

Economic Costs of Child Abuse and Neglect in Alaska in 2019

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I. Introduction

Child abuse and neglect causes detrimental effects to victims that often last a lifetime. These effects not only diminish the health and quality of life of the individual, but also impose costs on society as a whole through increased expenditures on health care, child welfare, criminal justice, education, as well as lost workforce productivity. This report attempts to quantify the lifetime economic costs of child abuse and neglect in terms of all of these elements for the 3,139 unique victims in Alaska in 2019. In doing so, it builds from a body of prior research and adopts the methodology of Fang et al. (2012) and replicated by Wood and Parrish (2019) while providing greater specificity on cost factors specific to Alaska.

The purpose of this analysis is to provide economic cost estimates using the most recent available data on incidence of child abuse and neglect, and for those estimates to reflect the state’s high cost of health care, child welfare administration, criminal justice, and education. It presents estimates using both the human capital approach, based on lifetime earnings, and the value per statistical life/quality-adjusted life-years (VSL/QALY) method. The advantage of the VSL/QALY approach is the ability to place a dollar value on mortality and quality of life.

II. Results

For 2019, this analysis provides two estimates of the economic cost of child abuse and neglect in Alaska. Using the human capital approach, the total cost of fatal and non-fatal child maltreatment was \$710 million. Under VSL/QALY, the cost is \$2.3 billion. For each non-fatal case, the costs for human capital and VSL/QALY are, respectively, \$300,200 and \$968,500. All costs are present values.

The dramatic three-fold difference between the two valuation methods is readily apparent. By focusing narrowly on wages and productivity, human capital produces a lower value that fails to account for the subjective value individuals place on life and quality thereof. On the other hand, the QALY calculation with regard to child maltreatment is based on only one study, Corso et al. (2007).

Overall Results

Table 1: Total economic burden of child abuse and neglect in Alaska in 2019

Method	Meaning	Total Economic Cost
Human Capital Approach	Values an individual life based on lifetime earning potential.	\$710,030,187
VSL/QALY	Incorporates intangibles like pain and suffering into the valuation of an individual life.	\$2,320,112,861

Table 2: Economic costs in 2019, non-fatal cases, human capital approach

Cost Category	Per Case	For All Cases
Short-term Health Care	\$60,802	\$143,143,690
Long-term Health Care	\$25,242	\$59,427,113
Child Welfare	\$14,928	\$35,143,320
Criminal Justice	\$12,499	\$29,425,054
Special education	\$21,869	\$51,484,510
Productivity Losses	\$164,861	\$388,123,311
Total for 2019	\$300,200	\$706,746,996

1 Based on 3,139 unique cases of abuse and neglect identified by the Alaska Office of Children's Services.

Table 3: Economic costs for fatal cases, human capital approach

Cost Category	Per Fatality	For All Fatalities
Medical Care	\$16,531	\$36,368
Productivity Losses	\$1,475,829	\$3,246,823
Total for 2019	\$1,492,359	\$3,283,191

2 Data on fatalities related to child maltreatment was not available for 2019. This analysis used the 2014-2018 annual average of 2.2 fatalities from NCANDS data for Alaska.

Table 4: Economic costs in 2019, non-fatal cases, VSL/QALY approach

Cost Category	Per Case	For All Cases
Short-term Health Care	\$60,802	\$143,143,690
Long-term Health Care	\$25,242	\$59,427,113
Child Welfare	\$14,928	\$35,143,320
Criminal Justice	\$12,499	\$29,425,054
Special education	\$21,869	\$51,484,510
QALY Reduction	\$833,168	\$1,961,484,711
Total for 2019	\$968,507	\$2,280,108,397

3 Based on 3,139 unique cases of abuse and neglect identified by the Alaska Office of Children's Services

Table 5: Economic costs for fatal cases, VSL/QALY approach

Cost Category	Per Fatality	For All Fatalities
Medical Care	\$16,531	\$36,368
Value per Statistical Life (VSL)	\$18,167,317	\$39,968,097
Total for 2019	\$18,183,847	\$40,004,464

4 Data on fatalities related to child maltreatment was not available for 2019. This analysis used the 2014-2018 annual average of 2.2 fatalities from NCANDS data for Alaska.

Health care

Victims of child abuse and neglect experience more health complications than the general population, and therefore escalated costs.¹ In addition, Alaska's health care costs 51% higher than the national average by one estimate.² For children, each Alaska victim of abuse incurs health care costs of \$5,637 per year above average. In adulthood, the additional health care costs amount to \$1,036 per victim each year. The present value of these expenses is about \$86,000 per victim of abuse and \$202 million for all Alaska victims in 2019.

Child Welfare

Government agencies like the State of Alaska's Office of Children's Services (OCS) spend resources investigating maltreatment reports, placing children in foster homes, and taking other protective actions.³ In Alaska these costs had a present value of \$14,928 per victim in 2019, and over \$35 million in total.

Criminal Justice

Individuals who experience abuse or neglect as children are more likely than average to be arrested and charged with crimes, both as juveniles and adults.⁴ This increased likelihood stemming from maltreatment as children causes increased costs to police departments, courts, and correctional systems. For Alaska in 2019, we estimate the present value of these costs at \$12,499 per victim and over \$29 million total.

Special Education

Child maltreatment victims often experience delays in their educational progress, requiring special education services at an elevated frequency. Public education systems spend more money educating students special needs than the general student population.⁵ The increased special education costs due to child abuse and neglect has a present value of \$22,000 per victim or nearly \$51 million for all victims in the state in 2019.

¹ Florence et al. (2012) and Bonomi et al. (2008)

² Cost of Living Index (COLI) 2018 Annual Average, Council of Community and Economic Research (C2ER)

³ DeVooght et al. (2008)

⁴ Widom and Maxfield (2001) and Reynolds et al. (2002)

⁵ Jonson-Reid et al. (2004) Reynolds et al. (2002)

Productivity Losses

Abuse or neglect in childhood is associated with decreased earning power over the course of a lifetime. Adjusting earlier estimates for inflation, we estimate that between ages 18 and 64, victims of child maltreatment earn \$6,768 less than their peers each year, or a present value of roughly \$165,000 to reflect lifetime reduced earnings. For all victims statewide in 2019, the total economic cost from lost productivity is \$388 million.

Quality of Life

This report adopts a value per statistical life/quality-adjusted life-year (VSL/QALY) methodology to value intangibles like emotional anguish and quality of life. Borrowing the approach of Corso et al. (2008) as replicated by Wood and Parrish (2019), this report finds that each victim in Alaska faces \$833,000 in reduced quality of life, or \$1.96 billion for all cases statewide.

Fatalities

This study uses both the human capital method (based on lifetime earnings) and VSL/QALY to estimate the economic cost of each fatality in Alaska due to child abuse and neglect. This produces values of \$1.5 million per fatality with the human capital method, and \$18 million with VSL/QALY.

III. Methodology

This study replicates the work completed by Wood and Parrish (2019), while updating the estimates to reflect 2019 data and costs specifically for Alaska. These state-specific cost adjustments are described in greater detail below. Inflation adjustments utilize the U.S. Consumer Price Index for Urban Consumers (CPI-U). Many of the costs are the result of future, rather than current, expenditures. These are converted to present values using a 3% discount rate.

The Alaska Office of Children’s Services (OCS) provided 2019 data on reported cases of child abuse and neglect. That year there were 3,139 unique victims. Based on Fang et al. (2012), this study assumes that 75% of these cases, or 2,354, are first-time victims. Numerous studies point to the problem of under-reporting child maltreatment, but no reliable estimates exist to account for this at the state level. This makes the estimate for first-time, unique victims conservative. Data on fatal instances of child maltreatment comes from the National Child Abuse and Neglect Data System (NCANDS) maintained by the U.S. Department of Health and Human Services. Unfortunately, no data was available for 2019 at the time of publication. To address this gap, the author averaged the number of child maltreatment-related deaths between 2014 and 2018, producing a figure of 2.2 each year.

Health

Health costs are divided into short-term and long-term costs. Florence et al. (2013) calculated the increased annual health care costs during the juvenile years using Medicaid records. They estimated that on average, child maltreatment victims incurred medical expenses of \$2600 (2009 dollars) over non-victims. The current analysis assumes this as an annual cost from ages 6 to 17, following the approach of Fang et al. (2012) and Wood and Parrish (2019). For long-term costs, the author used estimates from Bonomi et al. (2008) who examined health care utilization among adult women with a history of abuse as minors. The average victim had annual health expenses of \$507 (2004 dollars) per year more than non-victims from ages 18 to 64. Both long-term and short-term costs were adjusted to 2019 dollars. To account for health care cost inflation, which exceeds core inflation, health costs are assumed to increase 1% each year. Passini and Guettabi (2018) found that Alaska’s inflation rate for health care was nearly three times that of the CPI-U over a 25-year period.

Health care costs in Alaska are notoriously high compared to the national average. To account for this, the author adjusted the annual cost estimates above according to the Cost of Living Index (COLI) published by the Council for Community and Economic Research (C2ER). COLI tracks living costs for over 260 metropolitan areas across the US, including Anchorage, Fairbanks, and Juneau. The author used a simple average of the health care cost index for the three Alaska cities in 2019 to produce an Alaska differential in health care costs. By this method, the state’s health care costs are 51% higher than the national average. The short-term and long-term estimates were adjusted by this factor.

Child Welfare

Child welfare values are the costs of intervention by social service agencies like OCS to investigate cases of abuse and neglect, and provide corrective action. Fang et al. (2012) calculated this figure by dividing the total annual expenditure on child welfare services by the number of investigated cases of maltreatment, and then multiplied that figure by the number of first-time unique victims in a year. For the current study, the author used figures from Devooght et al. (2014) for total child welfare spending for Alaska in fiscal year 2012, roughly \$149 million. Adjusted to 2019 dollars, and divided by the number of OCS completed investigations in 2019 (11,125) this produced a per-case cost of \$14,928, or \$35 million for all unique cases counted in the present study.

Criminal Justice

As with health care, criminal justice costs associated with victims of child maltreatment can be broken into juvenile and adult categories. Widom and Maxfield (2001) found that maltreated children were 10.2% more likely to be arrested as a juvenile, with an average age of arrest being 14 (Reynolds et al., 2002). Fang et al. (2012) placed the cost of a juvenile arrest at \$24,513 in 2010 dollars. Adjusted for 2019 dollars, the cost is \$28,739.

Citing the same two studies, Fang et al. 2012 placed the cost of an adult arrest at \$89,304 in 2010 dollars, with child maltreatment victims having a 9.1% greater chance of having a criminal record than non-victims, and a mean age of 23 for a first adult arrest. This would be \$104,700 in 2019 dollars.

However, criminal justice costs in Alaska are significantly higher than the national average. According Mai and Subramanian's (2017) analysis of prison costs by state, Alaska spends 58% more than the national average for each incarcerated person. This factor is used as an adjustment to the juvenile and adult criminal justice expenses to reflect the state's higher costs. These calculations produced a present value of \$12,499 per victim.

Special Education

This study uses the estimate calculated by Jonson-Reid et al. (2004), which found that victims of child maltreatment experienced a 10.5% higher chance of requiring special education than those without a history of maltreatment. Special education is far more expensive than general instruction on a per-student basis; the author used a 2019 study on costs from California (Petek 2019), which found that the annual costs of special education in the state were \$17,000 per student above the general cost of instruction during the 2017-2018 school year. The US Census Bureau's Annual Survey of School Finances reveals total per student expenditures in Alaska to be 41.8% above that of California, which is reflected

in the present estimates. Following the approach of Fang et al. (2012), each child is assumed to require special education from ages 8 to 17.

Productivity

Victims of child abuse and neglect suffer from higher rates of unemployment and lower lifetime earnings. Currie and Widom (2010) estimated this effect at \$5,000 per year (2004 dollars) in reduced earnings compared to a control group. This figure was adjusted to 2019 dollars, and the author assumed a working life from 18 to 64. An annual growth rate of 1% was assumed to account for productivity growth.

Quality of Life

Quality of life can be measured through the VSL/QALY approach, based on the use of surveys to determine how much respondents would be willing to pay for a given outcome, usually related to improved health or reduced chance of dying. In Corso et al. (2008) victims of abuse and neglect during childhood commonly reported a reduced quality of life in adulthood. This quality of life perception was quantified as a decrement to a quality-adjusted life year, where 1 QALY is a year of life in perfect health. This is calculated into a monetary value using a VSL derived from a willingness-to-pay survey from Corso et al. (2011). The VLS/QALY calculations in this report were borrowed from Wood and Parrish (2019), who in turn updated Peterson et al. (2018).

Child Fatalities

The human capital and VSL approaches estimate the cost of a child fatality differently. For human capital, the valuation is based on the loss of lifetime earnings. Wood and Parrish (2019) used a present value of \$1,258,812, based on earlier studies, in 2016 dollars. This was updated to \$1,474,829 in 2019 dollars. For VSL, Wood and Parrish used a figure of \$17,051,842 (2016 dollars) per fatality, based on adjustments to values generated by Corso et al. (2008 and 2011). Medical costs associated with each fatality were borrowed from Corso et al. (2007) and adjusted to \$16,531 in 2019 dollars. These medical costs apply to both the human capital and VSL calculations.

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