A Cost Benefit Analysis of the ITA Intervention in Oxford and Reading

Commissioned by

Elmore Community Services

POLICE & CRIME COMMISSIONER THAMES VALLEY

A Cost-Benefit Analysis of the ITA Intervention in Oxford and Reading

Report for the Office of Thames Valley Police and Crime Commissioner

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1.1 INTRODUCTION TO COST-BENEFIT ANALYSIS

The development of effective policy and practice in relation to responding to and preventing modern slavery necessitates scientifically valid estimates of the social and economic costs of both the problem itself and the relative costs and benefits of the emergent interventions. Cost-benefit analysis is considered to be a tool that can assist in ethical and political decision making. Consequently, it is the principle method used by governments to assess the potential societal benefits of public investment in projects and intervention initiatives (Boardman et al, 2001)[1]. Such analysis can also assist in the determination of the relative cost effectiveness of competing interventions (Proag & Proag, 2014)[2]. In this instance cost-benefit analysis will be undertaken to examine the costs of human slavery in Thames Valley and to explore the benefits offered from the ITA services.

1.1.1 What is Cost-Benefit Analysis?

According to Arler (2006)[3] there are two different types of cost benefit analysis which can be distinguished on the basis of the nature of the costs and benefits:

a) The economic/quantitative type, which is derived from the welfare economics approach, expresses the costs and benefits in monetary terms.

   There are four ways of evaluating the economic value of an intervention (Dossetor, 2011[4]):

   1. Cost-effectiveness analysis – this typically compares the cost of two or more different types of intervention to assess which one presents the best value for money.
   2. Cost-benefit analysis – this attaches a monitory value to all of the potential outcomes and calculates the relative economic viability of a given intervention.
   3. Cost-savings analysis – this likewise attaches a monitory value to the outcomes. However in this instance only the direct costs and benefits to the funding organization are included in the analysis.
   4. Cost analysis – only calculates the cost of the intervention, which is helpful in relation to budgeting for the future.

b) Social/qualitative approach seeks to offer an account of the reported impacts for the individual, their families and their communities. This is often referred to as the decision-making approach, which focuses on broader non-economic elements such as the loss of human life. These impacts are often difficult to express in monetary terms, but to exclude them from the analysis would be negligent in that it would obscure the seriousness of the impacts of some forms of victimization (Brand &

[1] Boardman,A.E., Greenberg, D.H., Vining, A.R. & Weimer, D.L. (2001). Cost-Benefit Analysis. Prentice Hall

[2] Proag, S.L. & Proag, V. (2014). The cost benefit analysis of providing resilience. Procedia economics and Finance, 18: 361-368

[3] Arler, F. (2006). Ethics and cost-benefit analysis. Aalborg: Technology, Environment and Society, Department of Development and Planning, Aalborg University. (Research Report; No. 4)

[4] Dossetor, K. (2011) Cost-benefit analysis and its application to crime prevention and criminal justice. Australian Institute of Criminology, Technical and Background Paper 42

Price, 2000)[5]. Such intangible costs include factors such as pain endured, emotional distress, lost quality of life, fear of revictimisation which leaves the individual confined to his/her home etc. Whilst estimations are imperfect, in order to incorporate these issues into the cost benefit analysis, monetary values have been calculated for a number of these issues in a number of countries. Cohen (2000)[6] identified two ways in which values have been attributed to these intangible costs. Firstly, to use the amount granted by juries in US for compensation in relation to specific harms resulting from criminal victimization. Secondly, there are measures based on studies of the amount of money people say they would be willing to pay to reduce their risk of crime. The latter has been found to produce estimates up to ten times larger than the former. [7]

Cost-benefit analysis (CBA) based on the economic model compares the cost of an intervention with the value attached to the outcome. This can be expressed as a cost/benefit ratio; so every pound spent on the intervention (cost) is contrasted with the avoidance of future costs and additional monitory gains[8].

Arler (2006) also proposes that CBA can be further divided on the basis of the following:

a) Public vs private analyses (where the public analysis can take a local, regional, national or global perspectives. Boardman et al. (2001) contend that most economic evaluations of national public projects tend to only consider the benefits for the country's own citizens.

b) The point in time when the analysis is computed. E.g. whether it is conducted before or after the decision to invest in an intervention has been made (ex ante or ex post), or if it is to be an on-going calculation that will be revised continuously during the life-span of the intervention (in medias res). Ex-ante CBA which is typically undertaken by policy makers with the aim of assisting cost effectiveness calculations. Whereas post-ante CBA enables the assessment of the actual performance of the programme and its emerging benefits.

In the context of evaluating the ITA service and using Arler's distinctions between the different types of cost-benefit analysis, both economic and social in medias res analyses will be conducted and public vs private distinction will be considered in the analysis as far as is practicable.

[5] Brand, S. & Price, R. (2000). The economic and social costs of crime. Home Office Research Study 217

[6] Cohen, M.A. (2000). Measuring the costs and benefits of crime and justice. In G. LaFree Measurement and Analysis of Crime and Justice, Washington, DC: National Institute of Justice, US Department of Justice.

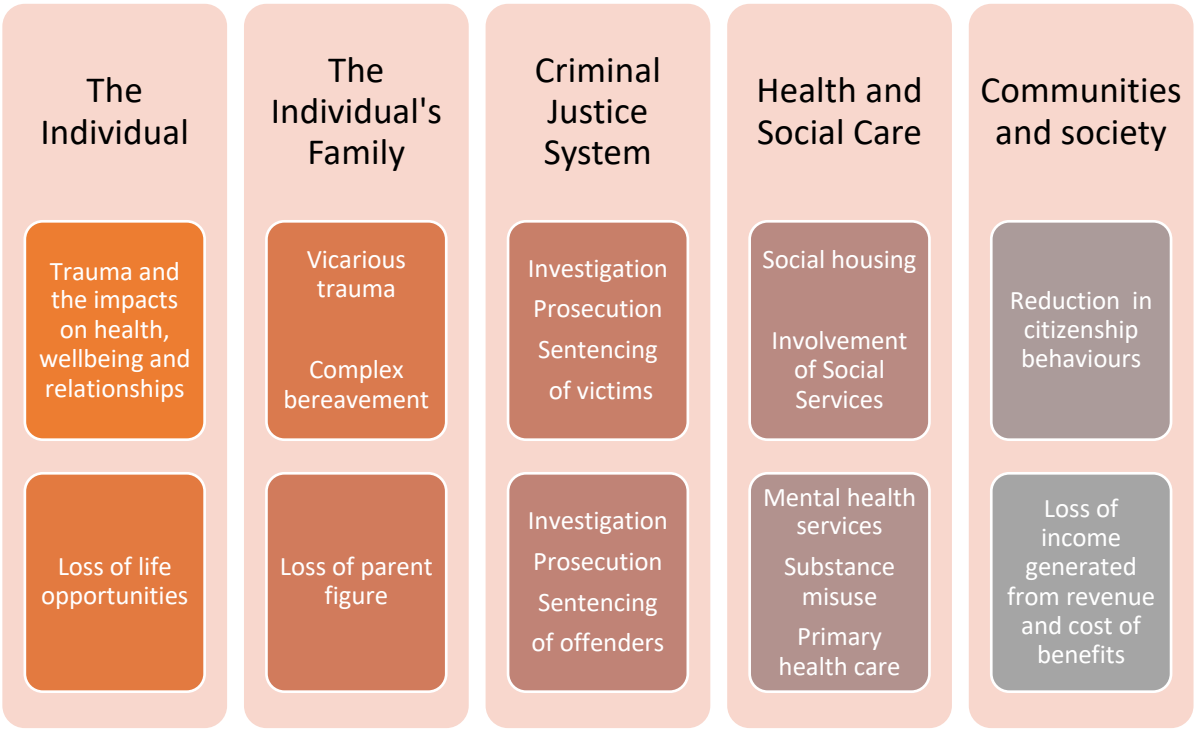
[7] Miller, T.R., Cohen, M.A. & Weirsema, B. (1996). Victim costs and consequences: A new look. National Institute of Justice Research Report (NCJ 155282). Washington, DC: National Institute of Justice.

[8]Dossetor, K. (2011) Cost-benefit analysis and its application to crime prevention and criminal justice. Australian Institute of Criminology, Technical and Background Paper 42

1.2 WHO BEARS THE COST OF VICTIMIZATION FROM MODERN SLAVERY?

The costs of modern slavery are distributed across multiple individuals, organisations, public entities, whole communities and society. Most notably, those most impacted tend to be the individual, their families of origin, their families of creation (intimate partners and off-spring), the criminal justice system and services related to health and social care.

1.2.1 Who bares what costs?



Where the individual's victimization has gone unrecognized and thus his/her needs left unmet, the impacts are likely to be dynamic and persist across his/her lifespan to varying degrees. Thus this can have long term and on-going cost implications for all concerned. To illustrate this point, the physical and mental health impacts on the individual victims of modern slavery will be considered later in the next subsection. Furthermore, the ripple effects of victimization mean that the impact is not only confined to the individual victim themselves, rather they might extend out to impact on their future relationships and subsequent generations. Indeed, the recent report for the Helen Bamber Foundation proposed that by:

> 'Helping one survivor to sustain recovery from the psychological impact of enslavement assists and strengthens every person who is positively connected to them... Addressing the mental health impact of modern slavery is essential to combat slavery and to halt generational cycles of violence, exploitation and abuse'[9]

Thus, when conducting a cost benefit analysis it is important to delimit the breath of the impacts in terms of time scales and the related people under consideration (Arler, 2006). Consequently, in the context of this on analysis of the ITA client group, the costs associated with the children of victims will be considered as they are such a striking feature of the people who have accessed the ITA services.

[9] Katona, C., Robjant, K., Shapcott, R. & Witkin, R. (2015). Addressing the mental health needs in survivors of modern slavery: A critical review and research agenda. Report for Helen Bamber Foundation and Freedom Fund

1.3 Potential Health Impacts of Modern Slavery for the Individual Victim

It is important to consider the physical and psychological consequences of modern slavery for the victims, since it is as a result of these issues that significant other costs are incurred. For example, long-term health conditions that arise as a consequence of victimization can impact upon the individual's employability/productivity and hence reliance on benefits and/or social housing, as well as the demands made on the healthcare system. Furthermore, mental health issues are likely to have consequences for interpersonal functioning, particularly in relation to being able to fulfil parenting obligations and their capacity for self-protection in the face of further attempts to exploit them.

From the limited evidence that we have to date, it appears that the following health risks are more pronounced for victims of modern slavery:

a) Occupational injuries due to lack of protective and safety equipment and policies [10]
b) Contracting communicable diseases (e.g. HIV, STIs, tuberculosis)[11]
c) Depression and post-traumatic stress disorder (PTSD)[12]

Whilst there is a paucity of published research on the health impacts of modern slavery due to the relative recent academic interest in this form of victimization, the experiences of these victims share a number of commonalities with victims of child sexual abuse (CSA). The long-term health outcomes for survivors of CSA is an issue that has garnered significant research interest in the last few decades. Thus it might be possible to extrapolate from these findings, the likely barriers to accessing services and support, and the impacts on the long-term health, for victims of modern slavery. These similarities include:

- The repeated and enduring nature of the abuse
- The relatively high prevalence of polyvictimisation (experiencing multiple different types of victimisation)
- The level of shame and self-blame felt by victims
- The betrayal of trust between the perpetrator and victim (particularly when the perpetrator is a family member or 'intimate partner')
- The prevalence of Stockholm syndrome amongst victims which negatively impacts upon their ability to self-identify as victims and thus restricts or delays their access to support
- The taboo or socially prohibited nature of the victimization (forced drug addition, forced criminality etc.).
- The high levels of disbelief or blame shown to victims in response to their attempts to disclose the abuse/exploitation.

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[10] Richards, T. (2014). Health implications of human trafficking. Nursing for Women's Health, 18(2): 155-162

[11] Dharmadhikari, A. Gupta, J., Decker, M., Raj, A. & Silverman, J.G. (2011). Tuberculosis and HIV: A global menace exacerbated via sex trafficking. International Journal of Infectious Diseases, 13: 543-546

[12] Tsutsumi, A., Izutsu, T., Poudyal, A.K., Kato, S. & Marui, E. (2008). Mental health of female survivors of human trafficking in Nepal. Social Science and Medicine, 66(8): 1841-1847. In this study of rescued and returned victims of trafficking, 100% of those who had been trafficked for sex work were found to have depression, compared with 80% who had been trafficked for other purposes and almost 30% of those trafficked for sex work were identified as having PTSD in comparison to 7.5% of those trafficked for other purposes.

- The reluctance to seek support for fear it would lead to others they care about being harmed.
- The profound sense of powerlessness

This said, there are also some noteworthy differences which would suggest that the application of research findings from victims of CSA to victims of modern slavery might significantly under-estimate the health risks for victims of modern slavery. These differences include that a sizeable proportion of victims of modern slavery experience:

- high levels of physical violence,
- control through death threats to themselves and others

Consequently, it is likely that victims of modern slavery have a higher chance of manifesting clinical levels of PTSD than are survivors of CSA.

1.3.1 Impact of Child Sexual Abuse on Survivors

With regards to the effects of CSA in childhood, Walsh, Fortier and DiLillo (2010) suggest that between 75 and 90% of known victims of CSA report psychological difficulties during childhood, though other authors offer a lower estimate of 50%[13]. A delayed 'sleeper effect' has been noted, manifesting in adolescence or adulthood as they begin to engage in their own consensual sexual relationships. Walsh et al. (2010) report that the possible effects that might become evident in late childhood/early adolescence include: an impaired sense of self, social withdrawal (unusual as most adolescents become more drawn to their peer group), Post-Traumatic Stress Disorder (PTSD) – (which sometimes gets wrongly diagnosed as Attention Deficit Disorder [with or without] Hyperactivity[14]), poor performance in school, and the development of anxiety disorders or phobias. For some CSA survivors, the effects become more deleterious as they progress toward adulthood[15]. A large range of mental and physical health conditions, interpersonal problems, maladaptive behaviours and attitudes, and compromised social and economic circumstances in adulthood have been associated with a history of CSA.

In terms of considering how these findings might translate in working with victims of modern slavery, we need to consider the sleeper effect as this could be important on two counts:

a) It might be that the issues associated with the awakening during adolescence of the effects from prior childhood abuse is what places a number of young people at risk of being targeted by those with an exploitative agenda.

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[13] Widom, C.S., DuMont, K., & Czaja, S.J. (2007). A prospective investigation of major depressive disorder and comorbidity in abused and neglected children grown up. Archives of General Psychiatry, 64: 49-56.
Finklehor, D. and Berliner, L. (1995) Research on the treatment of sexually abused children: A review and recommendations. Journal of the American Academy of Child and Adolescent Psychiatry, 34(11): 1408-1423
McClure, F., Chavez, D., Agars, M.D., Peacock, M.J., & Matosian, A. (2008) Resilience in sexually abused women: Risk and protective factors. *Journal of Family Violence, 23*: 81-88.

[14] Norris, F.H., Murphy, A.D., Baker, C.K., Perilla, J.L., Rodriguez, F.G. & Rodriguez, J.J.G. (2003) Epidemiology and trauma and post-traumatic stress disorder in Mexico. Journal of Abnormal Psychology, 112: 646-56

[15] Kendall-Tackett, K.A., Williams, L.M., & Finkelhor, D. (1995) The impact of sexual abuse on children: A review and synthesis of recent empirical findings. In D. Finkelman (Ed.), Child abuse: A multi-disciplinary survey, 4: Short and long-term effects (pp. 236-252). New York: Garland.
Putman, F.W. (2003) Ten-year research update review: Child sexual abuse. Journal of the American Academy of Child and Adolescent Psychiatry, 42(3): 269-278

b) Those who have experienced exploitation from a young age, and who have undergone a significant process of grooming by the perpetrator, may also experience a sleeper effect. Thus for some time after rescue/escape they appear to function relatively well, yet at a later point in time they appear to have a sudden and unexpected relapse.

1.3.1.1 Mental Health Issues

Associations between CSA and adverse psychological outcomes in both adolescence and adulthood have been found across a number of studies and reviews, although people with CSA have been found to display variability in both the range and severity of reported symptomatology.[16] Impacts include deliberate self-harming behaviour[17]; post-traumatic stress disorder (PTSD)[18]; suicidal ideation and suicide attempts[19]; depression and anxiety[20];

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[16] Finkelhor, D., Hotaling, G., Lewis, I.A. & Smith, C. (1990) Sexual abuse in a national survey of adult men and women: Prevalence, characteristics and risk factors. Child Abuse and Neglect, 14(1):19-28
Briere, J., & Runtz, M. (1993). Child sexual abuse: Long-term sequelae and implications for psychological assessment. Journal of Interpersonal Violence, 8: 312–330
Kendall-Tackett, Williams and Finkelhor, 1993 (ibid)
Putnam, 2003 (ibid)
Maniglio, R. (2015). Significance, nature and direction of the association between child sexual abuse and conduct disorder: A systematic Review. Trauma, Violence and Abuse, 16(3): 241-257

[17] Gladstone, G.L., Parker, G.B., Mitchell, P.B., Malhi, G.S., Wilhelm, K. & Austin, M.P. (2004). Implications of childhood trauma for depressed woment: AN analysis of pathways from childhood sexual abuse to deliberate self-harm and revictimisation. American Journal of Psychiatry, 161(8): 1417-1425
Klonsky, E.D. & Moyer, A. (2008) Childhood sexual abuse and non-suicidal self-injury: A meta-analysis. British Journal of Psychiatry,192: 166-170
Fliege, H., Lee, J.-R., Grimm, A., & Klapp, B. F. (2009). Risk factors and correlates of deliberate self-harm behaviour: A systematic review. Journal of Psychosomatic Research, 66, 477–493.
Maniglio R. (2009). The impact of child sexual abuse on health: a systematic review of reviews. *Clinical Psychology Review* 29(7):647-57.

[18] Chen, L.P., Murad, M.H., Para, M.L., Colbenson, K.M., Sattler, A.L., Goranson, E.N., Elamin, M.B., Seime, R.J., Shinozaki, G., Prokop, L.J. & Zirakzadeh, A. (2010). Sexual abuse and lifetime diagnosis of Psychiatric disorders: A systematic review and meta-analysis. Mayo Clinic Proceedings, 85(7): 618-629

[19] Neuman, D. A., Houskamp, B. M., Pollock, V. E., & Briere, J. (1996). The long-term sequelae of childhood sexual abuse in women: A meta-analytic review. *Child Maltreatment, 1,* 6-16.
Paolucci, E., Genuis, M., & Violato, C. (2001) A meta-analysis of the published research on the effects of child sexual abuse. Journal of Psychology, 135(1): 17–36.
Maniglio, 2009 (ibid)
Young, M.S., Harford, K.L., Kinder, B. & Savel,l J.K. (2007) The relationship between childhood sexual abuse and adult mental health among undergraduates: Victim gender doesn't matter. Journal of Interpersonal Violence, 22:1315–1331.

[20] Beitchmann, J. H., Zucker, K. J., Hood, J. E., da Costa, G. A., Akman, D., & Cassavia, E. (1992) A review of the long-term effects of child sexual abuse. Child Abuse & Neglect, 16(1): 101–118
Chen et al., 2010 (ibid)
Jumper, S. A. (1995) A meta-analysis of the relationship of child sexual abuse to adult psychological adjustment. *Child Abuse & Neglect, 19*, 715-728.
Kaplow, J., Dodge, K., Amaya-Jackson, L. & Saxe, G. (2005). Pathways to PTSD, part II: Sexually abused children. American Journal of Psychiatry, 162 (7): 1305-1310.
Neumann et al., 1996 (ibid)
Putman, 2003 (ibid)

somatoform disorders[21]; borderline personality disorder (BPD)[22]; and conduct/anti-social personality disorders[23]. Dissociative identity disorder (DID) has also been found to be both an impact and coping mechanism associated with a history of CSA[24], although research indicates that abuse alone is not predictive of DID. Rather, abuse history, combined with disorganised attachment style and lack of familial or social support best predicts emergence of DID as a psychological method of coping with adversity.[25]

Recent empirical findings indicate that relatively high prevalence of PTSD in survivors of CSA also places them at increased risk for a range of neurodegenerative disorders (e.g. Alzheimer's disease)[26] and physical diseases (e.g. cardiovascular, pulmonary and renal diseases).[27] The risk posed by PTSD appears to persist after controlling for demographic and lifestyle factors that are known to contribute to risk.

1.3.1.2 Physical health issues

Irish, Kobayashi and Delahanty's (2010)[28] meta-analysis revealed elevated rates of gastro-intestinal, gynaecological and cardiopulmonary symptoms, as well as higher rates of obesity among adults with of CSA as compared with adults without such histories. This increased risk for obesity partially accounts for the increased prevalence of Type II diabetes amongst survivors of repeated CSA.[29] A large scale retrospective survey of women's health by Rich-Edwards and colleagues (2012) found an increased risk for early onset of cardiovascular events (heart attack, stokes etc.). Sharpe and Faye's (2006)[30] review found that survivors of CSA were three times more likely to suffer from non-epileptic seizures. Adult retrospective

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[21] Jumper, 1995 (ibid)
Neumann et al., 1996 (ibid)

[22]Fossati, A., Madeddu, F., & Maffei C. (1999). Borderline personality disorder and childhood sexual abuse: A meta-analytic study. Journal of Personality Disorders, 13(3):268-280
Paolucci et al., 2001 (ibid)

[23] Maniglio, 2009 (ibid)

[24] Jumper, 1995 (ibid)
Neumann et al., 1996 (ibid)
Putnam, 2003 (ibid)

[25] Korol, S. (2008) Familial and social support as protective factors against the development of dissociative identity disorder. Journal of Trauma & Dissociation, 9(2): 249- 267.

[26] Bahari-Javan, S., Sananbenesi, F. & Fischer, A. (2014). Histone-acetylation: A link between Alzheimer's disease and post-traumatic stress disorder? Frontiers in Neuroscience, 8(160): 1-7

[27] Spitzer, C., Barnow, S., Volzke, H., John, U., Freyberger, H. J., & Grabe, H. J. (2009). Trauma, posttraumatic stress disorder, and physical illness: Findings from the general population. Psychosomatic Medicine, 71, 1012–1017

[28] Irish, L., Kobayashi, I. & Delahanty, D.L. (2010) Long-term physical health consequences of childhood sexual abuse: A meta-analytic review. Journal of Paediatric Psychology, 35(5): 450-461.

[29] Rich-Edwards, J.W., Spiegelman, D., Lividoti Hibert, E.N., Jun, H.J., Todd, T.J. & Kawachi, I. (2010). Abuse in childhood and adolescence as a predictor of type 2 diabetes in adult women. American Journal of Preventive Medicine, 39(6): 529–536

[30] Sharpe, D. & Faye, C. (2006). Non-epileptic seizures and child sexual abuse: A critical review of the literature. Clinical Psychology Review, 26(8): 1020-1040

studies also find that survivors of CSA more frequently use health services[31], report more physical health symptoms[32] and have poorer perceptions of their overall health,[33] than their non-CSA counterparts.

1.3.1.3 Drug and Alcohol misuse

Survivors of CSA have been found to be at greater risk of alcohol and other substance abuse including nicotine dependency[34]. In a review of long-term neurobiological effects of maltreatment, Delima and Vimpani (2011)[35] explain that alcohol and drugs have a dampening effect on hyper-arousal PTSD symptoms and this may partially explain why people use substances as an adaptive way of managing those symptoms. Stewart et al.'s (1998)[36] earlier work which examined the relationship between specific PTSD symptoms and particular forms of substance abuse found that the different substances of choice often inadvertently reduced the presenting symptoms. For example, where emotional numbing was desired the substances taken were anxiolytics and analgesics. Individuals who were troubled by intrusive flashbacks and nightmares appeared to demonstrate a preference for prescription drugs, whereas those who were experiencing hyper-arousal engaged in both excessive drinking and dependence on prescription drugs.

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[31] Newman, M.G., Clayton, L., Zuellig, A., Cashman, L., Arnow, B., Dea, R. & Taylor, C.B. (2000). The relationship of childhood sexual abuse and depression with somatic symptoms and medical utilization. Psychological Medicine, 30: 1063-1077. Trickett, P.K., Noll, J.G. & Putnam. F.W. (2011). The impact of sexual abuse on female development: Lessons from a multigenerational, longitudinal research study. Developmental Psychopathology, 23(2): 453-476

[32] Hulme, P.A. (2000) Symptomatology and health care utilization of women primary care patients who experienced childhood sexual abuse. *Child Abuse and Neglect.* 24:1471-1484
Newman et al., 2000 (ibid)

[33] Hulme, 2000 (ibid)

[34] Freyd, J.J., Putnam, F.W., Lyon, T.D., Becker-Blease, K.A., Cheit, R.E., Siegel, N.B., & Pezdek, K. (2005). The science of child sexual abuse. Science,308: 501
Min, M., Farkas, K., Minnes, S., & Singer, L. T. (2007) Impact of childhood abuse and neglect on substance abuse and psychological distress in adulthood. Journal of Traumatic Stress, 20(5):833-844.
Nelson, E. C., Heath, A. C., Madden, P. A., Cooper, M. L., Dinwiddie, S. H., Bucholz, K. K. et al. (2002) Association between self-reported childhood sexual abuse and adverse psychosocial outcomes: Results from a twin study. Archives of General Psychiatry, 59(2): 139-45.

[35] Delima, J. & Vimpani, G. (2011). The neurobiological effects of childhood maltreatment: An often overlooked narrative related to the long-term effects of early childhood trauma? Family Matters, 89: 42-57.

[36] Stewart, S.H., Pihl, R.O., Conrad, P.J. & Dongier, M. (1998). Functional associations between trauma, PTSD and substance-related disorders. Addictive Behaviours, 23(6): 797-812

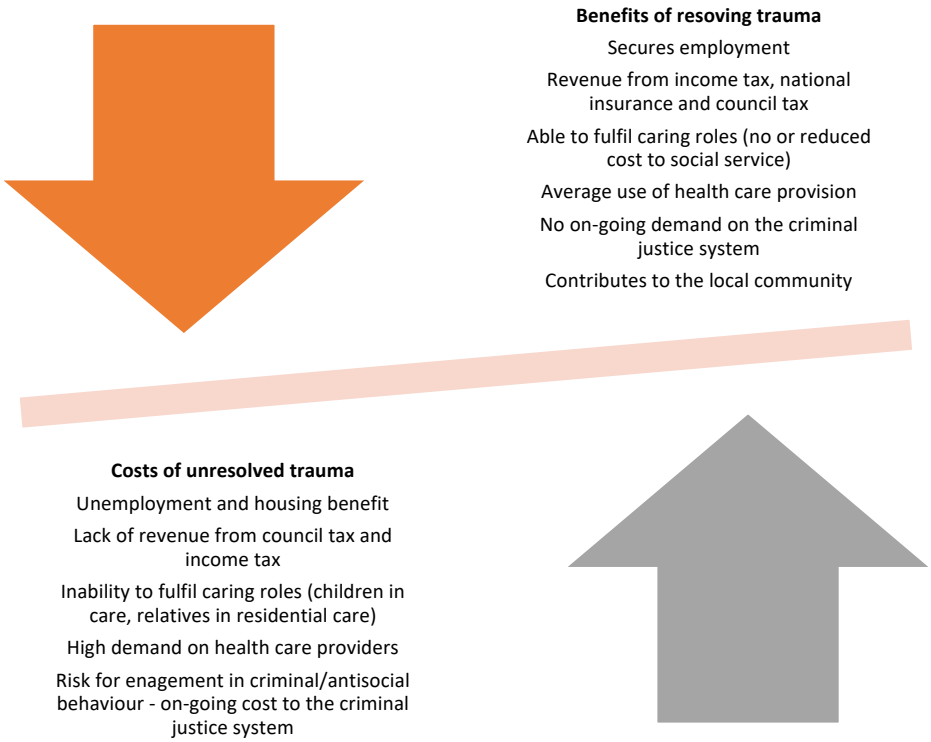
1.4 THE ECONOMIC COSTS TO SOCIETY

In calculating the economic costs to society of modern slavery there are four categories of government budget that are impacted[37]:

a) Public health (attending to injuries caused through violence or self-harm, alcohol/drug dependency, mental health, treating the long-term health impacts of stress, STIs, etc.).
b) Law enforcement (police, courts, prison and probation)
c) Social welfare (financial benefits, social housing, social services – including child protection services)
d) Reduced income tax revenue

Ordinarily, when conducting a cost-benefit analysis of an intervention that assists victims of crime to recover or move forward from their victimization it would be anticipated that the benefits should out weigh the costs. For example, with regards to a victim of an interpersonal crime they might have emergency medical treatment, social support to deal with the immediate impact of the crime (e.g. assistance in going out of the house to get shopping etc.), support in preparing for going to court, counselling to help overcome the lingering distress and restorative justice to reestablish a senses of control. When combined such a level of intervention might seem costly. However, when this is contrasted with economic savings that can be made (the benefits) through the intervention enabling the victim to return to work, pay their mortgage, continue being a carer for an elderly relative or child and to use the health services in moderation for the foreseeable future, the intervention is seen as a necessary investment.

1.4.1 The balance between the economic costs incurred for failure to resolve trauma and the benefits of intervention



[37] Dossetor, K. (2011) (ibid)

The scenario is somewhat more complicated for many victims of modern slavery since they have been targeted by their exploiters due to existing vulnerabilities which have often arisen due to previous victimisation and abuse. The current exploitation experience means that despite considerable pre-existing need, these individuals were unlikely to be accessing services. Thus, the identification of these victims means they may require services from multiple agencies for protracted periods of time in order to deal with both the trauma of their modern slavery experience and to address their existing vulnerabilities that pre-dated their slavery. Consequently, the gains for society in economic terms, are unlikely to outweigh the benefits. However, when conceptualising the social cost and benefit, these individuals have much to gain from the intervention.

1.5 Conducting a Cost Benefit Analysis

Barnett (1993) proposed that there are six fundamental steps to the successful completion of an economic CBA, which include:

- defining the scope of the analysis – from whose viewpoint is it being conducted (e.g. the public purse, the actual victims or the potential victims?)

- obtaining estimates of programme effects – Does the programme work? This would ordinarily necessitate that the programme be delivered along the lines of a randomised controlled trial so that the effectiveness of the programme can be ascertained. For example, being able to calculate the percentage of the service users who have a positive outcome. This could be assessed in terms of escaping and remaining free of exploitation and moving forward to have a more independent and satisfying life. An alternative outcome might be a clinical reduction in mental health issues. Ideally, this would require long-term follow-up since many of the outcomes are unlikely to be evident until a number of years after escaping the exploitative situation.

- quantifying the monetary costs and benefits;
- calculation of present value and assessment of profitability;
- identification of the distribution of costs and benefits.
- testing the riskiness of the conclusions via a sensitivity analysis

A net benefit analysis of an intervention can be calculated using the following simple equation:

(A + C) – D = Net benefit

Where:

A = Benefit to the government budget

B = Costs avoided due to the intervention (incurred in the future)

C = Costs avoided due to the intervention (discounted rate of 3.5%[38])

D = The cost of the intervention

[38] HM Treasury (2011) The Green Book: Appraisal and Evaluation in Central Government

1.5.1.1 Key considerations when calculating the economic costs and benefits

According to Martin, Lotspeich and Stark (2012) these are some of the issues that need to be considered when calculating a cost-benefit analysis[39]:

a) Establishing quantitative measures of the harms to the individual and the costs to society is fraught with difficulties. It is often difficult to produce precise and reliable estimates. Thus, those making such calculations tend to base their judgements on somewhat conservative estimates. It is even harder when making these estimates in relation to modern slavery as the experiences and needs of the victims are so diverse and there are no established studies conducted on long term outcomes nor the cost of meeting the associated needs.

b) The number of people who access the service is not the same as the number of people who benefit from the service. There will be the overall number of people who access the service (Z), the number of people who accessed the service who clearly benefitted through becoming safe from the perpetrators and moving on to have more independent lives (and those who accessed the service who were not really at risk in the first place and thus were not in a position to benefit

c) Interventions such as the ITA initiative would anticipate a stream of benefits many of which will be yielded some years into the future. When an initiative runs for a long period the benefits both present and future can be combined into the analysis as some clients from earlier years should be demonstrating the later gains. This is possibly less easy to forecast in a new intervention.

d) Calculating benefits of the intervention rest on the notion of harms avoided. This to some extent is influenced by the accuracy and efficacy of referral pathways that ensure that those with the potential to benefit from the service are accessing it (e.g. those known to be at risk).

e) To what extent other potential victims are prevented from entering into exploitative situations/relationships also needs to be considered. If for each person supported to escape and successfully move on from modern slavery another falls victim, then in effect there is no benefit of the intervention. Benefit in the context of the ITA initiative would thus be reliant upon its impact to also prevent the internal individuals who are at risk of recruitment into modern slavery from being recruited and in its ability to support the investigation and prosecution of the perpetrators in the context of both international and internal victims.

f) There are particular events or incidents that precipitate a series of harms which incur financial costs to society, some of which are related to, but outside of the control of the perpetrators. For example, contracting HIV, being arrested, having a child taken into care etc. Some incidents are associated with a range of harms for some individuals, but only one harm for other individuals. Thus we must estimate what proportion of people who experience a particular incident experience each of the

[39] Martin, L., Lotspeich, R. and Stark, L. (2012). Early intervention to avoid sex trading and trafficking of Minnesota's female youth: A benefit-cost analysis. Report for the Minnesota Indian Women's Resource Centre

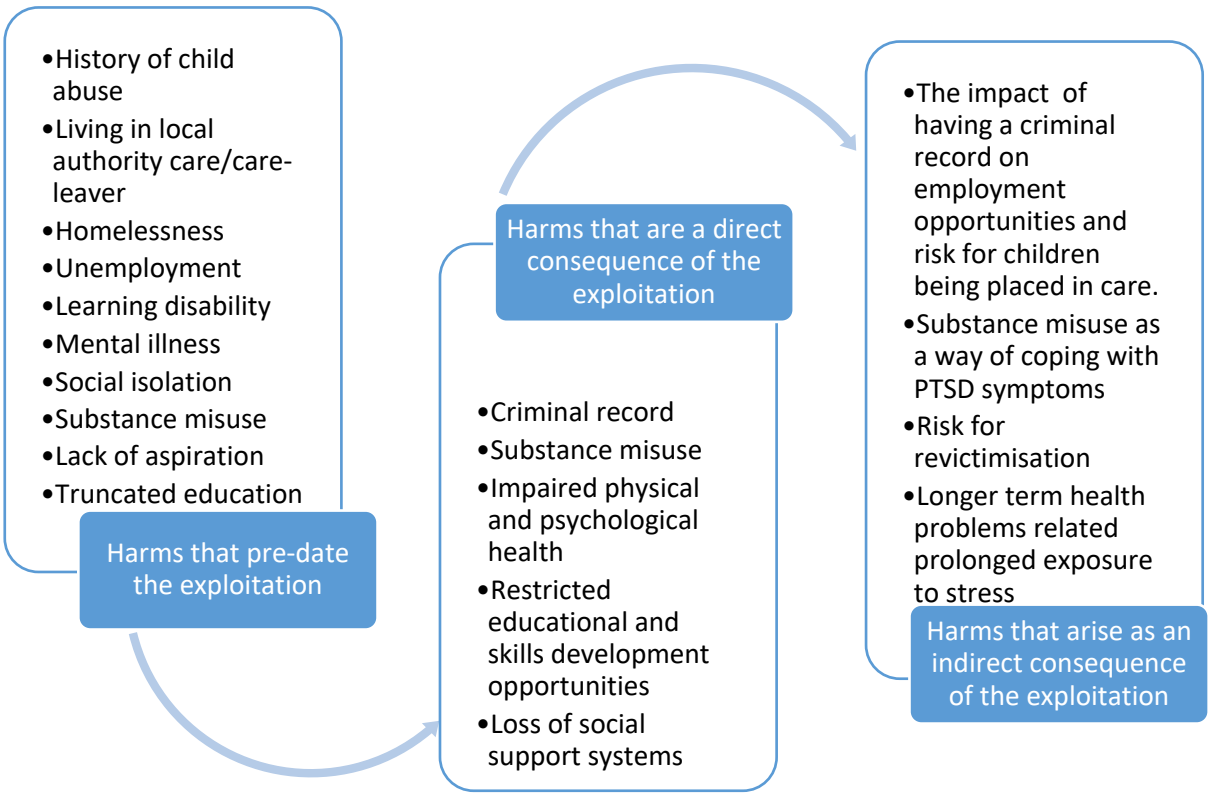
particular associated harms. For example, of those people who are arrested, what proportion have their cases referred to court and of those who go to court what proportion pleads or is found guilty, of this group, what proportion either receive a custodial or community sentence, of those who are given custodial sentences what proportion have children who have to enter the care system as a consequence of the parent's incarceration, and of those arrested or given a custodial sentence, what proportion finds themselves un-or underemployed in the years after release from prison.

g) There is also a time profile associated with harms. So a harm that is identified and resolved or ameliorated in a timely manner may not lead to ongoing harm that extends far into the future. For example, someone who has been sexually exploited and receives testing for STI and is subsequently treated swiftly for disease such as Chlamydia, they are far less likely to be dependent upon the NHS in the longer term for treatment related to pelvic inflammatory disease, infertility or cervical cancer.

h) Many harms continue well beyond the victimization experience. Time profiles of harms are unlikely to be similar across all cases. It is unwise to calculate an average trajectory. However, it might be possible to calculate average trajectories based on different typologies of victims. In the case of the ITA victims pathways analysis we have three distinct groups of victims and thus it might be possible to calculate average time and harm profiles for each of these three groups.

i) Some harms predate and may have been factors that rendered the individual vulnerable to the exploitation experience (e.g. child abuse, criminal record, homelessness, substance dependence etc.) and thus it is important to consider whether the harms that predate the exploitation should be utilized in the cost benefit calculation. More conservative estimates only include harms that have been empirically identified as being caused by the exploitation.

1.5.2 The sequence of harms



In terms of the ITA initiative it is predominately working to reduce the duration and extent of the exploitation and thus diminish the potential impact of both the direct and indirect consequences. The indirect consequences tend to refer to harms that can be costly in the longer term.

1.6 WHAT ARE THE COSTS OF MODERN SLAVERY IN ITA AREAS OF OPERATION?

To the individual Victim	Financial Costs to the Community Budget	Monitory Value
Impaired health (e.g. from excessive stress, malnutrition, STIs etc.)	NHS (GPs appointments, medically unexplained symptoms, life-long medication and surgical procedures) Total healthcare costs per rape	 £101,412.06
The loss of control over one's life that coincides with substance dependence/ misuse	NHS & Substance misuse services Methadone treatment – per week Drugs/alcohol worker – per hour Rehab – per week	 £53.00 £24.00 £732.00
The stigma and life restrictions that arise as a consequence of gaining a criminal record or serving a custodial sentence	Police – per arrest Courts – magistrates proceedings Prison – per day Probation	£1,930.09 £550,00 £99.36
Dependent children removed and placed in local authority care or child protection plan is put in place	Family court Child protection plan Local authority care for these children Supervised visits In the longer term – The costs of inpatient care/custody that is associated with being brought up in care cost of local authority care for their children	 £6,011 + £307 per month £5865 + £1844 per month
Poor mental health and associated distress	NHS – GPs, Substance misuse service providers, Mental health teams Mental health hospital case (week)	 £2,923
Loss of sense of purpose and identity due to inability to find and maintain legitimate employment	Benefits: Unemployment, disability and housing & Loss of revenue from income tax and council tax PTSD Severe long-term depression Moderate long-term depression Anxiety Drug dependency Alcohol dependency	 £8,460.44 £27,554.04 £13,727.64 £8,526.28 £27,488.2 £13,727.64
Poor self-esteem, sense of self-worth and poverty which comes from being welfare dependent	Loss of citizenship and the associated benefits (e.g. volunteering, community participation etc.).	
Living in a state of fear for one's own or one's family's safety		
Loneliness		
Reduced cognitive function		
Premature mortality (murder, suicide or from poor health)		
Lost potential for expected life opportunities[40]		

[40] E.g. meaningful intimate relationships, the ability to choose when and with whom to start a family, access to higher education or vocational training, career progression, home ownership etc..

1.7 CALCULATING THE FINANCIAL COSTS

Several sources have been used to calculate estimates of the financial cost to the government budget associated with victimization through modern. The first are the figures produced by Thames Valley Police and Buckinghamshire County Council regarding the criminal justice system, child protection and substance misuse treatment related costs. These were produced in 2014 and thus may be a slight underestimate when considering inflation. The second are the total healthcare costs over the lifetime following serious victimization estimated by Dubourg, Hamed andThorns (2005) for the Home Office[41]. Loss of income from tax revenue is calculated from a report for the Tax Payers Alliance produced by Fairhead (2015)[42].

Whist there are no existing estimates of healthcare costs associated with modern slavery, it might be assumed that many of the health-related outcomes are not that dissimilar to child sexual abuse. That is, many of the long term health outcomes are related to mental health problems and/or the physical health impact of exposure to prolonged stress. Again however, there is no estimate of the health costs of child sexual abuse, although Dubourg et al. (2005) have calculated the cost for adult victims of rape. This would provide a very conservative estimate of the potential lifetime costs for each victim. They estimated that the total healthcare cost in 2004 per adult rape victim in the UK was £73,487. The adjustment for inflation from 2004 to 2016 recommended by the Bank of England £1 to £1.38. Thus, employing this adjustment the current estimation would be £101,412.06.

Lost employment days incur two potential costs:

- Loss of tax revenue.
- Daily cost in benefits

In this analysis, the loss of tax revenue was calculated on the basis of that which would be expected to be paid daily by those in the lowest 20% earning bracket. This produced a figure of £17.25 per day.

The daily estimated costs of benefits were calculated using the on-line benefits calculator (https://www.gov.uk/benefits-calculators) and based on a single person aged 30 living in rented accommodation, where the individual had not worked for 26 weeks in the preceding year. The hypothetical individual was deemed to reside in a property in High Wycombe (Mid-way between Oxford and Reading), which was banded A for council tax purposes. This produced the following figures: Job seekers allowance £10.44 + Council tax support £1.71 + Housing Benefit £20.77, which gave a daily total of £32.92

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[41]Dubourg, R., Hamed, J. & Thorns, J. (2005) Estimating the cost of the impact of violent crimes on victims. Section 3 in The economic and social costs of crime against individuals and households 2003/4. Home Office Report Accessed on 5/5/16 @http://webarchive.nationalarchives.gov.uk/20100413151441/http:/www.homeoffice.gov.uk/rds/pdfs05/rdsolr3005.pdf

[42] Calculated taking the estimate that the employees earning incomes in the lowest 20% bracket will each pay £282,545 in various forms of tax over the course of their lifetime (Fairhead, 2015). This figure was then divided by 45 years (assuming most will not have completed higher education), then divided by 52 (weeks per year) and divided by 7 (days per week) Fairhead, H. (2015) Total life-time tax. Report for The Tax Payers Alliance. (July). Accessed on 4/5/2016 @ http://www.taxpayersalliance.com/total_lifetime_tax_2015

Thus the cost of days lost due to specific mental health impacts of victimization can be calculated as follows:

- PTSD – 257 days = £8,460.44
- Drug abuse – 835 days = £27,488.2
- Alcohol abuse - 417 days = £13,727.64
- Anxiety – 259 days = £8,526.28
- Depression (moderate long term) – 417 days = £13,727.64
- Depression (severe long-term) – 837 days = £27,554.04

1.7.1 Calculating long-term costs in relation to having children taken into care:

The current analysis is based on a conservative estimate of relatively proximate costs, in that it excludes the longer term costs associated with children being placed into local authority care. However, since a significant proportion of the victims in this analysis had dependent aged children, most of whom were in out-of-home care, it is likely that considerably greater future costs could be incurred from the intergenerational cycle of deprivation which has been associated with children being placed in local authority care. That is, children who have lived in local authority care are known to experience a number of adverse life incidents as they go into adulthood that also places a burden on the government budget. Specifically, of those who spent more than 12 consecutive months in care they are:

- 4 times more likely to be convicted of a criminal offence between the ages of 10 and 17 years. In the year 2013-2014 5.6 % of young people in care who were aged 10-17 were convicted of a criminal offence)[43]
- 50 times more likely to serve a custodial sentence.
- 7 times more likely to have a substance misuse problem (affecting 3.5%)[44]
- 4 times more likely to suffer from a mental health problem
- 66 times more likely to have their own children taken into care[45] Since 5% of children are in the care system and in some cases these will be siblings and in others they will be the children of care-leavers, if we use an estimate of 1% of parents (mainly mothers) have their children taken into care, then this would mean that approximately 66% of care-leavers who become parents will have their children taken into care.

Consequently, any intervention that contributes towards children suitably remaining with their birth parent(s) or being reunited with their families of origin once the trauma that under-laid their original inability to parent optimally is resolved has the potential to save the public budget a considerable amount in the longer term.

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[43] Zayed, Y. & Harker, R. (2015). Children in Care in England: Statistics. House of Commons Briefing Paper: 04470 (5th October)

[44] Department for Education (2013) Outcomes for Children looked after by local authorities in England, as at 31 March 2013. Statistical First Release SFR 50/2013

[45] Jackson, S. & Simon,A. (2005).The costs and benefits of educating children in care. In E. Chase, A. Simon & S. Jackson (Eds.) In care and after: A positive perspective (pp.44-62). London: Routledge

1.8 COST-BENEFIT CALCULATIONS FOR EACH VICTIM PATHWAY GROUP

The following cost-benefit analysis was calculated on the basis of the potential projected costs that are likely to be incurred by each of the clients whom received substantive support from the ITA services. That is, it excludes estimation of the costs for the potential victims identified on brothel raids, but whom had not taken up further engagement with the ITA services. Estimation of cost savings were adjusted according to the different typologies of victim service pathway that were identified in the interim evaluation report (Wager & Wager, 2016)[46], since it is likely that the savings accrued through the intervention are likely to be different for each group. Thus, a 20% saving in potential costs was projected for the Type 1 clients (those who readily engaged with the service and had few existing vulnerabilities), a 5% saving was projected in relation to Type 2 clients (those who are typically difficult to engage) and a 10% saving for Type 3 clients (those who are ambivalent long term service uses with multiple pre-existing vulnerabilities).

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1.8.1 Type 1: Engaged service users with few existing vulnerabilities

Client	Pre-existing vulnerabilities	Harms	Economic costs	Benefits from intervention	Total cost
Female 17. Internationally trafficked, debt bondage, theft (18 months)	Orphaned in recent years	Poor appetite (due to restricted food) Physical violence Suicidal ideation	£13,727.64 £6.011 £1844 x 6	Feels safe Completed college course and entering higher education Happy and settled Escaped exploitative situation	£30,802.64
Female 22, trafficked, kidnapped, imprisoned, sexual exploitation, debt bondage (1 year)		PTSD Anxiety Depression Pregnant Rejected by family Suicidal ideation	£8,460.44 £27,554.04 £6,011 £307 X 8 £101,412.06 £2,923	Engaged in education Has baby and doing well Has aspirations for her future Escaped exploitative situation	£148,816.54
Male 44, forced labour/drug related (several weeks)		Arrested for possession Substance dependence Anxiety	£1,930 £550 £8,526.28 £27,488	Drug free Escaped exploitative situation	£38,494.28
Female, raped, attempted international trafficking and sexual exploitation	Domestic violence and living in refuge I child living with other family		£101,412.06	Escaped exploitative situation	£101,412.06
Female, 23, internationally trafficked, sexual exploitation (2 months)		Health care Has dependent children	£101,412.06 £8,460.44	Returned to home country	£109,872.50

Possibly Type 1					
Female 32, internationally trafficked, debt bondage, sexual exploitation (1.5 years)		3 children cared for by family in home country Currently pregnant	£101,412.06 £6,011 307 X 6		£109,265.06
Female 32, forced criminality (drug running), sexual exploitation (7 months)		Arrest Threat to her life and her parents Substance dependence Loss of professional career Loss of home Withdrawn from family (shame)	£101,412.06 £27,488.20 £77 x 104 £1,930.09 £550		£139, 388.35
Female 24, kidnapped, trafficked, sexual exploitation and forced criminality, debt bondage (2 months)	Homeless History of DV Substance dependence Non-resident parent	Custodial sentence Violent assault Initial complaint ignored by police	£101,412.06 £1,930.09 £550 99.36 x 90		£112,834.55

Total predicted cost of Type 1 clients £790,885.98 (20% = £158,177.20)

1.8.2 Type 2: The hard to engage

Client	Pre-existing vulnerabilities	Harms	Economic costs	Benefits from intervention	Total Cost
Female 17, on-line grooming, non-contact sexual exploitation and attempt to groom into perpetrator	Child abuse	Substance misuse Mental health issues Perpetrator found not guilty at trial	£27,488.20 £13,727.64		£41,215.84

Total predicted cost of Type 2 clients £41,215.84 (5% = £2,060.79)

1.8.3 Type 3: The ambivalent long term service user with multiple pre-existing vulnerabilities

Client	Pre-existing vulnerabilities	Harms	Economic costs	Benefits from intervention	Total Cost
Male 46. Criminal labour & debt bondage (2 years)	Registered disabled Criminal record	Severe depression Anxiety Weight loss (malnourished) Substance misuse Revictimisation Criminal record	£27,554.04 £27,448.20 £8,460.44 £1,930 £550 £77 x 52	No longer misusing substances Weight gain Recognises risks Clear signs of reduction depression	£69,986.68
Female 21 sexual exploitation	ADHD Victim of bullying Substance misuse Alcohol abuse History of homelessness	Child in foster care Depression Revictimisation	£101,412.06 £27,554.04 £6,011 £5,865 £1,844 x 12 x 11	Unknown as yet	£384,250.10
Female 23 child sexual exploitation Doesn't recognize victim status	Care-leaver	Suicidal ideation and attempts Self-harming History of revictimisation subsequently Alcohol and substance misuse Homeless Criminal record	£101,412.06 £27,554.04 £2,923 x 26 £27,488.20 £13,727.64 £1,930.09 £550	Unknown as yet	£248,605.03
Female 36. Cuckooing (residency used for drug dealing and sex working) Debt-bondage to partner Doesn't recognize victim status	History of homelessness Care-leaver Previous history of victimization (CA and DV) Attempted suicide PTSD Unemployed Alcohol and substance misuse	History of revictimisation Risk of homelessness		Unknown as yet	

Female 39 Trafficking, sexual exploitation, forced criminality, theft		6 children being cared for by their father's family (father is one of the exploiters and drug dealer) Substance dependent Violent threats Homeless Criminal record Risk for revictimisation	£101,412.06 £27,448.20 £1,930.09 £550	Unknown as yet	£131,340.35
Male 29, Cuckooing, internally trafficked, forced labour (sexual assault), theft, threats to kill (years)	Suffers from schizophrenia and personality disorder. History of inpatient psychiatric care History of child abuse Isolated from family History of solvent abuse	Substance misuse Criminal record Risk of homelessness At risk of revictimisation	£101,412.06 £27,448.20 £1,930.09 £550	Unknown as yet	£131,340.35
Female 38, Sexual exploitation since aged 14, debt bondage, internally trafficked Doesn't recognize victim status	History of child abuse (age 9)– ignored by mother	Child in care Homeless Suicidal ideation Substance misuse PTSD History of DV Extensive criminal record	£101,412.06 £27,544.44 £6,011 £5,865 £1,844 x 12 x 11 £8,460.44 £1930.09 £550	Unknown as yet	£395,181.03
Female 40, Cuckooing (drug related) and theft of her benefits, possible debt bondage ('partner') (9 months) Doesn't recognize victim status	Substance dependence ADHD Depression Anxiety 5 children in care?	Criminal record	£1,930.09 £550	Unknown as yet	£2,480.09

Female 20, internally trafficked, sexual exploitation	Care leaver	Alcohol and substance misuse Self-harming Revictimisation risk Minor mental health issues	£101,412.06 £13,727.64 £27,554.04 £2,923 x 26		£218,691.74
Female 39, sexual exploitation	Childhood trauma Domestic violence Criminal record History of heroin dependence Depression Non-resident parent of two children (pre-school aged)	Risk of loss of life (at hands of partner/ perpetrator)	£101,412.06		£101,412.06
Female 40, sexual exploitation	Non-resident parent of ? school aged children Criminal record Mental health issues Substance dependence		£101,412.06		£101,412.06
Possibly Type 3					
Female 21, sexual exploitation (perpetrator family member)	Criminal record Substance dependence	Homeless Depression Risk to life (death threats from family) Attempted suicide	£101,412.06 £27,554.04 £2,923 x 26		£204,964.1
Female 39, sexual exploitation (9 months)	History of DV Previously experienced rape		£101,412.06		£101,412.06
Female 32, forced criminality and cuckooing (drug dealers)	History of DV Homelessness Attempted suicide Alcohol misuse 2 children in foster care				

Female 42	Non-resident parent Homelessness History of DV	Forced heroin use Alcohol abuse Suicidal ideation Depression	£75,998 £13,727.64 £27,448.20 £77 x 52 £732.00 x 4		£124,106.28

Total predicted cost of Type 3 clients £2,215,181.93 (10% = £221,513.19)

1.9 Conclusion

The estimated proximate costs for all of the 26 clients served by the ITA service between March 2015 and January 2016 (10 months of operation) totaled £3,047,283.76.

The conservative, total estimated projected savings for these clients was £381,751.18.

The total cost of running the ITA services for this 10 month period was £132,274.01.

Thus overall, if all the other activities of the ITA service (e.g. promotion, awareness raising, training of partner organisations, assisting on brothel raids etc.) are left out of the calculations and the whole cost of the ITA service is divided by the 26 clients who received a substantive service it is estimated that for every pound spent on the service £2.88 will be saved from the public purse.