifically Sexual abuse is defined as:

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3 How Safe Are Our Children? NSPCC Research Report, April 2013, pp 26
Forcing or enticing a child or young person to take part in sexual activities, not necessarily involving a high level of violence, whether or not the child is aware of what is happening. The activities may involve physical contact, including assault by penetration (for example, rape or oral sex) or non-penetrative acts such as masturbation, kissing, rubbing and touching outside of clothing. They may also include non-contact activities, such as involving children in looking at, or in the production of, sexual images, watching sexual activities, encouraging children to behave in sexually inappropriate ways, or grooming a child in preparation for abuse (including via the internet) [DCSF 2010 pg 38]. This would include prostitution and sexual exploitation of a child for commercial or financial gain. The guidance also recognises that other children, and women, may be perpetrators of child sexual abuse.4

Contact sexual abuse is defined as ‘any forced actual or attempted assault, or any sexual acts if under 18 and perpetrated by a parent or guardian or adult sibling or an adult in a position of trust, if under 16 and perpetrated by adult relative, if under 13 and perpetrated by any adult’.5

Number of children – Radford et al (2011) found that 16.5% of 11–17 year olds reported being sexually abused at some point in their childhood. That figure fell to 4.8% for contact sexual abuse. For children under 10, reports were taken from parents and carers whose responses showed that 1.2% of under 10 year olds had been a victim of sexual abuse in their lifetime of which 0.5% had suffered contact CSA. We take these percentages and apply them to the relevant UK child population in 2012 to give our central estimate of the number of child victims of CSA. While these figures are the best information we currently have, since the under 10s percentage comes from parent/carer reports, it is likely that they are an underreporting child sexual abuse.

Since we wanted an estimate of the number of current and former victims of child sexual abuse, we used the percentage of people who reported whether child abuse had ever happened in their lifetime/ the lifetime of their child, as opposed to in the past year. Using the past year percentages would exclude 0–17 year olds who were reported to be victims of child sexual abuse where the abuse had occurred over a year ago which would be underestimating the true number of current and former victims.

4 Radford et al 2011, pp 22
5 Radford et al 2011, pp 132
Number of adults – To get a figure for the number of adults who were victims of child sexual abuse, we take the percentage of 18–24 years olds who reported having ever been sexually abused as a child which was 24.1% according to Radford et al (2011). That figure fell to 11.3% for contact sexual abuse. Applying these percentages to the UK adult population in 2012 gives our central figure.

33. There is a lot of variation in the prevalence of child sexual abuse across and within countries. To deal with the uncertainty surrounding the number of victims we also include a low number of current and former victims of child sexual abuse which is half that of the central values described above.

Table 2: Assumed number of child and adult victims of child sexual abuse and contact CSA.

<table>
<thead>
<tr>
<th></th>
<th>Central</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child</td>
<td></td>
<td></td>
</tr>
<tr>
<td>all CSA</td>
<td>959,287</td>
<td>479,643</td>
</tr>
<tr>
<td></td>
<td>Lifetime prevalence of all sexual abuse reported by carer for 0–10 yrs (1.2%) and self-reported for 11–17 yrs (16.5%)</td>
<td>Half the central figure</td>
</tr>
<tr>
<td>contact CSA</td>
<td>291,614</td>
<td>145,807</td>
</tr>
<tr>
<td></td>
<td>Lifetime prevalence of contact sexual abuse reported by carer for 0–10 yrs (0.5%) and self-reported for 11–17 yrs (4.8%)</td>
<td>Half the central figure</td>
</tr>
<tr>
<td>Adult</td>
<td></td>
<td></td>
</tr>
<tr>
<td>all CSA</td>
<td>9,346,083</td>
<td>4,673,041</td>
</tr>
<tr>
<td></td>
<td>Lifetime prevalence of sexual abuse reported by 18–24 yrs (24.1%) applied to working age adults</td>
<td>Half the central figure</td>
</tr>
<tr>
<td>contact CSA</td>
<td>4,382,188</td>
<td>2,191,094</td>
</tr>
<tr>
<td></td>
<td>Lifetime prevalence of contact sexual abuse reported by 18–24 yrs (11.3%) applied to working age adults</td>
<td>Half the central figure</td>
</tr>
</tbody>
</table>

34. The decision about when to use the figures for the number of victims of contact CSA or all CSA was taken by a judgement on whether the impact usually affects those who have suffered any form of sexual abuse or whether the impacts are only associated with those who have experienced more severe forms of CSA. The judgement was based on the academic evidence about the impacts of CSA which is outlined in Table 1.
Costs

35. Readers should note that these costs are conservative estimates. There are a number of impacts which we know incur costs that have not been included in this calculation e.g. costs to the families of victims of child sexual abuse. There are also a number of bodies we know that provide services to victims of child sexual abuse whose costs are so far not included such as the Child Exploitation and Online Protection Centre and other third sector organisations. These costs are likely to be significant e.g. CEOP’s full year outturn in 2012–13 was £6.4 million and we know other charities spend many millions on their services. Costs of prevention services are also excluded as are broader child protection costs such as NHS Trust spending on child protection.

36. Another way the results are conservative is that when selecting the assumed impacts of child sexual abuse based on the literature, a low figure was used in every instance. For example, Diaz et al (2002) found that women who had been victims of CSA were 3.4 times more likely to regularly consume alcohol. Dinwiddie et al (2000) reported that victims of contact CSA were over 2.8 times more likely to abuse alcohol. Kendler et al (2000) found that victims of CSA that involved intercourse were over 6 times more likely to be alcohol dependent than a control group. Based on this academic evidence, we have assumed that victims of contact CSA are 2 times more likely to be alcohol dependent which we believe a conservative assumption.

37. Before we discuss the results, below is a brief description about what the cost of each impact is capturing. Note all costs have been uprated to 2012/13 values using HM Treasury deflators.

**Child mental health costs** from treating depression includes the costs of child and adolescents mental health services (CAMHS) and other health services for the estimated increased number of children with depression as a result of child sexual abuse. This estimate is likely to be an underestimate as it does not include any of the (relatively higher) costs of being an inpatient in hospital or using secure services. We also exclude costs of treating child post-traumatic stress disorder due to the difficulty in getting accurate cost information.

**Child suicide and self-harm costs** include the cost of a hospital spell for suicide and self-harm. We use the non-elective inpatient costs for a hospital spell due to the nature of the hospitalisation. We exclude any follow up mental health treatment. Since this is an annual estimate we do not include

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6 The ICD-10 codes are X60-84
lost potential contributions to the economy from young lives cut short.

**Adult depression and PTSD** includes the costs of different treatments based on typical treatment use reported in the Adult Psychiatric Morbidity Survey 2007 (APMS 2007) including counselling, GP consultation once a year (to be conservative), outpatient attendance and inpatient specialist services. These costs from the Personal Social Services Research Unit (PSSRU) are substantially lower than the average annual additional health care costs of treating adult depression used by the Social Research Unit (A weighted average unit cost of £295 compared to over £2085).7

**Adult drug and alcohol costs** only include the physical health costs from wholly alcohol related diseases.8 Alcohol and drug misuse often lead to significant mental health costs, however we exclude the mental health costs from substance misuse. This is because of difficulties in distinguishing between mental health services used because of substance misuse but not child sexual abuse and which are used because of child sexual abuse. We want to avoid double counting mental health service costs from child sexual abuse so we do not include any mental health costs from substance misuse. This will lead to an underestimate since there may be some victims of abuse who only access mental health services because of substance misuse which is caused by their abuse.

The **Criminal Justice System (CJS) costs** capture the costs to all parts of the CJS including police, courts and penal services for both perpetrators of child sexual abuse, and also some victims of child sexual abuse who go on to commit crime. The police costs include the cost of working on cases so they can lead to arrests. They do not include the costs of cases where detection did not result in a formal sanction being issued to an offender. This will be an underestimate as police time will be taken up dealing with cases which do not progress through the rest of the CJS. The costs of court proceedings in Magistrates and Crown Courts are also included. The costs of the remaining sentence are included for both prison and sentences served in the community. Note this is likely to be an underestimate because the prison time is capped so that the length of a court case and prison sentence do not exceed one year, since this is an annual estimate. In reality there will be perpetrators who are serving their second/third etc. years in prison and their costs have not been included. The overall

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7 Investing in Children: Technical Report, Social Research Unit, September 2013
8 The ICD-10 codes are K70, T51, E24.4, G31.2, G62.1, G72.1, I42.6, K29.9, K86.0, X45 for alcohol and T40 for drugs
cost is also an underestimate since Northern Ireland figures are currently excluded as they are not publically available.

**Children social care costs** include the costs of an initial assessment and referral for Children in Need, a section 47 referral and the cost of being on a child protection plan for 6 months. The costs of children being looked after by foster care or secure units/children’s homes and hostels are also included. This is likely to be an underestimate since other placement types for looked after children are not included. Currently the data on children in need excludes Scotland because data is not available. Also, the costs of looked after children are for England only and may not be comparable with the devolved nations so we currently only include the costs of looked after children for England. The concept of a section 47 referral is only used in England so again, these costs are for England only.

The **lost productivity costs** capture the fact that victims of child sexual abuse are less likely to be working and are likely to be earning lower wages than if they had not been abused. This could be caused by poorer education attainment and/or mental health problems as well as issues in forming and maintaining relationships. We use average earnings by age from the Labour Force Survey, and the UK population by age to calculate the loss in earnings resulting from being a victim of CSA.
Results

Table 3: Annual costs of child sexual abuse in the UK

<table>
<thead>
<tr>
<th></th>
<th>£ million</th>
<th>£ million</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Central</td>
<td>Low</td>
</tr>
<tr>
<td>Health</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child mental health –</td>
<td>£1.6</td>
<td>£0.8</td>
</tr>
<tr>
<td>depression</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child suicide and self-</td>
<td>£1.9</td>
<td>£1</td>
</tr>
<tr>
<td>harm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adult mental health –</td>
<td>£162.7</td>
<td>£81.4</td>
</tr>
<tr>
<td>depression and PTSD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adult physical health –</td>
<td>£15.4</td>
<td>£7.7</td>
</tr>
<tr>
<td>alcohol and drug misuse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total health</td>
<td>£182</td>
<td>£91</td>
</tr>
<tr>
<td>Criminal Justice System</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perpetrator</td>
<td>£89.9</td>
<td>£89.9</td>
</tr>
<tr>
<td>Adult victim of CSA</td>
<td>£58.8</td>
<td>£7.1</td>
</tr>
<tr>
<td>Total CJS</td>
<td>£149</td>
<td>£97</td>
</tr>
<tr>
<td>Services for children</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Children social care</td>
<td>£93.9</td>
<td>£49.4</td>
</tr>
<tr>
<td>NSPCC service costs</td>
<td>£7.7</td>
<td>£7.7</td>
</tr>
<tr>
<td>Total services for children</td>
<td>£124</td>
<td>£37</td>
</tr>
<tr>
<td>Labour market</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lost productivity</td>
<td>£2,700</td>
<td>£1,350</td>
</tr>
<tr>
<td>Total costs to Exchequer</td>
<td>£424 million</td>
<td>£237 million</td>
</tr>
<tr>
<td>Total costs</td>
<td>£3.2 billion</td>
<td>£1.6 billion</td>
</tr>
</tbody>
</table>

38. Focussing on the costs to the Exchequer in the central case, child sexual abuse costs £182 million of health spending, almost £150 million on the criminal justice system and close to £100m million on children social care services. Total costs to the Exchequer in the central case then are almost £425 million in 2012/13. These costs are conservative and do not include a number of potentially significant factors such as reduced tax revenues from lost productivity, as well as other factors outlined in the Costs section.

39. The annual cost of child sexual abuse in the UK is £3.2 billion in 2012/13 in the central case, which is our best estimate. The majority of these costs come from lost productivity to society from victims of abuse being less likely to work and more likely to work in lower paid jobs. This number is substantial. However, when one considers the number of victims of child sexual abuse and the fact that many victims may find it difficult to achieve their potential in school as they are experiencing trauma, which will feed through to their outcomes in the labour market, we may expect the figure for lost productivity to be large. In the low scenario, the annual costs are £1.6 billion, also driven by lost productivity.
Human and Emotional Costs

40. As mentioned previously, while some studies include some measure of victims’ cost of suffering abuse, many do not. Some have written about whether to include this type of cost. Walby (2004) argues for their inclusion so that policy makers take these important costs into account in their decision making. Cohen (1988) agrees for the context of the costs of crime, arguing that costs of pain and suffering should be included or the impacts of crime would be underestimated. Others do not include them because of methodological issues with putting a price on suffering. However, underestimating these costs would result in under provision of services to prevent child sexual abuse and support victims.

41. Methods for estimating victims’ costs of suffering usually use what economists call a “Willingness-To-Pay” approach. Willingness to pay is a concept that is used to determine the price of something, where that price is unknown. In the context of human and emotional impacts, Walby (2004) describes the approach as placing “a value on the avoidance of fatalities and injuries by estimating what individuals would be willing to pay for a small decrease in the risk of such an accident”.

42. We are not aware of any uses of a Willingness-To-Pay approach to estimate the human and emotional costs of child sexual abuse, so we use Walby’s costs of domestic violence (DV) and assume the costs are the same for DV victims as child sexual abuse victims. Walby calculates the human and emotional costs of a number of DV crimes, but we only use the costs of two types sexual abuse crimes i) rape and assault by penetration and ii) non-penetrative sexual assaults. We do not have any evidence to support this assumption so we keep the human and emotional costs separate from the main cost calculation. However, we feel it is important to consider what these costs could be to show policy makers that the true costs of child sexual abuse are substantial, which is important to bear in mind when making decisions about allocating resources for services.

43. To estimate costs of rape and other types of sexual assault, Walby used information from “a large body of literature on the trauma and horror caused by these forms of assault”. She finds the average human and emotional cost of rape and assault by penetration is £104,300 and the average cost for non-penetrative sexual assault is £240. Walby notes that these are average costs and that every individual case will be different.

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9 Walby (2004), pp 92
44. To get the total annual human and emotional costs, we need to multiply the average cost per sexual assault against a child by the number of assaults in 2012. We therefore need estimates for the number of rapes and penetrative assaults committed against children and the number of non-penetrative sexual assaults against children.

45. The true number of rapes and penetrative assaults committed against children is unknown so for the central estimate, we assume the proportion of rapes and penetrative assaults suffered by victims is the same as the proportion of total sexual offences in police recorded crimes that are rapes and penetrative assaults. For the low scenario, we use the actual number of rapes/penetrative assaults of children from police crime statistics.\(^ \text{10} \) We apply the same approach for the central and low cases for non-penetrative sexual assaults against children.

Table 4: Human and emotional costs of child sexual abuse (based on Walby 2004)

<table>
<thead>
<tr>
<th>Type of sexual assault against children</th>
<th>Cost per victim (2001 prices)</th>
<th>Number of victims</th>
<th>Total costs (2001 prices)</th>
<th>Uprate to 2012/13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rape and assault by penetration</td>
<td>£104,300</td>
<td>Central: 279,520</td>
<td>£29,153,938,592</td>
<td>£37,880,952,408</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low: 6,895</td>
<td>£719,148,500</td>
<td>£934,420,233</td>
</tr>
<tr>
<td>Non-penetrative sexual assault</td>
<td>£240</td>
<td>Central: 361,531</td>
<td>£86,767,556</td>
<td>£112,740,776</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Low: 8,918</td>
<td>£2,140,320</td>
<td>£2,781,009</td>
</tr>
</tbody>
</table>

Total human and emotional costs – central case £38 billion
Total human and emotional costs – low case £0.9 billion

10 Crimes under rape and penetrative assault include:
   England and Wales – rape of a male or female child under 13, rape of a male or female child under 16,
   Northern Ireland – rape (including attempts),
   Scotland – rape of an older male or female child (13–15), rape of a young male or female child (under 13), sexual assault by penetration of male or female (13–15 years), assault by penetration of young male or female child (under 13)

Crimes under non-penetrative sexual assault include:
   England and Wales – sexual assault on a male or female child under 13, sexual activity involving a child under 13,
   Northern Ireland – sexual assaults/sexual activity
   Scotland – assault with intent to rape older male or female child (13–15), assault with intent to rape young male or female child (under 13), sexual assault of older male or female child (13–15), sexual assault of young male or female child (under 13)
The central estimate for human and emotional costs is significant. In Walby’s original 2004 assessment of the costs of domestic violence in the UK, human and emotional costs make up 75% of the total cost. If we add the human and emotional costs to the other costs of child sexual abuse, they make up 90% of the total cost of the central case.

Caveats

47. While we are confident that this paper captures the main costs associated with child sexual abuse, there are a number of caveats that should be noted.

48. Since the costs from lost productivity are such an important driver of overall costs, it would be useful to have more evidence about the dynamics of the labour market impacts of victims of child sexual.

49. An investigation into the human and emotional costs of child sexual abuse victims would also improve the quality of the analysis. While many feel it is impossible to put a figure on pain and suffering of abuse, health economists are very experienced at measuring these types of costs and it would be useful if they applied these methods to child maltreatment.

50. These costs of child sexual abuse include the whole of the UK. However, there are a few areas where accessing comparable data for the devolved nations has been difficult e.g. the number of perpetrators who have completed a sexual offender treatment programme in prison Northern Ireland. In this paper these omissions result in a more conservative estimate, but in future we hope to include them in the cost calculation. For a full list of impacts that are needed for the devolved nations, see the appendix.

51. For a detailed description of all the calculations, including a full list of references and assumptions, see the tables in the appendix.
Conclusion

52. There is a lot of uncertainty around any estimate of the cost of child sexual abuse because unfortunately, so much abuse is only ever known by the victim and the perpetrator and many victims never disclose. However, given the academic evidence about the impacts of child sexual abuse and this research, we believe the costs are large – our low estimate of the annual cost of child sexual abuse is £1.6bn in 2012.

53. The majority of the costs fall on the victim through lost productivity. However the costs to the Exchequer are also significant with hundreds of millions of pounds being spent on health, the criminal justice system and children social care services. Readers should remember the costs estimated in this report are for 2012 and the costs are likely to be incurred in every year unless action is taken.

54. We are aware that there are limitations to this analysis – it relies on assumptions about the number of victims of child sexual abuse and the impacts that abuse has had on their lives. We recognise that further work is needed on understanding how being sexually abused as a child affects a victim’s productivity over their career. We also know that child sexual abuse is likely to impose costs to the victims’ families which we would like to include in the future. We have made every effort to be transparent about all assumptions made in this assessment.

55. Despite the limitations above, this work represents an initial and we believe first UK attempt to quantify a range of estimates for the annual costs of child sexual abuse based on academic evidence. We believe the estimates are conservative and we welcome suggestions for how to build on this analysis.

56. We hope policymakers will think about the costs that child sexual abuse imposes on society. We hope they recognise that while the costs to any individual government department may be small relative to their overall budgets, the cost to the UK is substantial. We hope that spending on effective recovery services and prevention programmes will be such that all victims who are ready to seek help can access it, and that one day child sexual abuse will be eradicated.
57. A final thought:

“Imagine a childhood disease that effects one in five girls and one in seven boys before they reach the age of eighteen; a disease that can cause erratic behaviour and even severe conduct disorder among those exposed; a disease that can have profound implications for an individual’s future health by increasing the risk of substance abuse, sexually transmitted diseases and suicidal behaviour, a disease that replicates itself by causing some of its victims to expose future generations to its debilitating effects.

Imagine what we, as a society would do if such a disease existed. We would spare no expense. We would invest heavily in basic and applied research. We would devise systems to identify those affected and provide services to treat them. We would develop and broadly implement prevention campaigns to protect our children. Wouldn’t we?

Such a disease does exist – it is called child sexual abuse.”

James A Mercy, Center for Disease Control and Prevention, Atlanta. USA
## Appendices

### Table A1: Child health calculations

<table>
<thead>
<tr>
<th>Category</th>
<th>Impact</th>
<th>Calculation and assumptions</th>
<th>1.573,716</th>
<th>786,858</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health – child</td>
<td>Child mental health – depression</td>
<td>Assume original likelihood of childhood depression for whole child population is 0.9%. Probability (child is victim of sexual abuse in UK) = 0.071. Expected likelihood of child depression given one is not a victim of CSA = 0.9% / (2 x 0.071) + 0.93 = 0.0084. Child victim of CSA is twice as likely to suffer depression as non-victim of abuse = 0.017. Annual costs of treating depression are £97.60 per child. Total costs are number of current victims (959,287) x likelihood of child depression for victims (0.017) x cost per victim.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child suicide</td>
<td>Suicide</td>
<td>Assume original likelihood of child suicide is 0.00089%. Probability (child is victim of contact sexual abuse in UK) = 0.022. Expected likelihood of child suicide given one is not a victim of CSA = 0.00089% / (3 x 0.022) + 0.098 = 0.0000086. Child victim of CSA is 3 times more likely to commit suicide = 0.000026. Hospital spell costs for suicide are £1805 per person. Total costs are number of victims of contact CSA (291,614) x likelihood of suicide for victims (0.000026) x cost of treatment per victim.</td>
<td>1.872,832</td>
<td>936,416</td>
</tr>
</tbody>
</table>

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11 Depression in Children and Young People, National Clinical Practice Guideline Number 28, NICE, The British Psychological Society, 2005, pp30
12 Own calculations based on NSPCC prevalence percentages and ONS Mid-2012 UK population estimates
13 See appendix about Law of total expectations for an explanation of this calculation
14 See Table 1
15 Investing in Children: Technical Report, Social Research Unit, September 2013 (using costs from the Personal and Social Research Unit)
16 UK lifetime prevalence rate taken from Meltzer et al 2001 Children and adolescents who try to hurt, harm or kill themselves
17 Own calculations based on NSPCC prevalence percentages and ONS Mid-2012 UK population estimates
18 From Bebbington et al (2009)
19 From spell unit costs for non-elective spells in Reference Costs 2011-12, Department of Health, pp52.
### Category Impact Calculation and assumptions Central Low

**Self-harm**
- Assume original likelihood of child self-harm is 6.6%\(^{20}\)
- Probability (child is victim of contact sexual abuse in UK) = 0.022\(^{21}\)
- Expected likelihood of child self-harm given one is not a victims of CSA = 6.6%/[(3x0.022)+0.098] = 0.063
- Child victim of CSA is 3 times more likely to commit suicide = 0.19\(^{22}\)
- Hospital spell costs for suicide are £1805 per person\(^{23}\)
- Total costs are number of victims of contact CSA x % of those who self-harm who need hospitalisation x cost of treatment (assume same % of self-harm attempts that result in hospitalisation as whole child population = 0.019)

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\(^{21}\) Own calculations based on NSPCC prevalence percentages and ONS Mid-2012 UK population estimates

\(^{22}\) From Hawton et al (2002)

\(^{23}\) Own calculations based on NSPCC prevalence percentages and ONS Mid-2012 UK population estimates
## Table A2: Adult health calculations

<table>
<thead>
<tr>
<th>Category</th>
<th>Impact</th>
<th>Calculation and assumptions</th>
<th>Central</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mental Health – adult</td>
<td>Adult mental health – depression</td>
<td>Assume original likelihood of adult depression for whole population is 2.3%.(^{24}) Probability (adult was victim of child sexual abuse in UK) = 0.24(^{25}) Expected likelihood of adult depression given one is not a victim of CSA = 2.3%/([2x0.24]+0.76) = 0.019(^{26}) Assume adult victims of CSA are twice as likely to suffer depression = 0.037(^{27}) Annual costs of treating adult depression are £295 (based on average of counselling, GP visit, outpatient attendance and inpatient services weighted by average treatment use).(^{28}) Total costs are number of adult victims (9,346,083) x likelihood of adult depression for victims (0.037) x cost per victim of treatment</td>
<td>£102,148,391</td>
<td>£51,074,195</td>
</tr>
</tbody>
</table>

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\(^{25}\) Own calculations based on NSPCC prevalence percentages and ONS Mid-2012 UK population estimates

\(^{26}\) See appendix about Law of total expectations for an explanation of this calculation

\(^{27}\) See Table 1

<table>
<thead>
<tr>
<th>Category</th>
<th>Impact</th>
<th>Calculation and assumptions</th>
<th>Central</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult mental health – PTSD</td>
<td>Assume original likelihood of adult PTSD for whole population is 3%.&lt;sup&gt;29&lt;/sup&gt;</td>
<td>Probability (adult was victim of child sexual abuse in UK) = 0.24&lt;sup&gt;30&lt;/sup&gt;</td>
<td>£60,594,400</td>
<td>£30,297,200</td>
</tr>
<tr>
<td></td>
<td>Expected likelihood of adult PTSD given one is not a victims of CSA = 3%/&lt;sup&gt;31&lt;/sup&gt;</td>
<td>[(3x0.24)+0.76] = 0.02&lt;sup&gt;31&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Assume adult victims of CSA are three times more likely to suffer lifetime PTSD = 0.061.&lt;sup&gt;32&lt;/sup&gt;</td>
<td>Annual costs of treating adult depression are £107 (based on average of assessment and counselling, weighted by average treatment use).&lt;sup&gt;33&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total costs are number of adult victims (9,346,083) x likelihood of adult PTSD for victims (0.061) x cost per victim of treatment</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


<sup>30</sup> Own calculations based on NSPCC prevalence percentages and ONS Mid-2012 UK population estimates

<sup>31</sup> See appendix about Law of total expectations for an explanation of this calculation

<sup>32</sup> Investing in Children: Technical Report, Social Research Unit, September 2013 (using costs from the Personal and Social Research Unit)

<table>
<thead>
<tr>
<th>Category</th>
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<th>Calculation and assumptions</th>
<th>Central</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical Health – adult</td>
<td>Adult physical health – alcohol</td>
<td>Assume original likelihood of adult alcohol dependence for whole population is 4%.&lt;sup&gt;34&lt;/sup&gt; Probability (adult was victim of contact child sexual abuse in UK) = 0.11&lt;sup&gt;35&lt;/sup&gt; Expected likelihood of adult alcohol dependence given one is not a victim of CSA = 4%/(2x0.11)+0.89 = 0.036&lt;sup&gt;36&lt;/sup&gt; Assume adult victims of CSA are twice as likely to be alcohol dependent = 0.072&lt;sup&gt;37&lt;/sup&gt; Annual average unit costs of treating adult depression are £793 (weighted average based on different alcohol related hospital spells).&lt;sup&gt;38&lt;/sup&gt; Assume same % of people who are alcohol dependent that require hospitalisation for CSA population as whole population (5.8%) Total costs are number of victims (4,382,188) x likelihood of adult alcohol dependence for victims (0.072) x cost of treatment x 5.8 % that need hospital treatment</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>£14,560,968</td>
<td>£7,280,484</td>
</tr>
</tbody>
</table>

<sup>35</sup> Own calculations based on NSPCC prevalence percentages and ONS Mid-2012 UK population estimates
<sup>36</sup> See appendix about Law of total expectations for an explanation of this calculation
<sup>37</sup> Investing in Children: Technical Report, Social Research Unit, September 2013 (using costs from the Personal and Social Research Unit)
<sup>38</sup> Own calculations from spell unit costs for day cases in Reference Costs 2011–12, Department of Health, pp52.
<table>
<thead>
<tr>
<th>Category</th>
<th>Impact</th>
<th>Calculation and assumptions</th>
<th>Central</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult physical health –</td>
<td>Assume original likelihood of adults to be frequent drug user is 2.8%. 39</td>
<td>Probability (adult was victim of contact child sexual abuse in UK) = 0.11 40 Expected likelihood of adult frequent drug user given one is not a victims of CSA = 2.8%/ [(2x0.11)+0.89] = 0.025 41 Assume adult victims of CSA are twice as likely to be frequent drug user = 0.051 42 Annual average unit costs of treating adult depression are £403 (weighted average based on different alcohol related hospital spells). 43 Assume same % of alcohol dependent people that require hospitalisation for CSA population as whole population = 0.093% Total costs are number of victims (4,382,188) x likelihood of adult frequent drug use for victims (0.051) x cost per victim of treatment x 0.093% that need hospital treatment</td>
<td>£835,037</td>
<td>£417,519</td>
</tr>
</tbody>
</table>

39 Drug Misuse findings from the 2012 to 2013 CSEW. Frequent user is defined as someone who uses drugs more than once a month.
40 Own calculations based on NSPCC prevalence percentages and ONS Mid-2012 UK population estimates
41 See appendix about Law of total expectations for an explanation of this calculation
42 Investing in Children: Technical Report, Social Research Unit, September 2013 (using costs from the Personal and Social Research Unit)
43 UK lifetime prevalence rate taken from Meltzer et al 2001 Children and adolescents who try to hurt, harm or kill themselves
<table>
<thead>
<tr>
<th>Category</th>
<th>Impact</th>
<th>Calculation and assumptions</th>
<th>Central</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>CJS</td>
<td>CJS for perpetrator of CSA</td>
<td>No of sanctions detected (8,000)(^{44}) x costs of PRC ((540)(^{45})) plus No of court proceedings (4,000)(^{46}) x cost of court proceeding ((11,335)(^{47})) plus No of convictions (2400)(^{48}) x weighted average cost of prison and community sentences(^{49}) [Assume time in court and prison or sentenced served in community capped at 1 year] plus No of completions of sexual offender treatment programmes (1,034)(^{50}) x costs of those programmes(^{51})</td>
<td>(89,894,066)</td>
<td>(89,894,066)</td>
</tr>
<tr>
<td>CJS</td>
<td>CJS for victim of CSA</td>
<td>Increase in likelihood of committing armed robbery, burglary, damage to property, assault and theft(^{52}) x original chance of committing these crimes(^{53}) to get new number of crimes committed. Costs for police, court and prison and community services as above. Assume same sanction detection rate, proceedings and conviction rate as in 2012/13 statistics(^{54})</td>
<td>(89,894,066)</td>
<td>(89,894,066)</td>
</tr>
</tbody>
</table>

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45 NAO Technical Report 2011
46 Own calculations based on NSPCC prevalence percentages and ONS Mid-2012 UK population estimates
47 See appendix about Law of total expectations for an explanation of this calculation
48 Own calculations based on NSPCC prevalence percentages and ONS Mid-2012 UK population estimates
49 See appendix about Law of total expectations for an explanation of this calculation
50 Accredited Programmes Annual Bulletin 2012/13 England and Wales, Ministry of Justice Statistics Bulletin, 25 July 2013. Information from Scotland was obtained directly from the Scottish Prison Service
51 Unit costs in Criminal Justice, Brookes et al, Personal Social Services Research Unit Discussion Paper 2855, February 2013. Notes costs have been matched to specific programme names.
52 Currie and Tekin 2006
54 From March 2013 Quarterly criminal justice stats and MOJ Detailed Sentencing Tables 2006–2013
### Table A4: Services for children calculations

<table>
<thead>
<tr>
<th>Category</th>
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<th>Calculation and assumptions</th>
<th>Central</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Services for children</td>
<td>Children Social Care</td>
<td>Assume proportion of children in Need and S47 referrals for CSA is the same as CPP (underestimate). Add (cost of referral x number of referrals) to (cost of assessment x number of assessments) to (cost of CPP x no of CPP/Rs) to give central estimate. Cost of referral, assessment and 6 month Child Protection Plan = £5298 per child(^55). Multiply by number of children in the UK on Child Protection Plans/Registers for low estimate. Add costs of <em>looked after children</em>: Assume 86% of children on CPP from CSA are looked after in central case.(^56). Assume half this % for low case. Assume split between foster care and residential care for CSA is the same for all maltreatment. Cost per year of foster care is £33,186 per child per placement and £86,382 for LA run care homes for children.(^57).</td>
<td>£93,886,868</td>
<td>£49,402,875</td>
</tr>
<tr>
<td>NSPCC Service Costs</td>
<td>Total expenditure of Turn The Page, Letting the Future In, Assessing the Risk Protecting the Child and Protect and Respect. NCATS excluded because it’s a charging service.(^58)</td>
<td></td>
<td>£7,744,778</td>
<td>£7,744,778</td>
</tr>
</tbody>
</table>

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55 Investing in Children: Technical Report, Social Research Unit, September 2013 (using costs from Holmes et al Cost calculator)
56 Based on How Safe Are Our Children Infographic showing figures for children on CPPs/Rs and children looked after
57 Unit Costs of Health and Social Care 2013, Compiled by L. Curtis, Personal Social Services Research Unit, 2013
58 Internal NSPCC figures utilise a cost model that applies average annual practitioner salaries to the staffing (full time equivalent (FTE)) required to deliver the services and includes an estimate for related non-staff costs
Table A5: Labour market calculations

<table>
<thead>
<tr>
<th>Category</th>
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<th>Calculation and assumptions</th>
<th>Central</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labour Market</td>
<td>Lost productivity</td>
<td>5% reduction in wages from severe maltreatment. Assume distribution of the number of adult victims is in the same proportion as the adult age distribution. Use average wage by age bands to calculate the loss in wages from CSA.(^{59}) lost productivity = 5% loss x average wage by age band x number of victims of contact CSA in that age band</td>
<td>£2,700,478,280</td>
<td>£1,350,239,140</td>
</tr>
</tbody>
</table>

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### Table A6: Detailed cost calculation – Human and emotional costs

<table>
<thead>
<tr>
<th>Category</th>
<th>Impact</th>
<th>Calculation and assumptions</th>
<th>Central</th>
<th>Low</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human and emotional costs</td>
<td>Cost of rape/penetrative assault</td>
<td>Use human cost of rape £104,300 (^{61}) x no of rapes/penetrative assaults in UK. (^{62}) Uprate to 2012/13 values using HMT deflators For central case: assume proportion of rapes/penetrative assaults in the victim population is the same as the proportion of total sexual offences which are rapes/penetrative assaults. For low case: use the actual number of rapes/penetrative assaults of children from police crime statistics</td>
<td>£37,880,952,408</td>
<td>£934,420,233</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cost of non-penetrative assault</td>
<td>Use human cost of non-penetrative assaults £240 (^{34}) x no of non-penetrative assaults in UK. (^{35}) Uprate to 2012/13 values using HMT deflators For central case: assume proportion of non-penetrative assaults in the victim population is the same as the proportion of total sexual offences which are non-penetrative assaults. For low case: use the actual number of non-penetrative assaults against children from police crime statistics</td>
<td>£112,740,776</td>
<td>£2,781,009</td>
</tr>
</tbody>
</table>

63 Own calculations based on NSPCC prevalence percentages and ONS Mid-2012 UK population estimates  
64 See appendix about Law of total expectations for an explanation of this calculation
A7 Devolved nations

The following impacts are currently not included for some of the devolved nations:

- Criminal Justice system costs incurred because of perpetrator of child sexual abuse – these costs currently exclude Northern Ireland
- Criminal Justice system costs incurred because of the victim – these costs currently only cover England and Wales
- Children Social Care costs – currently Children in Need costs exclude Scotland and section 47 costs are for England only. The rest of the costs (child protection plans and registers and costs of looked after children) are for the whole of the UK.
A8 The law of total expectations

We use the Law of Total Expectations to derive the costs some consequences of child sexual abuse. We can do this because we assume that the probability of an outcome, given the fact a person has been abused is a function of the probability of an outcome, given the fact a person has not been abused.

\[ \text{Prob} (\text{outcome} | \text{victim of child sexual abuse}) = k \times \text{Prob} (\text{outcome} | \text{not a victim of child sexual abuse}) \]

E.g. we assume that the probability of suffering depression for an adult who has been abused is twice the probability of suffering depression for an adult who has not been abused.

\[ \text{Prob} (\text{adult suffers from depression} | \text{victim of child sexual abuse}) = 2 \times \text{Prob} (\text{adult suffers from depression} | \text{not a victim of child sexual abuse}) \]

The law of total expectations is used when there are different states. For example in our case, there are 2 states: being abused or not being abused. Assume there are n states, then the law of total expectations is as follows:

The expected value of outcome y = the expected value of outcome y, given state 1 times the probability of state 1 + the expected value of outcome y, given state 2 times the probability of state 2 + …. + the expected value of outcome y, given state n times the probability of state n.

\[ E(\text{outcome}) = [E(\text{outcome} | \text{state} = 1) \times \text{prob} (\text{state} = 1)] + [E(\text{outcome} | \text{state} = 2) \times \text{prob} (\text{state} = 2)] + \ldots + [E(\text{outcome} | \text{state} = n) \times \text{prob} (\text{state} = n)] \]

e.g. the expected value of having depression as an adult = the expected value of having depression as an adult, given you have been sexually abused as a child + the expected value of having depression as an adult, given you have not been sexually abused as a child

\[ E(\text{adult depression}) = [E(\text{adult depression} | \text{victim of child sexual abuse}) \times \text{prob} (\text{being a victim of child sexual abuse})] + [E(\text{adult depression} | \text{not a victim of child sexual abuse}) \times \text{prob} (\text{not a victim of child sexual abuse})] \]
We know the expected value of having depression as an adult for the whole population from prevalence studies, we also know that the probability of suffering depression for an adult who has been abused is twice the probability of suffering depression for an adult who has not been abused. Therefore, by rearranging the formula above, we can work out the expected impacts of having depression as an adult for those who have been victims of child sexual abuse, and those who have not.

\[
E(suffer\ from\ depression\ as\ an\ adult|not\ a\ victim\ of\ child\ sexual\ abuse) = \\
E(adult\ depression)/((2 \times Prob(victim\ of\ child\ sexual\ abuse)) + Prob(not\ a\ victim\ of\ child\ sexual\ abuse))
\]

We use this calculation to work out the costs of:

- Child mental health (depression)
- Child suicide and self-harm
- Adult depression and PTSD
- Adult alcohol and drug misuse

Why do we use this method?

Without this method we only know the expected value of suffering depression for the whole population (both people who have been abused and people who have not). To calculate the likelihood of an impact happening because of child sexual abuse, you need to know the original likelihood of that impact without child sexual abuse. Without using the law of total expectations, you have to assume that the prevalence of impacts for the overall UK population is the same as the prevalence for the non-abused population i.e. the probability of having adult depression is the same for victims of abuse and non-victims which we know not to be the case. This would result in overestimating the costs.
Bibliography


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