**Missouri Children’s Trust Fund  
 Social Cost Savings and Impact of the CBCAP Missouri Model**

**in Preventing Child Abuse/Neglect  
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**Introduction**

Child maltreatment is a significant and preventable public health problem in Missouri, and across the United States. Nationally, child maltreatment affects millions of children and their families each year – often devastating children’s psychological and physical well-being and tearing families apart. In children, especially young children, child maltreatment can adversely impact brain development and forever change the ways in which children think, feel, and behave. Child maltreatment is a form of trauma that can lead to altered brain activity and structure among children who experience chronic and recurring maltreatment. Chronic maltreatment (including sensory deprivation from neglect) may result in loss of brain volume and brain complexity. Children’s response to chronic stressful stimuli will eventually create maladaptive neural systems leading to a host of negative outcomes, including delays, such as speech and motor problems, behavioral and emotional disorders, and cognitive delays. The Adverse Childhood Experience (ACE) research has also demonstrated a strong correlation between child maltreatment and long-term health problems such as heart disease, pulmonary disease, obesity alcoholism, substance abuse, smoking, and depression (Felitte et al., 1998) ACE study also found that adverse childhood experiences, such as maltreatment, domestic violence, and other forms of family dysfunction are major risk factors for the leading causes of illness and death, as well as poor quality of life. Furthermore, the ACE study found a “dose response” relationship in which greater numbers of adverse childhood experiences were associated with increased adult risk for physical and behavioral illnesses throughout the maltreated individual’s life span.

While the personal costs of child maltreatment to children and families are significant, the economic costs of child maltreatment are also quite staggering. Child maltreatment is costing society billions of dollars in services to respond to and treat child victims. In Missouri alone, 44,627 children were assessed for child maltreatment in 2006, and 7588 were substantiated or found to be “in need of services”. While the personal costs of child maltreatment and families are significant, the economic costs of child maltreatment to the State of Missouri and its communities are also quit staggering. A 2007 study by the Missouri Department of Social Services concluded that the total annual estimated direct and indirect costs associated with child abuse in Missouri to be $1,300,563,056 (Child Abuse and Neglect and Family Assessment Services Indicated Children in Missouri: The Monetary Cost 2007).

**Measurement and Impact of the Missouri Community Based Child Abuse Prevention (CBCAP) Model in Reducing Child Abuse and its Costs**

Missouri families and children at risk of child abuse and neglect often suffer from multiple stressors such as lack of job skills and opportunities, poverty, depression, substance abuse, domestic violence, children’s illness, lack of transportation, housing instability, etc.). These issues are interwoven in complex ways that cannot be detached from others and need a broad array of services that are coordinated and integrated into a system. While many of Missouri’s communities have a wide-range of services to reduce families’ risk factors and enhance families’ protective factors and resilience. However, because there was no “system” for child maltreatment prevention services to be linked programmatically across different public systems and private organizations that serve families and children. Over the past twelve years, the Missouri CTF and its consultants have pursued a powerful CBCAP network strategy that leverages community-based learning and capabilities through building network relationships and a lead agency/family support team collaboration framework that facilitates community-based public systems and private organizations and their respective professionals to work together in a concerted effort to prevent child abuse and neglect.

Over the past 12 years, CBCAP collaboratives have served over 1200 families and at the point of intake into the CBCAP these families were assessed using the Child Abuse Potential Inventory (CAPI) by Joel Milner, Ph.D. The CAPI is a nationally recognized, valid and reliable measure of the potential of child abuse and neglect. Of these 1200 families, 350 families scored on the CAPI as being at-high-risk of abusing and/or neglecting their 595 children. Prevention efforts such as the CBCAP measure their effectiveness by focusing on “what did not happen” and “what might have happened” had the families not been enrolled in the CBCAP and received the coordinated, multi-organization/multi-professional interventions to reduce their high child abuse potential overall scores as measured by CAPI and to built the families/children’s protective factors. HMIG/BHC used the reduction in Child Abuse Potential overall score on the CAPI to predict how many children whose families high child abuse potential risk scores were significantly reduced and would have become confirmed victims of child abuse and neglect, had they had not participated in the CBCAP lead agent/family support team intervention.

HMIG/BHC then attached national estimated direct and indirect costs of not preventing child maltreatment to estimate the cost saving benefits of the CBCAP initiatives and calculate a CBCAP return on investment. The direct costs include expenses such as hospitalization and medical services provided to treat injuries resulting from abuse, child protective services and/or police investigations, foster care, and other out-of-home placement services for maltreated children, family preservation, rehabilitation and treatment programs. Beyond the immediate protection and alleviation of the suffering associated with child maltreatment, child abuse childhood exposure to various categories of abuse [psychological, physical, sexual, household dysfunction (substance abuse, mental illness, mother treated violently, and/or criminal behavior in the household)] also has been linked with long-term negative adult consequences that require costly services in areas such as special education, physical and behavioral health, juvenile delinquency, lost productivity to society and adult criminality. In the following section of this report HMIG/BHC has estimated the total social cost saving benefits of the CBCAP program in Missouri.

Table 1, CBCAP Community Benefit Estimate of Direct Cost Savings

Table 1, summarizes the estimated annual cost of repairing the immediate, short-term damage done if the CBCAP had not intervened to reduce the child abuse potential of 350 families and thereby prevent child maltreatment of the 595 children. If these 350 families with CAPI score of <200 had not been enrolled in the CBCAP and received coordinated services to strengthen these families and reduced their child abuse/neglect potential. The impact of the CBCAP’s coordinated services in preventing child maltreatment, not only resulted the children’s escape of adverse experiences, but also economic impact on the community including the costs of health care services for acute injuries, the utilization of social and protective services to investigate and treat abused children and the dollars spent on the legal and criminal justice systems involved. The CBCAP child maltreatment prevention direct costs savings for 595 children is $11,405,269.

Table 1, Preventing Child Abuse and Neglect in Missouri

CBCAP Estimated Direct Cost Savings Community Benefit

|  |  |  |
| --- | --- | --- |
| **Direct Costs** |  | **Estimated Annual Cost** |
| Hospitalization | DHHS NIS-4 2005-2006 estimated nationally that approximately 39% of abused or neglected children are severely injured.1 This hospital cost estimate is based on average cost of upper or lower limb & other fractures for children in Missouri. In 2006 this cost was $18,380 for children ages (0-17).2  (Inflation factor applied to arrive at 2010 cost of $19,880). Calculations: (595 x .39 = 232), (232 x 19,880 = $4,612,160) | $4,612,160 |
| Chronic Health Problems | MO DFS 30% of maltreated children suffer chronic medical problems.3 In 2006, the Missouri average charge for asthma hospitalization of children age 0-17 was $5,223.4 (Inflation factor applied to arrive at 2010 cost of $5649). Calculations: (595 x .30 = 179), (179 x $5649 = $1,011,171) | $1,011,171 |
| Mental Health Care System | One in Five abused children is estimated to need mental health services.5 The Missouri Department of Mental Health calculated the average cost per child for comprehensive psychiatric services to be $3,135 in 2006.6 (Inflation factor applied to arrive at 2010 cost of $3391). Calculations: (595 x .20 = 119), (119 x $3391 = $403,529) | $403,529 |
| Child Welfare Services | The Missouri Department of Social Services state fiscal year 2010 average expenditures for direct services and the cost for children in foster care were use to arrive at this estimate $8825.7 (Note: the child welfare system in Missouri is larger than what is provided through state government. Private and local public agency costs, while not identifiable, are part of the state’s welfare system.)  Estimated substantiated CAN Children and Families Assessment Services Indicated Children Expenditures: 595 x $8825 = $5,250,875 | $5,250,875 |
| Law Enforcement | The National Institute of Justice estimates the cost of police services for the following interventions: child sexual abuse $84, child physical abuse $30, child emotional abuse $30, child neglect $4 (Inflation factor was applied to arrive at 2010 costs estimates shown here).8  Neglect: (595 x 49.2%) = 293 children x $4 = $1172  Sexual Abuse: 595 x 20.8%) = 124 children x $84 = $10,416  Physical Abuse: (595 x 24.9%) = 148 children x $30 = $4,440  Emotional Abuse: (595 x 5.1%) = 30 children x $30 = $900 | $16,928 |
| Judicial System | The Dallas Commission of Children and Youth determined the cost per initial court action for each case of child maltreatment was $1372 in 1996, (Inflation factor was applied to this 1996 cost to arrive at a 2010 estimate of $1907).9 In Missouri 9.7% of children with a substantiated child abuse or neglect report had court action in state fiscal year 2010.10  Without CBCAP intervention, estimated number of substantiated CAN Children with court action indicated in Children Assessment Calculation: (595 children with a child abuse or neglect investigation x 9.7 = 58children with court action x $1907 = $110,606 | $110,606 |
| Total Direct Costs Savings |  | $11,405,269 |

**Preventing Child Abuse and Neglect in Missouri**

**Long-term CBCAP Prevention of Child Maltreatment Cost Savings Benefit to Communities**

In addition to the short-term economic savings impacts of child abuse and neglect prevention, child maltreatment has serious long-term consequences that last long after the initial trauma. Therefore, persons who do not experience child maltreatment have significant and sustained benefits in quality of life over the subsequent stages of their life relative to persons who experience childhood maltreatment. In children, especially young children, child maltreatment can adversely impact brain development and forever change the ways in which children think, feel, and behave (Perry 2001). Chronic maltreatment (including sensory deprivation from neglect) may result in loss of brain volume and brain complexity (DeBellis 2003). Children’s response to chronic stressful stimuli will eventually create maladaptive neural systems leading to a host of negative outcomes, including developmental delays, such as speech and motor problems, behavioral and emotional disorders and cognitive delays and the need for special education and a variety of therapeutic interventions (Perry 2001).

The Adverse Childhood Experience (ACE) Study (1998) in surveying adult members of a large HMO found that adverse childhood experiences such as child maltreatment, domestic violence, and other forms family dysfunction significantly increase the risk of long-term physical and behavioral health problems such as heart disease, pulmonary disease, obesity, alcoholism, substance abuse, smoking, and depression (Felitti, et al. 1998). Other researchers found that the annual health care costs for adult women reporting abuse during childhood were 22% higher than costs for women reporting no abuse during childhood (Bonomi et al. March 2008). Similarly, researchers have found these excess medical expenses happen with adult men who experienced childhood abuse. Some researchers have found the male adult costs may be higher because of their prevalence of physical abuse has been found in studies to be higher (Felitti et al. 1998) . Furthermore, research found a dose-response relationship in which a greater number of adverse childhood experiences were associated with an increased risk for health and mental health issues throughout the lifespan (Felitti et al.1998).

General delinquency research shows that childhood abuse (physical and sexual) is often associated with delinquency and that the early onset of maltreatment may increase the variety, seriousness, and duration of violence problems. Furthermore, children that suffer from neglect also are at-risk. Researchers have found that neglect alone is significantly related to violent criminal behavior ( Galler, 1983; Widom 1999). Whether child maltreatment results in active physical abuse or more passive neglect, it is quite clear that both forms of child maltreatment seriously threaten the healthy development of children. Neglect cases represent the majority of cases taxing the child protective system. This research shows that today’s victims of abuse and neglect may well be tomorrow’s offenders. Based on an updated to the Cycle of Violence, children who were abused or neglected as a child increased the likelihood of arrest as a juvenile by 59 percent as an adult by 28 percent and for a violent crime by 30 percent (National Institute of Justice, February 2001).

Higher levels of chronic physical and mental health conditions among adults who were victims of childhood abuse and neglect also affect on the labor force and employee productivity. When adult survivors of child abuse and neglect suffer from long-term physical and mental health effects the results are increased numbers of sick days and increased number of days at work marked with low productivity. Some studies have shown that productivity losses from chronic illnesses can be 2 to 4 times higher than the costs of the associated medical expenditures (Loeppke, et al, 2007). The broad range of childhood maltreatment’s impact on physical and mental health suggests that that it may also have impact on victim’s length of work force participation as well as lifetime productivity losses associated with with premature mortality.

Victims of childhood abuse and neglect are significantly more likely to be arrested for adult criminology and violence than children that had not been abused or neglected (Maxfield and Widom 1996). In their prospective study of using non-abused children, Maxfield and Widom found that maltreated children were 1.5 times more likely to be arrested as an adult and 1.35 times to be arrested for a violent crime.

As referenced above, childhood exposure to abuse and neglect to a lifetime trajectory of increased utilization of physical and mental health, social, welfare services and non-violent criminal activity as well as violence perpetuation and victimization. Beyond the economic impact associated with the actual survivor, it is also important consider the influence on communities and the broader society.

Table 2, summarizes the estimated annual costs of the long-term economic impacts of not preventing child maltreatment of 595 children of 350 families. If these 350 families with CAPI score of <200 had not been enrolled in the CBCAP and received coordinated services to strengthen these families and reduced their child abuse/neglect potential. The impact of the CBCAP’s coordinated services in preventing child maltreatment, not only resulted in the children escaping of adverse experiences, but also reduces the long-term financial burden of childhood maltreatment consequences that would have fell on CBCAP communities, the State of Missouri and beyond. These additional costs would have included special education, physical and behavioral health, juvenile justice and correctional services as well as lifetime productivity losses impact long-term economic growth. The long-term CBCAP child maltreatment prevention indirect annual costs savings for 595 children is $6,343,876.

Preventing Child Abuse and Neglect in Missouri

Long-term CBCAP Estimated Indirect Cost Savings Community Benefit

|  |  |  |
| --- | --- | --- |
| Indirect Costs |  | Estimated Annual Cost |
| Special Education | Twenty-Two percent (22%) of abused children have a learning disorder requiring special education (Note: both abused and neglected children were used to arrive at this percentage)11 The Missouri Department of Elementary and Secondary Education estimates the annual incremental cost related to special education per child in Missouri was $7,172 in fiscal year 2006.12 (Inflation factor applied to arrive at 2010 cost of $7757). 595 children x .22 = 131 x $7757 = $1,016,167. | $1,016,167 |
| Physical & Behavioral Health | According to Adverse Childhood Experiences (ACE) studies adverse childhood experiences are linked to higher adult levels of chronic and behavioral health diseases relative to non-child abused.13 According to a study of women enrolled in the Group Health Cooperative of Puget Sound, women who reported childhood abuse had adult median health care costs that were 22% greater for one type of abuse and 36% greater for at least two or more abuse types than women that did not report maltreatment (inflation factor was applied to 2004 costs of $502 for women with one abuse type and $790 for women with two or more types of abuse to arrive at this estimate).14  We assume that increased adult costs due to child maltreatment are the same for females and males.  595 x 65.4 children with one abuse type = 389; 389 x $580 = $225,620.  595 x 34.6 children with at least two or more abuse types = 206. 206 x $912 = $187,872. $225,620 + $187, 872 = $413,492 | $413, 492 |
| Juvenile Delinquency | Based on an updated to the Cycle of Violence, 27.4% of children who were abused or neglected become delinquent.15 This compares to 17.2% without any reported abuse or neglect who become delinquent. In Missouri, the average length of stay in the Division of Youth Services is 9.2 months or 77% of a year. In Missouri the weighted average cost of Division of Youth Services’ high security, moderate security, and community-based care was $47,131 in fiscal 2006).16 (Inflation factor applied to arrive at 2010 cost of $50,978).  595 children x 10.2 (27.4% - 17.2%) = 61; 61 x ($50,978 x 77% = $39,253) = $2, 394,433 | $2,394,433 |
| Lost Productivity to Society | The National Institute of Justice estimates the loss in productivity for abuse or neglect per child as follows:17 (inflationary factor applied to 2006 to arrive at 2010 calculator estimates below:  Physical Abuse: 595 x (24.9%) = 148; 148 x $5132 = $759,536  Sexual Abuse: 595 x (20.8%) = 124; 124 x $3170 = $393,080  Emotional Abuse: 595 x (4.9%) = 29; 29 x $1359 = $ 39,411  Neglect: 595 x (49.3%) = 293; 293 x $38 = $ 11,134  Total: $1,203,161 | $1,203,161 |
| Adult Criminality | In FY 2010, Missouri Department of Corrections budget was 664.6 million. Based on a report of the National Institute of Justice13 % percent of all violent crimes can be linked to earlier child maltreatment.18 The average cost per year of a Missouri inmate was $17,099. 19 Calculator: 595 x (13%) = 77; 77 x $17,099 = $1,316,623 | $1,316,623 |
| Total Annual Estimate of Indirect Costs |  | $6,343,876 |
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**CBCAP Direct and Indirect Cost Savings Community Benefit Notes**

1 Sedlak, A. and Broadhurst, D. (1996) The Third National Incident Study of Child Abuse and Neglect: NIS3. U. S. Department of Health and Human Services.

2 Department of Health and Senior Services, MICA, number and charges for upper limb (229), lower limb (230), and other fracture (231) for Missourians under age 18.

3 Hammerle (1992) as cited in Fromm, Suzette (2001) Total Annual Cost of Child Abuse and Neglect in the United States.

4 Missouri Department of Health and Senior Services: Average hospitalization cost of asthma for children under 0-17 years of age in 2005.

5 Fromm, Suzette (2001) Total Annual Cost of Child Abuse and Neglect in the United States

6 Missouri Department of Mental Health, average cost of serving children in state fiscal year by the Division of Comprehensive Psychiatric Services.

7 Missouri Department of Social Services, state fiscal year 2010 expenditures for children’s services programs and Medicaid costs for foster care children. ?

8 Miller, T.Cohen, M. and Wiersema (1996) Victims’ Costs and Consequences: A New Look. The National Institution of Justice.

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10 Missouri Department of Social Services, Report of children with a substantiated child abuse or neglect with court action in state fiscal year 2006. ?

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17 Miller, T.Cohen, M. and Wiersema (1996) Victims’ Costs and Consequences: A New Look. The National Institution of Justice.

18 The National Institution of Justice.

19 FY 2010, Missouri Department of Corrections budget

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