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for every child

ECONOMIC COSTS OF VIOLENCE AGAINST CHILDREN IN FIJI

FINAL REPORT

October 2024





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Foreword

Sadly, children in Fiji experience abuse, neglect, exploitation and violence on a daily basis. This not only affects their physical and mental health but also leads to challenges in education, social services, and their overall quality of life. The long-term impacts are well-documented: children who suffer abuse are more likely to become violent adults, perpetuating a cycle that negatively impacts the economic wellbeing of families for generations. The cost of inaction is even higher, as failing to address these issues leads to greater societal and economic burdens.

In Fiji, the Government has developed a robust policy and strategic framework for protecting children from multiple forms of abuse, exploitation, violence, and neglect. Both the 2013 Fijian Constitution and the 2010 Child Welfare act explicitly state that “every child has the right to be protected from abuse, any form of violence, inhumane treatment, and hazardous or exploitative labour” However, despite the presence of an established legislative and policy framework to ensure the protection of all children in the country, Fiji’s children continue to experience multiple forms of violence, and at significant levels.

The findings from the 2021 Multiple Indicator Cluster Survey (MICS) suggest that 80.5 per cent of children aged 1–14 years had experienced some form of violent discipline in the month preceding the survey – with 64.5 per cent of children experiencing psychological aggression and 68.0 per cent experiencing some form of physical punishment during this period. The MICS also found that polyvictimization – the exposure of a single child to multiple types of abuse – is a particularly significant problem in Fiji.

This report uses economic analyses to inform an investment case for the child protection subsector in Fiji, to prevent the high cost of inaction. It provides a comprehensive analysis of the importance of investing in child protection, the socioeconomic costs of underinvestment, and an evaluation of government spending on preventing and responding to violence against children.

Through this study, the total economic cost of violence against children in Fiji is estimated at FJD459.82 million, equivalent to 4.23 per cent of GDP annually. These costs include FJD19.33 million in direct medical costs, FJD14.96 million in direct non-medical costs, FJD140.41 million in indirect tangible costs and FJD285.12 million in indirect intangible costs. While significant, this large economic burden can be averted through targeted investments in interventions that prevent and respond to violence against children.

It is our sincere wish that this report is an accessible and widely used reference for all relevant stakeholders in government, civil society, faith-based organizations, the private sector and development partners and that it informs evidence-based policies, as well as inclusive development activities that are of benefit to all children.



Honorable Lynda Tabuya

Minister for Women, Children and Social Protection



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Acknowledgement

The study on the Economic Cost of Violence against Children is a product of collaboration between the Government of Fiji, through the Ministry of Women, Children and Social Protection, and the United Nations Children's Fund (UNICEF).

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Abbreviations & acronyms

| | |
|--------|---|
| DALY | Disability-adjusted life year |
| GBD | Global Burden of Disease |
| GBDS | Global Burden of Disease Study |
| GDP | Gross domestic product |
| GSHS | Global School-Based Student Health Survey |
| HIES | Household Income and Expenditure Survey |
| IHME | Institute for Health Metrics and Evaluation |
| MICS | Multiple Indicator Cluster Survey |
| NCPSP | National Child Protection Strategic Plan |
| NHA | National Health Accounts |
| PAF | Population-attributable fraction |
| UNCRC | UN Convention on the Rights of the Child |
| UNICEF | United Nations Children’s Fund |
| VACS | Violence Against Children and Youth Surveys |
| VSL | Value of a statistical life |
| VSLY | Value of a statistical life year |
| YLD | Years lived with disability |
| YLL | Years of life lost |

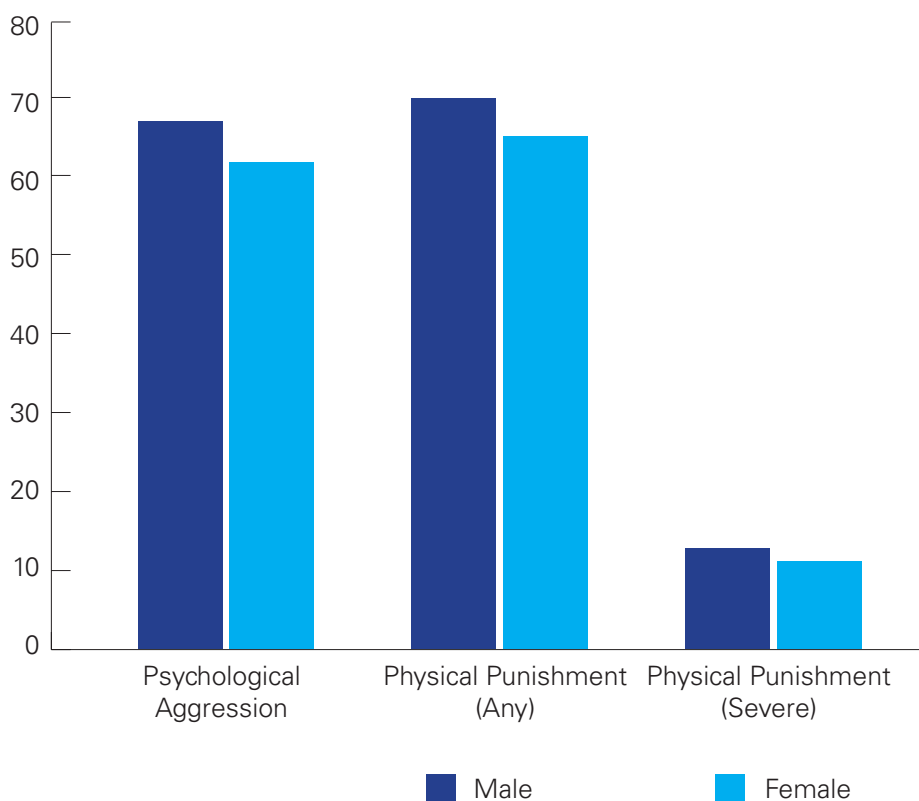
Executive summary

Background

As a signatory to the UN Convention on the Rights of the Child (UNCRC), which calls upon Member States to be committed to the protection and provision of the rights of children, the Government of Fiji has a stated commitment to protecting children from multiple forms of abuse, exploitation, violence and neglect. This commitment is espoused in the 2013 Fijian Constitution – which explicitly states that “every child has the right to be protected from abuse, any form of violence, inhumane treatment, and hazardous or exploitative labour” – and in the 2010 Child Welfare Act, which presents the legislative framework for the protection of all children in Fiji. The National Development Plan for Fiji also aims to “Eliminate violence against women and children through responsive policing and coordinated referral networks”. However, despite these agreements, and despite the presence of an established legislative and policy framework to ensure the protection of all children in the country, Fiji’s children continue to experience multiple forms of violence, and at significant levels.

Findings from the recently released 2021 Multiple Indicator Cluster Survey (MICS) suggest that 80.5 per cent of Fijian children aged 1–14 years experienced some form of violent discipline in the month preceding the survey – with 64.5 per cent of children experiencing psychological aggression and 68.0 per cent experiencing some form of physical punishment during this period. MICS also found that polyvictimization – the exposure of a single child victim to multiple types of victimization – is a particularly significant problem in Fiji.

Figure 1: Incidence of VAC in Fiji in 2021, by type and gender



Source: Fiji Bureau of Statistics, 2022

The purpose of this study was to undertake economic analyses to inform an evidence-based investment case for the child protection subsector, to be used to advocate for increased financing for child protection interventions in Fiji. The study aims to provide a comprehensive analysis on the need to invest in child protection in Fiji, covering the direct and indirect socioeconomic costs associated with low investments in child protection.

Scope of costs included

The national-level studies that have been conducted on the economic cost of VAC show a distinct heterogeneity in terms of the types of violence against children considered, and the categories of economic cost included. Indeed, some studies focus purely on the direct costs of VAC, while others include the indirect costs too; some studies estimate the intangible costs of VAC, while others don't; and some identify costs from the perspective of government only, while others consider the individual and broader societal costs in their estimations. This heterogeneity indicates that there is no clear and defined conceptual framework for conducting such economic cost studies on violence against children. To this end, the scope of the costs of VAC employed in this study will be based on an adaptation of an established typology for assessing the cost of violence, developed by the United Nations (2005), shown in Table 1.

Table 1: Scope of costs included in the economic cost of VAC study

| Category | Type | Components |
|----------|-------------|---|
| Direct | Medical | Inpatient costs Outpatient costs Medicine & equipment costs |
| | Non-medical | Policing costs Incarceration costs Costs of legal proceedings Costs of school repetition |
| Indirect | Tangible | Productivity losses Reductions in human capital |
| | Intangible | Health-related quality of life |

Source: Adapted from United Nations (2005)

Results

Table 2 summarizes the total economic costs of VAC in Fiji, as per the typology outlined in Table 1. In summary, the total economic costs of VAC in Fiji amount to FJD459.82 million, equivalent to 4.23 per cent of gross domestic product (GDP) annually. These costs comprise FJD19.33 million in direct medical costs, FJD14.96 million in direct non-medical costs, FJD140.41 million in indirect tangible costs and FJD285.12 million in indirect intangible costs. This large economic burden could be averted through targeted investments in interventions to prevent and respond to VAC. This represents a strong evidence-base to advocate for increased child protection investments in Fiji.

Table 2: Summary results of economic cost of VAC in Fiji (FJD)

| Category of Cost | | Cost | |
|-------------------|-------------|-------------|----------|
| Category | Type | Total (FJD) | % of GDP |
| Direct | Medical | 19,331,567 | 0.18% |
| | Non-medical | 14,958,781 | 0.14% |
| Indirect | Tangible | 140,412,265 | 1.29% |
| | Intangible | 285,121,333 | 2.62% |
| Total Cost of VAC | | 459,823,947 | 4.23% |

Source: Authors' own calculations

Investing to prevent VAC

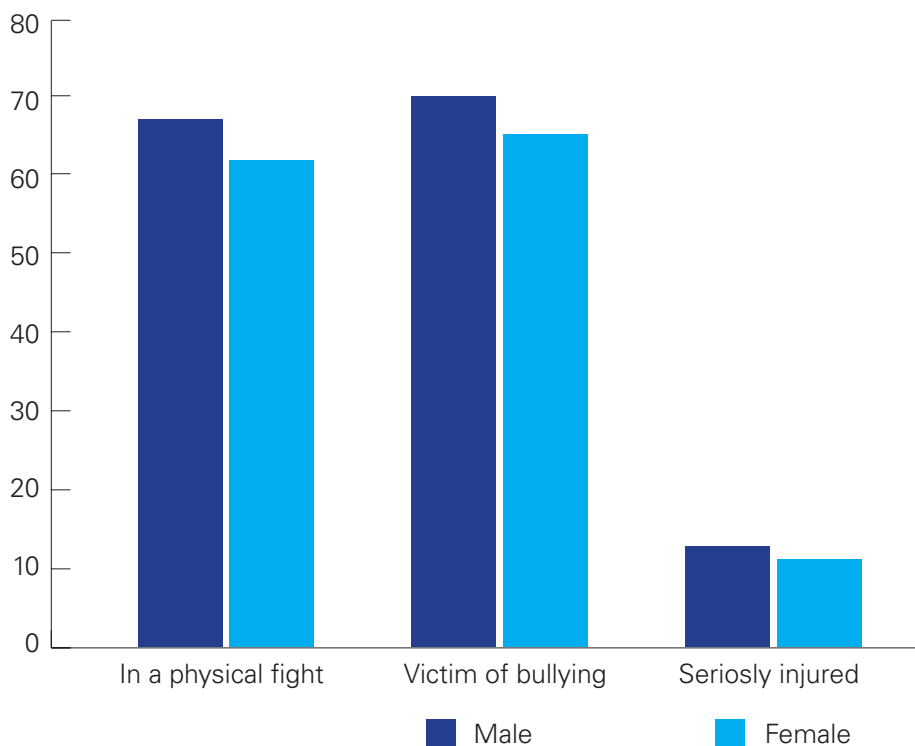
Violence against children exacts a significant toll in Fiji – on the individual child, on their family, on their community and on society at large – which manifests as health burdens, productivity losses, reductions in quality of life and additional financial burdens on households and on sectors responsible for providing services in response to cases of violence. In response to the high levels of violence against children in Fiji, the Ministry of Women, Children and Social Protection – which is mandated with the statutory role of child protection – has developed the National Child Protection Strategic Framework and Five-Year Action Plan 2022–2027, which outlines the Fijian Government’s strategy to prevent and respond to violence, abuse and exploitation of children. This Plan is well specified, and strongly aligned with the INSPIRE strategies – an evidence-based resource developed by the World Health Organization and UNICEF which seeks to assist governments in selecting, implementing and monitoring effective multisectoral policies, programmes and services to prevent and respond to violence against children. If the high prevalence of VAC in Fiji is to be reduced, along with the significant economic costs to Fijian society, then it is critical that the Government of Fiji devote the necessary financial resources to fully implement the Five-Year Action Plan. A comprehensive costing of the implementation of this Plan has been conducted as part of this study, and the results should be considered in conjunction with the estimated costs required to fully advocate for the prioritization of child protection interventions in future budget cycles.

1. Introduction

As a signatory to the UN Convention on the Rights of the Child (UNCRC), which calls upon Member States to commit to the protection and provision of the rights of children, the Government of Fiji has a stated commitment to protecting children from multiple forms of abuse, exploitation, violence and neglect. This commitment is espoused in the 2013 Fijian Constitution – which explicitly states that “every child has the right to be protected from abuse, any form of violence, inhumane treatment, and hazardous or exploitative labour” – and in the 2010 Child Welfare Act, which presents the legislative framework for the protection of all children in Fiji. However, despite these international agreements, and despite the presence of an established legislative and policy framework to ensure the protection of all children in the country, Fiji’s children continue to experience multiple forms of violence, and at significant levels.

Findings from the recently released 2021 Multiple Indicator Cluster Survey (MICS) suggest that 80.5 per cent of Fijian children aged 1–14 years experienced some form of violent discipline in the month preceding the survey – with 64.5 per cent of children experiencing psychological aggression and 68.0 per cent experiencing some form of physical punishment during this period. MICS also found that polyvictimization – the exposure of a single child victim to multiple types of victimization – is a particularly significant problem in Fiji.

Figure 2: Incidence of VAC in Fiji in 2021, by type and gender

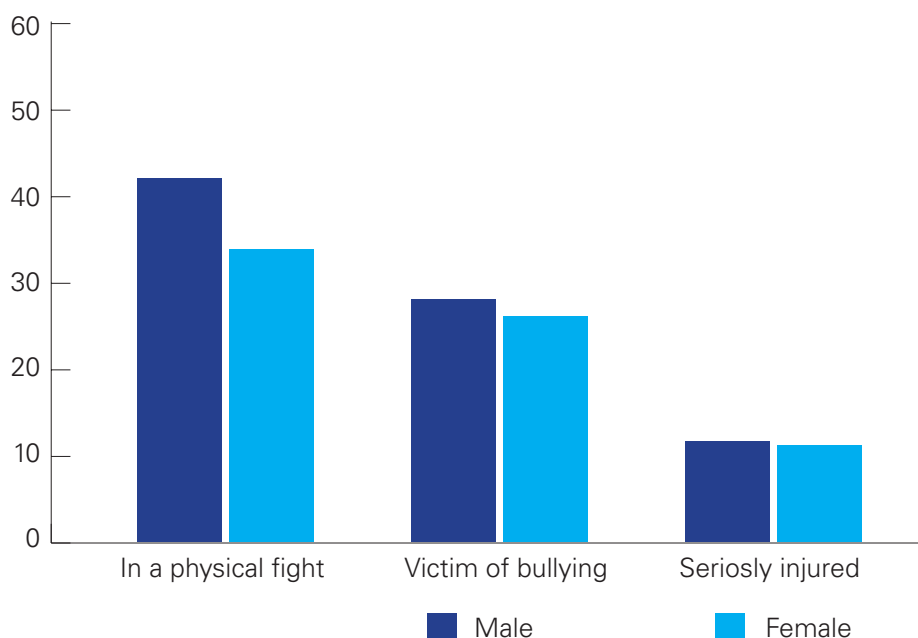


Source: Fiji Bureau of Statistics, 2022

Further to the findings from MICS, the Child Services Unit at the Ministry of Women, Children and Social Protection recorded 6,231 cases between 2016 and 2020. The cases included missing, abducted and abandoned children; physical, emotional and sexual abuse; neglect; teen pregnancies; sexual exploitation; child labour; children in street situations; substance

abuse and exposure to family violence. Moreover, the Global School-Based Student Health Survey (GSHS) for Fiji in 2016 revealed that 30 per cent of students aged 13–15 years were bullied, 34 per cent were involved in a physical fight at least once, and 48 per cent were seriously injured from peer violence in the 12 months preceding the survey.

Figure 3: Incidence of peer violence in Fiji in 2016, by type and gender



Source: World Health Organization, 2016b

There is, therefore, a clear and growing need for increased prioritization of child protection services in Fijian Government budgets, so that a holistic and functional child protection system can be developed which combines preventive and response services and serves all children in Fiji. While advocacy for such increased financing is often presented as a moral imperative from a child rights standpoint, in an environment of heightened fiscal constraints and competing priorities within social sectors in Fiji there is a consensus among key stakeholders that programmes to prevent VAC must therefore demonstrate a positive return on investment vis-à-vis other calls on public expenditure if they are to secure adequate funding. There is, therefore, a pressing need in Fiji for the development of an investment case for child protection, based on clear, empirical economic evidence which highlights the significant economic costs associated with of the current underfunding of child protection.

The purpose of this study was to undertake economic analyses to inform an investment case analysis for the child protection subsector, to be used to advocate for increased financing for child protection interventions in Fiji. The aim was to provide a comprehensive analysis on the need to invest in child protection in Fiji; the direct and indirect socioeconomic costs associated with low investments in child protection; and an assessment of government expenditures aimed at preventing violence against children and in response to violence against children.

2. Literature Review

2.1 The prevalence and impact of VAC

Violence against children – an umbrella term that covers all forms of child maltreatment including physical, emotional and sexual abuse, neglect and exploitation – is widespread across the globe, with an estimated 1 billion children – around half of all the children in the world – falling victim to violence in its various forms every single year (Hillis et al., 2016). Such exposure to violence against children impairs all aspects of children’s development – physical, intellectual, language, emotional and social – with long-term consequences for their health, productivity and socialization.

In its most severe form, and particularly when perpetrated against young and vulnerable children, violence can often result in fatal injuries. According to the World Health Organization (2020) in 2017, an estimated 40,150 children under 15 years were violently killed, accounting for 8.4 per cent of all homicides globally; while the most recent data from the Global Burden of Disease Study (2021) database, identifies homicide as the fourth-leading cause of death among adolescents globally, accounting for an estimated 43,838 adolescent deaths in 2019 alone.

Although rates of VAC-related mortality are significant, only a small proportion of all acts of violence against children actually result in mortality. Instead, the most significant health-related impacts of VAC manifest through both short- and long-term injury and morbidity which accrue, either as a direct consequence of the act of violence, or indirectly through subsequent negative health outcomes and risky health behaviours which emerge as a result of VAC exposure. In the first of these categories of heightened morbidity, over and above the immediate physical burden and trauma of injury, VAC can often result in severe injuries that carry lifelong impairments for the child victim – physical injuries to the head and brain can impinge on mental and cognitive development; physical injuries to the body can result in long-term disability and reduced physical ability; while sexual abuse can lead to significant physical trauma and damage to the sexual and abdominal organs. Moreover, exposure to violence at an early age, and associated experience of toxic stress, can directly impair brain development and damage other parts of the nervous system, as well as the endocrine, circulatory, musculoskeletal, reproductive, respiratory and immune systems, with lifelong consequences for the child victim (World Health Organization, 2020). Finally, sexual violence can have significant impacts on sexual and reproductive health, particularly among adolescent girls for whom sexual violence can lead to unintended pregnancies, unsafe abortions, gynaecological problems, and sexually transmitted infections, including HIV.

Over and above the direct impacts of exposure to violence on a child’s health, experiencing violence in childhood can indirectly lead to long-term negative consequences through the subsequent behaviour of children exposed to violence in childhood. Specifically, exposure to VAC is shown to lead to anti-social behaviours, including alcohol and drug abuse, and smoking, which are key risk factors for several leading causes of death including cardiovascular disease, cancer, chronic lung diseases, liver disease and other non-communicable diseases (Anda et al., 1999). Similarly, experiencing childhood violence can also lead to a range of negative emotional consequences including feelings of rejection, impaired attachment, trauma, fear, anxiety and insecurity (UN SRSG, 2020). These negative outcomes often manifest as mental

disorders, suicidal ideation, self-harm and suicide, which are all indirect consequences of VAC. Finally, VAC can have severe negative impacts on educational attainment as a result of increased absenteeism, increased dropout rates or poor educational performance. Indeed, a study by Fry et al. (2018) showed that children who experienced any form of violence in childhood have a 13 per cent predicted probability that they will not graduate from school. Moreover, child marriage and sexual violence can lead to early pregnancy, which, for many girls, leads to school dropout due to social norms and cultural taboos preventing them from re-entering education.

2.2 The economic impact of VAC

The significant impacts of violence on children described above, naturally, imply significant economic costs to children, to their families, to governments and to societies at large, with a 2014 study estimating the global economic costs resulting from the consequences of physical, psychological and sexual violence against children at US\$7 trillion – or nearly 9 per cent of global GDP (Perezniето et al., 2014). Over the past two decades, with the emergence of nationally representative data sets that reveal the incidence and consequences of VAC, there has been a significant growth in analyses at the national level of the prevalence and negative consequences of violence against children. The studies in the literature are unanimous in their findings, namely that across all countries, irrespective of development status, violence against children significantly impairs the current and future health and well-being of children, and that these impairments result in substantial economic costs to society. Table 3 summarizes the findings from such studies, with economic burdens, expressed as a proportion ranging from 1 per cent to 8 per cent of GDP, depending on the country contexts, methodologies employed and types of VAC and costs considered in the analyses. A brief summary of each study is given in the table.

Table 3: Summary table of results from country-level economic burden of VAC studies

| Country | Types of cost considered | Loss in GDP due to violence against children (million US\$) | | |
|---------|--|---|------------------|--------------------|
| | | Minimum estimate | Maximum estimate | Estimated % of GDP |
| Nigeria | <p>Health-attributable loss of productivity: Impact of VAC on health outcomes and health risk behaviours and subsequent increase in disability-adjusted life years (DALYs)</p> <p>Education-attributable loss of income: Impact of VAC on educational attainment and subsequent effect on earnings</p> | 8,900 | | 1.88 |
| Vanuatu | <p>Direct costs: Costs of response services in the health, child welfare and law enforcement sectors</p> <p>Indirect costs: Costs of special education and criminality associated with VAC</p> <p>Lifelong costs: Costs of chronic long-term health care and lost productivity</p> | 3.7 | 4.59 | 0.5-0.75 |

| Country | Types of cost considered | Loss in GDP due to violence against children (million US\$) | | |
|--------------|--|---|------------------|--------------------|
| | | Minimum estimate | Maximum estimate | Estimated % of GDP |
| Turkey | <p>Health-care costs: Financial expenditures related to the physical and psychological treatment of victims</p> <p>Police and justice system costs: Expenditures related to the response to incidents of violence, as borne by government</p> <p>Social services costs: Expenditures related to any kind of social service in cases of violence against a young child</p> <p>Productivity losses: Cost of pain, suffering, loss of quality in life, and cost of behavioural problems</p> | 6,403 | 61,526 | 1-7 |
| Australia | <p>Health system costs: Costs associated with treating injuries directly resulting from violence and long-term (downstream) costs of mental and physical illnesses experienced</p> <p>Education costs: Costs associated with potentially poorer educational achievement leading to additional assistance required at school</p> <p>Justice system costs: Cost of care and protection orders, and the costs of investigating, prosecuting and incarcerating perpetrators</p> <p>Child protection system costs: Cost of out-of-home care, aftercare, and family support services</p> <p>Housing and homelessness costs: Costs of greater than average use of supported accommodation, public housing and specialist homelessness services stemming from violence</p> <p>Productivity losses: Losses due to poorer employment and earnings outcomes resulting from lower-than-average educational attainment</p> <p>Deadweight losses: Losses associated with additional government expenditures and taxation revenue forgone</p> <p>Quality of life costs: Costs including the burden of disease and premature mortality as a direct consequence of violence</p> | 25,423 | | 2 |
| South Africa | <p>Health-attributable loss of productivity: Monetary value of DALYs lost from both fatal cases of VAC as well as the negative health outcomes and health risk behaviours due to non-fatal forms of VAC</p> <p>Education-attributable loss of income: Reductions in earnings due to physical and emotional violence experienced during childhood</p> <p>Child welfare costs: Costs to the child welfare system of responding to incidence of VAC</p> | 15,810 | | 5 |

| Country | Types of cost considered | Loss in GDP due to violence against children (million US\$) | | |
|----------|--|---|------------------|--------------------|
| | | Minimum estimate | Maximum estimate | Estimated % of GDP |
| Canada | <p>Judicial system costs: Includes police costs, court costs, legal aid, penal costs and costs of incarceration</p> <p>Social service costs: Costs of child services, child protection and social protection related to VAC</p> <p>Education costs: Costs of special education as a consequence of VAC</p> <p>Health costs: Immediate medical costs for children, persistent medical costs for children and lifelong medical costs into adulthood</p> <p>Employment costs: Lost earnings due to victimization and incarceration</p> | 15,705 | | 1.7 |
| USA | <p>Lifetime cost per victim of non-fatal child maltreatment: Includes short-term health-care costs, long-term medical costs, child welfare costs, productivity losses, criminal justice costs and special education costs</p> <p>Lifetime cost per victim of fatal child maltreatment: Includes immediate medical costs and costs of lost productivity</p> | 124,000 | 585,000 | 1 |
| Germany | <p>Direct costs: Costs of different types of educational family/parent support and foster care</p> <p>Indirect costs: Treatment of trauma-related disorders, educational services and productivity losses</p> | 16,323 | 43,823 | 0.45-1.20 |
| Cambodia | Health-attributable loss of productivity: Impact of VAC on health outcomes and health risk behaviours and subsequent increase in DALYs | 168 | | 1.10 |
| China | Health-attributable loss of productivity: Impact of VAC on health outcomes and health risk behaviours and subsequent increase in DALYs | 50,000 | | 0.84 |

Sources: UNICEF Nigeria, 2019; Pollet & Gurr, 2009; Basak et al., 2013; Access Economics, 2019; Hsiao et al., 2018; Bowlus et al., 2012; Habetha et al., 2012; Fang, 2015; Fang et al., 2015

As outlined in Table 3, the national-level studies on the economic cost of VAC show a distinct heterogeneity in terms of the types of violence against children considered, and the categories of economic cost included. Some studies focus purely on the direct costs of VAC, while others include the indirect costs too; some studies estimate the intangible costs of VAC, while others do not; and some identify costs from the perspective of government only, while others consider the individual and broader societal costs in their estimations. This heterogeneity indicates that there is no clear and defined conceptual framework for conducting such economic cost studies on violence against children. To this end, the scope of the costs of VAC employed in this study will be based on an adaptation of an established typology for assessing the cost of violence, developed by the UN (2005), presented Table 4.

Table 4: Typology for assessing the costs of violence against children in Fiji

| Category | Type | | Components |
|----------|-------------|------------------|---|
| Direct | Medical | | Inpatient costs Outpatient costs Medicine & equipment costs |
| | Non-medical | Justice sector | Policing costs Incarceration costs Costs of legal proceedings |
| | | Education sector | Costs of school repetition |
| Indirect | Tangible | | Productivity losses Reductions in human capital |
| | Intangible | | Health-related quality of life |

Source: Adapted from United Nations (2005)



3. Data employed in the study

3.1 Proxy data

3.1.1 Violence Against Children and Youth Surveys (VACS)

Interrogating the relationship between violence against children and economic costs requires access to a nationally representative data set that includes data on violence against children, and various outcomes associated with VAC, as well as on relevant socioeconomic and related indicators. Unfortunately, there are currently no nationally representative surveys in Fiji which comprehensively capture data on both VAC exposure and subsequent outcomes. Thus, it is necessary to employ proxy data which accurately capture such VAC-outcomes relationships, which can then be applied to outcomes in the Fijian context. The Violence Against Children and Youth Surveys (VACS) are nationally representative household surveys of adolescents and young people (ages 13 to 24) that generate a wide range of groundbreaking information about violence in childhood and young adulthood. To date, VACS surveys have been completed in 25 countries, across sub-Saharan Africa, Southeast Asia, and Latin America and the Caribbean. Of these 25 countries, four (Cambodia, El Salvador, Haiti and Honduras) were identified as suitable proxies for the Fijian context on the basis of their socioeconomic and geographic context, and incidence of VAC. Microdata from the VACS in each of these countries were formally requested from the Centers for Disease Control and Prevention (CDC) for the specific purpose of conducting this study.

3.2 Data from nationally representative surveys

3.2.1 Fiji Multiple Indicator Cluster Survey 2021

The 2021 Fiji MICS is the first ever Multiple Indicator Cluster Survey (MICS) in the country. Conducted between March and April 2021 by the Social Statistics Division of the Fiji Bureau of Statistics, with funding from the Government of New Zealand and additional financial and technical support from UNICEF, UNFPA and the Pacific Community (SPC), MICS collected data on health, nutrition, education, early childhood development, water, sanitation, hygiene, and, of most relevance to this study, child protection and childhood exposure to violence.

The sample for the Fiji MICS 2021 was designed to provide nationally representative estimates for the aforementioned indicators on the situation of children and women in Fiji, for four main geographical subdivisions, namely Central, Eastern, Northern and Western. Urban and rural areas within each division were identified as the main sampling strata and the sample of households was selected using a two-stage sampling approach: first, within each stratum, a subsample of census enumeration areas was selected, as previously selected for the 2019–20 Fiji Household Income and Expenditure Survey (see below); and second, a systematic sample of 20 households was drawn in each sample enumeration area.

Survey instruments applied in the Fiji MICS consisted of six separate questionnaires – a general household questionnaire, a household water quality testing questionnaire, an individual questionnaire for women aged 15–49 years, an individual questionnaire for men aged 15–49 years, an individual questionnaire for children under 5 years administered to the child's primary caregiver, and an individual questionnaire for children aged 5–17, again administered to the child's primary caregiver, or to the child themselves in cases of an absent caregiver.

3.2.2 Fiji Household Income and Expenditure Survey 2019–20

Exploring the relationship between the outcomes of violence against children (as established using Fiji MICS) and various socioeconomic outcomes also requires access to a further nationally representative data set that includes data on VAC-related outcomes and on socioeconomic variables such as labour market status, income and wealth indicators. The Fiji Household Income and Expenditure Survey (HIES), conducted in 2019–2020, was used for this purpose.

The HIES is a nationally representative survey conducted every five years. The 2019–20 iteration was conducted between February 2019 and February 2020 by the Household Survey Division of the Fiji Bureau of Statistics – using a 12-month spread to adequately account for the impact of seasonal effects on Fijian households. The primary purpose of the survey is to collect and produce national data on household income and consumption in Fiji that can be used to estimate poverty and inequality in the country. In support of this, data are collected on a number of key topics which highlight the socioeconomic standing of Fijian households, including data on access to services, livelihoods, migration, consumption patterns, and exposure to shocks, among other data.

The 2019–20 HIES was conducted on a sample of 6,000 Fijian households, selected from a sample of 600 enumeration areas, covering the whole country. Like the 2021 Fiji MICS, the HIES adopted a two-stage sampling approach: first, within each stratum (as designated by geographical subdivision and urban/rural divide), a subsample of census enumeration areas was selected, accounting for the size of the enumeration area, by using probability proportional to size sampling; and second, a systematic random sample of 10 households was drawn in each of the 600 sample enumeration areas selected in the first step.

3.2.3 Global School-Based Student Health Survey 2016

As noted previously, peer violence represents one of the chief forms of violence against children, particularly among older children and adolescents. Investigating the economic costs of peer violence specifically requires access to a nationally representative data set that includes data on peer violence against children, and on various outcomes associated with incidence of such peer violence, as well as on relevant socioeconomic and related indicators. The 2016 Fiji Global School-Based Student Health Survey (GSHS) was used for estimating the specific economic costs of peer violence in Fiji.

The GSHS, a school-based survey conducted primarily among students aged 13–17 years, was developed by the World Health Organization in collaboration with UNICEF, UNESCO and UNAIDS. Administered across 108 countries globally, the GSHS uses a standardized scientific sample selection process; common school-based methodology; and core questionnaire modules, core-expanded questions, and country-specific questions that are combined to form a country-specific self-administered questionnaire which can be administered during one regular class period. The most recent Fiji iteration of the GSHS was administered in 2016, among students in grades 9–13, which are typically attended by students aged 13–17. The 2016 Fiji GSHS collected data on alcohol use; dietary behaviours; drug use; hygiene; mental health; physical activity; protective factors; sexual behaviours; tobacco use; and violence and unintentional injury.

A two-stage cluster sample design was used to produce data representative of all students in grades 9–13 in Fiji Islands: first, schools were selected with probability proportional to enrolment size; and second, classes were randomly selected within included schools, with all students in selected classes eligible to participate in the survey. A total of 3,705 students participated in the 2016 Fiji GSHS.

3.3 Data from external databases

3.3.1 Global Burden of Disease (GBD) Study 2019

Estimation of total mortality- and morbidity-based burden of VAC-related requires access to a detailed and disaggregated data set of national-level disease burden. The Global Burden of Disease (GBD) study provides a comprehensive picture of mortality and disability across countries, time, age, and sex. It quantifies health loss from hundreds of diseases, injuries, and risk factors.

Led by the Institute for Health Metrics and Evaluation (IHME) at the University of Washington, the GBD produces regular estimates of all cause mortality, deaths by cause, years of life lost due to premature mortality (YLLs), years lived with disability (YLDs), and disability adjusted life years (DALYs). Comprehensive country-level data for Fiji from the latest iteration of the GBD (2019) were accessed from the Institute of Health Metrics and Evaluation at the University of Washington and are used in estimating the direct medical, indirect tangible and indirect intangible costs of VAC.

3.4 Data received from Government of Fiji sources

3.4.1 National Health Accounts data from the Ministry of Health and Medical Services

Estimating the direct costs to government of providing health sector responses to cases of VAC, as well as to health-seeking incidents which are directly attributable to lifetime experience of VAC, requires access to data on the cost of health service delivery in Fiji. The National Health Accounts (NHA) 2011–2015, published by the Ministry of Health and Medical Services in 2017, give a comprehensive overview of the total estimated health spending in the country incurred by both the public and private sectors, disaggregated by funding source, health-care provider and health-care function. Importantly, the Fiji NHA also includes disease-based costing, which disaggregates overall health expenditure by disease category, which is mapped according to the Global Burden of Disease study. This allows for these data to be used in conjunction with the disease burden data as outlined above. National Health Accounts data were obtained from the Ministry of Health and Medical Services, and are used to estimate the direct medical costs of VAC.

3.4.2 Case data from the Child Services Unit

Estimating the direct costs to the social sectors of government of responding to incidents of VAC requires information on the number of cases of various types of VAC, as well as detailed information on the resource requirements for the response to VAC. The Child Services Unit at the Ministry of Women, Children and Social Protection maintains a record of VAC-related

cases in Fiji, including information on missing, abducted and abandoned children; physical, emotional and sexual abuse; neglect; teen pregnancies; sexual exploitation; child labour; children in street situations; substance abuse and exposure to family violence. These data were obtained from the Ministry of Women, Children and Social Protection, and are used to partially estimate the direct non-medical costs of VAC.

3.4.3 Case incidence and expenditure data from the Fiji Police Force

Estimating the direct costs to the law enforcement sector of government of responding to incidents of VAC requires information on the number of crimes against children which require police intervention. The Fiji Police Force maintains an annual record of all crimes recorded and registered, as well as specific records of crimes committed against women, and crimes committed against children. These data are presented in the Fiji Police Force’s Annual Reports, the latest iteration of which was obtained from the Fiji Police Force; these data are used to partially estimate the direct non-medical costs of VAC.

3.4.4 Public sector salary structure data

Assessing the direct costs of VAC in Fiji requires an understanding of the personnel costs associated with responding to current cases of VAC and related outcomes in the country. Thus, access to the latest iteration of public sector salary data for the Government of Fiji, and a detailed explanation of the types of roles which fit under each salary grade and level, is required to accurately estimate these personnel costs. The Fijian Civil Service Salary Bands were obtained from the Public Service Commission of Fiji and used to partially estimate the direct non-medical costs of VAC.



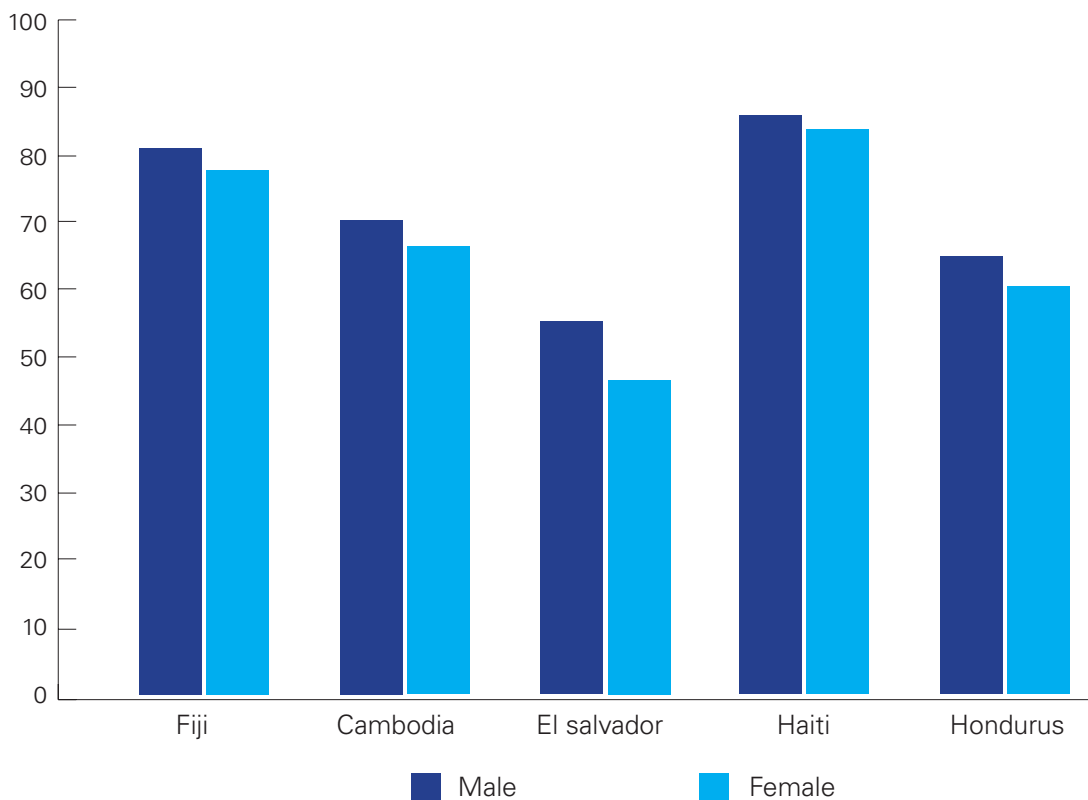
4. Research Methodology

4.1 Estimating the direct medical costs of VAC

4.1.1 Step one – Identifying applicable comparator countries for VAC-outcomes estimations

As noted above, exploring the relationship between violence against children and economic costs requires access to a nationally representative data set that includes data on violence against children, and various outcomes associated with VAC, as well as on relevant socioeconomic and related indicators. Because such a data set is not available for Fiji, the Violence Against Children and Youth Surveys (VACS) of proxy countries were used to estimate such relationships to be applied to Fijian country-level data in this study. Of the countries that have conducted VACS surveys, four were identified as being applicable proxies for Fiji, given rates of VAC in each, as well as their respective geographic (tropical coastal and island countries) and socioeconomic (middle income) situations. Figure 4 illustrates the similarities in rates of violent discipline in Fiji relative to the proxy countries used in this study, based on each country’s respective MICS and DHS survey data.

Figure 4: Rates of violent discipline in Fiji and comparator countries



Source: Fiji MICS (2021), Cambodia DHS (2022), El Salvador MICS (2014), Haiti DHS (2017), Honduras MICS (2019)

4.1.2 Step two – Estimating the national prevalence of VAC in comparator countries

The first step in estimating the relationship between VAC exposure and associated outcomes is to estimate data on the prevalence of such violence, disaggregated across the various forms of violence, and by gender. These estimates provide the baseline prevalence data necessary for the estimation of population-attributable fractions (see step four of this methodology); the fraction of all cases of a particular disease or other adverse condition in a population that is attributable to a specific exposure (in this case, exposure to violence during childhood).

4.1.3 Step three – Estimating proxy VAC-outcomes relationships

Once the national lifetime prevalence rates of major type of childhood violence, disaggregated by gender, have been established, the next step in estimating the contribution of VAC exposure to health outcomes involves the use of multiple regression analyses to estimate the associations between these different types of childhood violence, disaggregated by gender, and the related health consequences and risk behaviours identifiable in the data set. The relevant data sets include a number of questions relating to various health consequences and risk behaviours which can be used to model a set of outcomes relationships between VAC prevalence and health outcomes. Specifically, the health outcomes and health risk behaviours identified include: alcohol use, smoking, drug use, risky sexual behaviours, and mental health issues, among others. Based on the questions in the relevant data sets, a set of binary variables are generated for prevalence of each of these categories of health outcome and risk behaviour.

Subsequent to the identification of these health outcomes and health risk behaviours, multiple regression analyses are employed to analyse the relationships between different types of childhood violence (as identified in step two, above), and the related health consequences (the health outcomes and risk behaviours identified here), controlling for various socioeconomic and demographic factors which are both identifiable in the relevant data sets and have established associations in the literature with the variables of interest as presented above. The control variables included in this analysis include: age, family socioeconomic status, household size, and family structure. These variables were included in multiple regression analyses using generalized linear models with Poisson-distributed errors, in order to estimate the relative risk of each identified health outcome occurring among those exposed to various types of violence in childhood, in relation to those not exposed to such violence in childhood. While binary outcomes in cohort studies, such as this, are typically analysed by applying a logistic regression model to the data to obtain odds ratios for comparing groups with different sets of characteristics, several articles in recent medical and public health literature point out that when the outcome event is common (incidence of 10% or more), it is more desirable to analyse these relationships through the estimation of relative risk ratios (McNutt et al., 2003). Indeed, this approach has been used in the estimation of violence-outcomes relationships in studies on violence against children in the literature (UNICEF Nigeria, 2019).

4.1.4 Step four – Estimating population-attributable fractions

Subsequent to estimation of the prevalence of violence against children by type and gender, and the association of these prevalence rates with the relative risks of adverse health outcomes, the next step uses these two sets of data to estimate the population-attributable fraction for each relevant health outcome. The population-attributable fraction (PAF) is an epidemiologic

measure widely used to assess the public health impact of exposures in populations, which can be broadly defined as the proportion of all cases of a particular negative health outcome in a population that are attributable to a specific exposure (in this instance, exposure to violence in childhood). Specifically, the PAF compares the observed number of cases with the expected number of cases under no exposure to childhood violence in order to estimate the total number of cases that are attributable directly to VAC. The causal nature of this attributability, thus, allows for interrogation of a health outcome scenario in which no exposure had occurred, which forms the basis of the direct medical cost of VAC estimation (see step six below).

4.1.5 Step five – Estimating the proportion of cases attributable to VAC

Once the PAFs for each identified negative health outcome have been estimated, the next step in estimating the direct medical costs of VAC involves estimation of the proportional number of cases of each negative health outcome attributable to VAC. To calculate this proportional number of cases, the PAFs estimated in step four are multiplied by the proportional case count for each relevant negative health outcome as drawn from the Global Burden of Disease Study database – a comprehensive global study of epidemiological levels and trends, analysing 286 causes of death, 369 diseases and injuries, and 87 risk factors across 204 countries and territories globally. These data allow for calculation of the proportional number of cases of medical attention, by health condition subcategory, attributable to VAC in Fiji.

4.1.6 Step six – Estimating the direct medical costs of VAC

Subsequent to the estimation of the proportions of cases of medical attention by health condition subcategory attributable to VAC in Fiji, estimating the direct medical costs of VAC requires multiplying these proportional case counts for each condition subcategory by the total health expenditure for each relevant condition subcategory, as drawn from the Fiji National Health Accounts. As noted above, the Fiji National Health Accounts estimates include disease-based costing, which disaggregates overall health expenditure by disease category, which is mapped according to the Global Burden of Disease study, allowing for these data to be used in conjunction with the disease burden data as estimated in step five. Multiplying the proportional disease burden attributable to VAC for each of these disease categories by the total expenditure on each disease category provides an estimate of the total direct medical costs of VAC.

4.2 Estimating the direct non-medical costs of VAC

4.2.1 Justice and child welfare sectors

4.2.1.1 Step one – Estimating the proportional contribution of VAC to sector service use

Estimating the proportion of service use in the justice and child welfare sectors that can be attributed to VAC requires data on the number of cases of various forms of VAC. The Child Services Unit at the Ministry of Women, Children and Social Protection maintains a record of VAC-related cases in Fiji, including information on missing, abducted and abandoned children; physical, emotional and sexual abuse; neglect; teen pregnancies; sexual exploitation; child labour; children in street situations; substance abuse and exposure to family violence. The

Fiji Police Force also maintains an annual record of all crimes recorded and registered, as well as specific records of crimes committed against women, and crimes committed against children. These data provide the basis for the estimation of the proportional contribution of VAC to the use of services in the relevant sectors.

4.2.1.2 Step two – Estimating the direct costs of VAC in the justice and child welfare sectors

Estimating the final non-medical costs of VAC in the justice and child welfare sectors requires accurate data on costs associated with delivery of the response services as identified in the previous step. These data are drawn from detailed budget and expenditure data from government ministries, departments and agencies responsible for child protection services, and from public sector salary structure data. These cost and proportional service use data are then combined to estimate the direct non-medical costs of VAC in the justice and child welfare sectors.

4.2.2 Education sector

4.2.2.1 Step one – Estimating the impact of VAC on grade repetition

Estimating the direct education sector costs of VAC involves the estimation of the marginal effects of childhood violence exposure on grade repetition. Fiji MICS contains information on exposure to physical and emotional violence, as well as a number of questions relating to age-for-grade, grade completion and effective transition rates, which can be used to estimate the marginal effects of VAC (as captured in Fiji MICS) on grade repetition. Once these education throughput and grade repetition outcomes are identified, regression analyses are employed to analyse the marginal effects of VAC on grade repetition, controlling for various socioeconomic and demographic factors which are both identifiable in the MICS data set and have established associations in the literature with the variables of interest as presented above.

4.2.2.2 Step two – Estimating the direct costs of VAC in the education sector

The final step in calculating the direct costs of VAC in the education sector is to estimate the number of annual grade repetitions in the Fijian education system attributable to VAC, and to multiply this number by the costs to government associated with grade repetition, which is calculated using expenditure data from the Ministry of Education.

4.3 Estimating the indirect tangible costs of VAC

4.3.1 Estimating the health-related productivity losses attributable to VAC

4.3.1.1 Step one – Estimating population-attributable fractions

Estimating the indirect intangible costs of VAC, specifically the health-related quality-of-life costs associated with VAC, begins with estimation of the population-attributable fractions for the various relevant health outcomes as identified in the literature. The detailed approach to the estimation of these PAFs is outlined above.

4.3.1.2 Step two – Estimating the years of productive life lost to VAC

Disability adjusted life years (DALYs) were developed by the World Bank and subsequently supported by the WHO as a measure of the global burden of disease. DALYs combined the number of healthy years lost from mortality and morbidity, which are respectively measured by years of life lost (YLL) and years of healthy life lost due to disability (YLD).

The YLLs were calculated as the number of deaths due to a specific health-related cause, multiplied by a loss function that takes into account the years lost due to death in relation to the age at which death occurs. The formula for YLLs is, thus, the following:

Equation 1: Years of life lost (YLL) due to premature death

$$YLL(c,s,a,t)=N(c,s,a,t) \times L(s,a)$$

where $N(c,a,s,t)$ is the number of deaths due to the cause c , for the given age a , and sex s in the year t ; and $L(s,a)$ is a standard loss function specifying the years of life lost for a death at age a for sex s (WHO, 2013).

YLDs, meanwhile, were calculated using an incidence perspective, wherein the number of cases in a time period is multiplied by the average duration of the disease and a weight factor that reflects the severity of the disability ranging from 0, which reflects perfect health, to 1 in the case of death (Arneson and Nord, 1999). The formula for YLDs is, thus, the following:

Equation 2: Years of healthy life lost due to disability (YLD)

$$YLD(c,s,a,t)=I(c,s,a,t) \times DW(c,s,a) \times L(c,s,a,t)$$

where $I(c,a,s,t)$ is the number of incident cases of cause c , for the given age a , and sex s in the year t ; $DW(c,s,a)$ is the disability weight for cause c , age a and sex s ; and $L(c,s,a,t)$ is the average duration of the case until remission or death (WHO, 2013).

Based on the above, a single DALY can be thought of as a single year of healthy life lost due to a specific health outcome, thus making it an ideal measure for calculating health burdens. To calculate the health burden attributable to VAC in Fiji, country-level estimates of DALYs for each of the health outcomes and risks identified in the previous steps of this approach were obtained from the Global Burden of Disease Study (GBDS). The DALY estimates for each relevant health outcome were multiplied by the relevant PAF in order to obtain a total VAC-attributable estimate of the years of productive life lost for Fiji.

4.3.1.3 Step three – Estimating the health-related productivity losses attributable to VAC

The final step in estimating the health-related productivity losses attributable to VAC involves converting the identified years of productive life lost into an economic cost of actual lost productivity. To do so requires a measure of an average year's productivity for an average Fijian, which can then be multiplied by the total number of years of productive life lost in order to estimate the total economic cost of actual lost productivity. This average productivity for Fiji is estimated using data drawn from the 2019–20 HIES data set.

4.3.2 Estimating the education-related income losses attributable to VAC

4.3.2.1 Step one – Estimating the marginal effects of VAC on educational attainment

The first step in estimating the education-related income losses attributable to VAC involves the estimation of the marginal effects of childhood violence exposure on educational attainment. The Fiji MICS contains a number of questions relating to educational attainment, which can be used to estimate the marginal effects of childhood violence exposure on educational attainment.

Once these educational attainment outcomes are identified, regression analyses are employed to analyse the marginal effects of different types of childhood violence on educational attainment (the education outcomes identified here), controlling for various socioeconomic and demographic factors which are both identifiable in the MICS data set and have established associations in the literature with the variables of interest as presented above. Marginal effects measure the impact that an instantaneous unit change in one variable has on the outcome variable of interest, while all other variables are held constant. Interpreted differently, the marginal effects estimation will measure the impact (represented by a proportional change in levels of educational attainment) that exposure to childhood violence has on the victim and therefore measure the proportional change in educational attainment that would have occurred in the absence of such violence.

4.3.2.2 Step two – Calculating the impact of educational attainment on earnings

Once the impact of childhood violence on educational attainment has been established, the next step in estimating the indirect tangible costs of VAC requires an estimation of the relationship between educational attainment and earnings, so as to subsequently calculate the reductions in earnings attributable to violence against children – the mechanism through which the educational impacts of VAC manifest as economic costs. Estimation of this relationship requires a nationally representative data set which includes data from respondents on both educational attainment and earnings. Data from 2019–20 HIES, thus, were used to model the impact of educational attainment on earnings in Fiji.

4.3.2.3 Step three – Calculating the education-related income costs of VAC

The final step in calculating the education-related income costs of VAC is to estimate the number of lifetime childhood violence victims in the Fijian labour force, and to multiply this number by the education-attributable loss of adult earnings due to per-case incidence of childhood violence. Estimation of the total number of lifetime childhood violence victims in the Fijian labour force was undertaken using childhood violence prevalence data and Fijian labour force data drawn from the 2019–20 HIES data set.

4.4 Estimating the indirect intangible costs of VAC

4.4.1 Step one – Estimating population-attributable fractions

Estimating the indirect intangible costs of VAC, specifically the health-related quality-of-life costs associated with cases of VAC, begins with estimation of the population-attributable fractions for the various relevant health outcomes as identified in the literature. The detailed approach to the estimation of these PAFs is outlined above.

4.4.2 Step two – Calculating the health-related quality-of-life cost of VAC

Once the PAFs for each identified negative health outcome have been estimated, the next step in estimating the indirect intangible costs of VAC involves estimating the total health-related quality of life burden associated with VAC – measured by the total number of years lost due to ill health. The detailed approach to the estimation of this health burden (measured as DALYs) is also outlined above.

4.4.3 Step three – Estimating the indirect intangible costs of VAC

The DALYs, as calculated above, are effectively a measure of life years lost due to health-related VAC consequences. For translation into an indirect intangible cost of VAC estimation, it is important to convert these VAC-induced health-related quality of life burdens into monetary terms. Such monetization of DALYs requires a country-specific estimate of the monetary value apportioned to the avoidance of premature mortality or morbidity (the value of a statistical life), which can, in turn, be used to estimate the value of a statistical life year (VSLY), which represents the quality-of-life cost of a DALY accrued, expressed in monetary terms. Multiplying the total number of DALYs accrued due to VAC (the total VAC-attributable health burden) by this value of a statistical life year estimate provides an estimate of the total indirect intangible costs of VAC.



5. Results

5.1 Direct medical costs of VAC

Table 5 shows that, for males: childhood physical violence had a statistically significant impact on the likelihood of alcohol use, drug use, smoking, mental disorders, interpersonal violence, and self-harm; childhood sexual violence had a statistically significant impact on the likelihood of mental disorders, interpersonal violence and sexually transmitted infections; while childhood emotional violence had a statistically significant impact on the likelihood of alcohol abuse, smoking, mental disorders, interpersonal violence, self-harm and sexually transmitted infections. For females, meanwhile, Table 5 illustrates that: childhood physical violence had a statistically significant impact on the likelihood of drug use, mental disorders, interpersonal violence, self-harm, and sexually transmitted infections; childhood sexual violence had a statistically significant impact on the likelihood of drug use, smoking, mental disorders, interpersonal violence, self-harm and sexually transmitted infections; while childhood emotional violence had a statistically significant impact on the likelihood of mental disorders, interpersonal violence, self-harm and sexually transmitted infections.

Table 5: Proxy relative risks for health outcomes associated with violence against children by gender

| | Alcohol use | Drug use | Smoking | Mental disorders | Interpersonal violence | Self-harm | STIs |
|-------------------------------------|-------------|----------|---------|------------------|------------------------|-----------|------|
| Males | | | | | | | |
| Childhood physical violence | 1.22 | 6.81 | 1.43 | 1.19 | 1.67 | 1.68 | - |
| Childhood sexual violence | - | - | - | 1.41 | 1.62 | - | 2.64 |
| Childhood emotional violence | 1.15 | - | 1.74 | 1.58 | 1.76 | 2.22 | 1.55 |
| Females | | | | | | | |
| Childhood physical violence | - | 7.33 | - | 1.22 | 4.12 | 1.68 | 1.63 |
| Childhood sexual violence | - | 8.15 | 2.54 | 1.30 | 3.00 | 1.85 | 2.26 |
| Childhood emotional violence | - | - | - | 1.38 | 5.43 | 2.21 | 1.36 |

Source: Authors' own analysis of VAC survey data for Cambodia (2013), El Salvador (2017), Haiti (2012) and Honduras (2017)

Table 6 illustrates the population-attributable fractions – the proportion of all cases of each specific negative health outcome in the population that is attributable to exposure to a particular type of VAC – for each of these statistically significant relationships.

Table 6: Proxy population-attributable fractions for health outcomes associated with violence against children by gender

| | Alcohol use | Drug use | Smoking | Mental disorders | Interpersonal violence | Self-harm | STIs |
|-------------------------------------|-------------|----------|---------|------------------|------------------------|-----------|--------|
| Males | | | | | | | |
| Childhood physical violence | 13.52% | 11.27% | 9.65% | 8.51% | 5.19% | 5.07% | - |
| Childhood sexual violence | - | - | - | 11.73% | 9.81% | - | 14.18% |
| Childhood emotional violence | 9.86% | - | 9.21% | 18.08% | 18.99% | 8.26% | 11.06% |
| Females | | | | | | | |
| Childhood physical violence | - | 8.52% | - | 10.13% | 2.77% | 7.81% | 15.25% |
| Childhood sexual violence | - | 2.36% | 7.87% | 13.58% | 1.79% | 12.37% | 8.22% |
| Childhood emotional violence | - | - | - | 16.25% | 3.89% | 13.21% | 7.47% |

Source: Authors' own analysis of VAC survey data for Cambodia (2013), El Salvador (2017), Haiti (2012) and Honduras (2017)

Table 6 shows that, for males: 13.52% of alcohol abuse, 11.27% of drug use, 9.65% of smoking, 8.51% of mental disorders, 5.19% of interpersonal violence, and 5.07% of self-harm are attributable to childhood physical violence; 11.73% of mental disorders, 9.81% of interpersonal violence and 14.18% of sexually transmitted infections are attributable to childhood sexual violence; and 9.86% of alcohol abuse, 9.21% of smoking, 18.08% of mental disorders, 18.99% of interpersonal violence, 8.26% of self-harm, and 11.06% of sexually transmitted infections are attributable to childhood emotional violence. For females, meanwhile: 8.52% of drug use, 10.13% of mental disorders, 2.77% of interpersonal violence, 7.81% of self-harm, and 15.25% of sexually transmitted infections are attributable to childhood physical violence; 2.36% of drug use, 7.87% of smoking, 13.58% of mental disorders, 1.79% of interpersonal violence, 12.37% of self-harm and 8.22% of sexually transmitted infections are attributable to childhood sexual violence; and 16.25% of mental disorders, 3.89% of interpersonal violence, 13.21% of self-harm, and 7.47% of sexually transmitted infections are attributable to childhood emotional violence.

Table 7: Proportional contribution of identified VAC-related health risks and outcomes to total case incidence by GBD disease subcategory in Fiji

| | Alcohol use | Drug use | Smoking | Mental disorders | Interpersonal violence | Self-harm | STIs | Direct from VAC | Total |
|--|-------------|----------|---------|------------------|------------------------|-----------|-------|-----------------|--------|
| General | | | | | | | | | |
| Infectious and parasitic diseases | 0.12% | 0.00% | 0.51% | 0.00% | 0.00% | 0.00% | 6.36% | 0.00% | 6.99% |
| Reproductive health | 0.12% | 0.00% | 0.51% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.63% |
| Nutritional deficiencies | 0.12% | 0.00% | 0.51% | 0.00% | 0.00% | 0.00% | 0.00% | 0.00% | 0.63% |
| Non-communicable diseases | 1.02% | 0.54% | 11.40% | 4.93% | 0.00% | 0.00% | 0.00% | 0.00% | 17.89% |
| Injuries | 0.35% | 0.01% | 0.02% | 0.00% | 10.65% | 17.95% | 0.00% | 7.65% | 36.62% |

Source: Authors' own analysis of GDBS data for Fiji (2019)

Table 7 provides an overview of the proportional contribution of the various identified VAC-related health risks and outcomes to the total number of annual cases of disease, as per the disease subcategories reported in the Global Burden of Disease Study and in the Fiji National Accounts Annual Reports. The table shows that these health risks and outcomes contribute most significantly to the incidence of injuries (36.62%), non-communicable diseases (17.89%), and infectious and parasitic diseases (6.99%), while making negligible contributions to the incidence of nutritional deficiencies and reproductive health.

Table 8: Population-attributable fraction-weighted proportional contribution of VAC to total case incidence by GBD disease subcategory in Fiji

| | Alcohol use | Drug use | Smoking | Mental disorders | Interpersonal violence | Self-harm | STIs | Direct from VAC | Total |
|--|-------------|----------|---------|------------------|------------------------|-----------|-------|-----------------|--------|
| VAC-Specific | | | | | | | | | |
| Infectious and parasitic diseases | 0.01% | - | 0.07% | - | - | - | 1.79% | - | 1.87% |
| Reproductive health | 0.01% | - | 0.07% | - | - | - | - | - | 0.08% |
| Nutritional deficiencies | 0.01% | - | 0.07% | - | - | - | - | - | 0.08% |
| Non-communicable diseases | 0.12% | 0.06% | 1.52% | 1.93% | - | - | - | - | 3.63% |
| Injuries | 0.04% | - | - | - | 2.26% | 4.19% | - | 7.65% | 14.14% |

Source: Authors' own analysis of GDBS data for Fiji (2019)

Table 8 takes the overall proportional contribution of the various identified VAC-related health risks and outcomes to the total number of annual cases of disease from Table 7, and applies the population-attributable fractions, as calculated in Table 6, in order to estimate the proportional contribution of VAC to total case incidence by disease subcategory in Fiji. These calculations illustrate that VAC is responsible for 14.14 per cent of all injuries, 3.63 per cent of cases of non-communicable diseases, and 1.87 per cent of cases of infectious and parasitic diseases in Fiji. When applied to the total health expenditure dedicated to each of these disease subcategories, as reported in the National Health Accounts, these proportional contributions allow for estimation of the total direct medical costs of VAC in Fiji, which is illustrated in Table 9.

Table 9: Direct medical costs of VAC in Fiji

| | Total health expenditure in FJD (2022) | % of expenditure attributable to VAC | Total direct health expenditure attributable to VAC |
|-----------------------------------|--|--------------------------------------|---|
| VAC-Attributable Costs | | | |
| Infectious and parasitic diseases | 139,773,796 | 1.87% | 2,611,824 |
| Reproductive health | 41,434,920 | 0.08% | 33,993 |
| Nutritional deficiencies | 22,466,934 | 0.08% | 18,432 |
| Non-communicable diseases | 248,057,053 | 3.63% | 9,009,055 |
| Injuries | 54,141,629 | 14.14% | 7,658,263 |
| Total | 505,874,332 | N/A | 19,331,567 |

Source: Authors’ own analysis of Fiji Health Accounts (2018) and GDBS data for Fiji (2019)

Table 9 shows that the total direct medical costs of VAC in Fiji amount to FJD19.33 million, comprising FJD9.01 million expenditure on non-communicable diseases, FJD7.66 million on injuries, FJD2.61 million on infectious and parasitic diseases, and then negligible expenditure on reproductive health and nutritional deficiencies.

5.2 Direct non-medical costs of VAC

The direct costs of VAC extend beyond the medical costs of responding to VAC and VAC-related health issues. Indeed, VAC results in costs accruing across various sectors: in the justice sector, there are costs involved in the investigation of incidents of VAC, the subsequent prosecution of offenders, and their eventual incarceration; in the child welfare sector, there are costs involved in the delivery of institutional and field services in response to VAC; while in the education sector, exposure to VAC can result in increased rates of grade repetition or increased pressure in the special education sector, resulting in the accrual of additional costs. Each of these categories of direct non-medical costs of VAC are considered below.

Table 10 outlines the direct costs of VAC-related investigations – specifically the costs which accrue to the Fiji Police Force of investigating crimes committed against children. According to records maintained by the Fiji Police Force, approximately 6.57 per cent of all crimes

registered with police are crimes committed against children. Applying this proportion to the total operating expenditure of the Fiji Police Force (FJD152 million), provides a final direct cost to the Fiji Police Force of FJD9.98 million.

Table 10: Direct costs of VAC-related investigation (Fiji Police Force)

| Category | Value |
|--------------------------------------|------------------|
| Fiji Police Force | |
| Total Cases Registered | 16,769 |
| Total VAC Cases Registered | 1,101 |
| % of VAC Cases | 6.57% |
| Total FPF Operating Expenditure | 152,066,000 |
| Fiji Police Force Cost of VAC | 9,984,177 |

Source: Authors' own analysis of Fiji Police Force (2023) data

Assuming that an equal proportion of various incidents of crime result in court cases and ultimate prosecution, the proportion of crimes committed against children is, similarly, applied to the operating expenditures of the Fijian State Judiciary in order to estimate the direct costs of VAC-related prosecutions. Table 11 outlines these direct costs of VAC-related prosecution – specifically the costs which accrue to the Judiciary of prosecuting crimes committed against children. As the table illustrates, this total cost of VAC-related prosecution amounts to FJD2.93 million.

Table 11: Direct costs of VAC-related prosecution (Judiciary)

| Category | Value |
|---|------------------|
| Judiciary | |
| % of VAC Cases | 6.57% |
| Total Judiciary Operational Expenditure (FJD) | 44,552,700 |
| Judiciary Cost of VAC | 2,925,191 |

Source: Authors' own analysis of Fiji Judiciary (2023) data

The same approach was, again, applied to estimate the direct cost of VAC-related incarcerations, assuming an equal proportion of prosecutions from the aforementioned investigations and prosecutions. Applying this proportion to the operating expenditures of the Fiji Corrections Office provides a final direct cost of VAC-related incarcerations of FJD1.87 million.

Table 12: Direct costs of VAC-related incarcerations (Fiji Corrections Service)

| Category | Value |
|---|------------------|
| Fiji Corrections Service | |
| % of VAC Cases | 6.57% |
| Total FCS Operational Expenditure (FJD) | 28,451,900 |
| Judiciary Cost of VAC | 1,868,063 |

Source: Authors' own analysis of Fiji Corrections Service (2023) data

Table 13 outlines the direct costs of VAC-related excess education expenditures – specifically the costs which accrue to the Ministry of Education, Heritage and Arts of providing special education services to child victims of violence and abuse, or of grade repetitions directly attributable to cases of violence against children. For the former estimate, a population-attributable fraction of 6.79 per cent was adopted from a study on the impact of violence on education expenditures in Australia, which suggested that VAC exposure is responsible for 6.79 per cent of all special education sector expenditures. This was applied to total expenditure in the sector to estimate the special education cost of VAC, which amounted to FJD53,165. Data from Fiji MICS (2021), meanwhile, were used to estimate the population-attributable fraction of VAC exposure on grade repetition, which found that 1.12 per cent of all grade repetitions are directly attributable to VAC exposure. Applying these data to the total number of grade repetitions allowed for estimation of the total grade repetition cost of VAC, estimated at FJD128,186. Combined, these estimates result in a total education sector cost of VAC of FJD181,351.

Table 13: Direct costs of VAC-related excess education expenditures in FJD (Ministry of Education, Heritage and Arts)

| Category | Value |
|---|----------------|
| Education | |
| Cost per Grade Repetition | 1,830.50 |
| Number of Grade Repetitions | 6,256 |
| PAF of VAC Exposure on Grade Repetition | 1.12% |
| Grade Repetition Cost of VAC | 128,186 |
| PAF of VAC Exposure on Special Education Need | 6.79% |
| Total Special Education Expenditure | 783,000 |
| Special Education Cost of VAC | 53,165 |
| Education Cost of VAC | 181,351 |

Source: Authors’ own analysis of Fiji MICS (2021) and Fiji Ministry of Education, Heritage and Arts (2023) data

5.3 Indirect tangible costs of VAC

Estimation of the indirect tangible costs of VAC, akin to the estimation of the direct medical costs of VAC discussed above, begins with estimation of the population-attributable fractions – the proportion of all cases of each specific negative health outcome in the population that is attributable to exposure to a particular type of VAC – for each of these statistically significant relationships. The population-attributable fractions for health outcomes associated with VAC applied in this study (estimated using suitable proxy countries) are presented in Table 14.

Table 14: Proxy population-attributable fractions for health outcomes associated with violence against children by gender

| | Alcohol use | Drug use | Smoking | Mental disorders | Interpersonal violence | Self-harm | STIs |
|------------------------------|-------------|----------|---------|------------------|------------------------|-----------|--------|
| Males | | | | | | | |
| Childhood physical violence | 13.52% | 11.27% | 9.65% | 8.51% | 5.19% | 5.07% | - |
| Childhood sexual violence | - | - | - | 11.73% | 9.81% | - | 14.18% |
| Childhood emotional violence | 9.86% | - | 9.21% | 18.08% | 18.99% | 8.26% | 11.06% |
| Females | | | | | | | |
| Childhood physical violence | - | 8.52% | - | 10.13% | 2.77% | 7.81% | 15.25% |
| Childhood sexual violence | - | 2.36% | 7.87% | 13.58% | 1.79% | 12.37% | 8.22% |
| Childhood emotional violence | - | - | - | 16.25% | 3.89% | 13.21% | 7.47% |

Source: Authors' own analysis of VAC survey data for Cambodia (2013), El Salvador (2017), Haiti (2012) and Honduras (2017)

Applying these population-attributable fractions to the total number of DALYs (a measure of total health burden) in the population under each health outcome and health risk behaviour yields the total health burden which is directly attributable to VAC – either violence-related deaths of children under 18 years, or DALYs accruing due to VAC-related health outcomes and health risk behaviours. This total VAC-related health burden is summarized in Table 15.

Table 15: DALYs attributable to violence against children, by gender, VAC type and health outcome in Fiji

| | Alcohol use | Drug use | Smoking | Mental disorders | Interpersonal violence | Self-harm | STIs | Direct from VAC | Total |
|------------------------------|-----------------|---------------|-----------------|------------------|------------------------|---------------|---------------|-----------------|-----------------|
| Males | | | | | | | | | |
| Childhood physical violence | 596.60 | 116.43 | 2,645.74 | 393.24 | 73.92 | 134.27 | - | - | 3,960.21 |
| Childhood sexual violence | - | - | - | 542.03 | 139.73 | - | 28.85 | - | 710.61 |
| Childhood emotional violence | 435.09 | - | 2,525.11 | 835.46 | 270.49 | 218.75 | 22.50 | - | 4,307.40 |
| Total | 1,031.69 | 116.43 | 5,170.85 | 1 770.72 | 484.14 | 353.02 | 51.35 | 327.38 | 9,305.60 |
| Females | | | | | | | | | |
| Childhood physical violence | - | 58.83 | - | 533.34 | 18.91 | 75.72 | 54.76 | - | 741.56 |
| Childhood sexual violence | - | 16.30 | 901.59 | 714.98 | 12.22 | 119.92 | 29.52 | - | 1,794.53 |
| Childhood emotional violence | - | - | - | 855.56 | 26.56 | 128.07 | 26.83 | - | 1,037.01 |
| Total | 0.00 | 75.13 | 901.59 | 2,103.88 | 57.69 | 323.70 | 111.11 | 248.86 | 3,821.96 |

Source: Authors’ own analysis of VAC survey data for Cambodia (2013), El Salvador (2017), Haiti (2012) and Honduras (2017); and GBDS data for Fiji (2019)

Table 15 shows that, among males, 327 DALYs were due to violence-related premature death, while 3,960 DALYs were attributable to childhood physical violence, 711 DALYs were attributable to childhood sexual violence and 4,307 DALYs were attributable to childhood emotional violence. In total, violence against male children in Fiji accounts for 9,306 total DALYs. Among females, meanwhile, 249 DALYs were due to violence-related premature death, while 742 DALYs were attributable to childhood physical violence, 1,795 DALYs were attributable to childhood sexual violence and 1,037 DALYs were attributable to childhood emotional violence. In total, violence against female children in Fiji accounts for 3,822 total DALYs.

Converting the estimated health burden above into a productivity cost requires an estimate of the productivity cost of a year’s productivity lost, as represented by each DALY. While several studies have used GDP per capita as a proxy for one year’s productivity, this approach does not accurately capture the labour market, employment and income dynamics which prevail in a country. Thus, the productivity cost of a year’s productivity lost in this study was estimated using labour market, employment and income data from the Fiji Household Income and Expenditure Survey 2019–20. Using data on the adult population, labour force and employment status, disaggregated across waged and salaried workers and casual workers, coupled with

data on average wages across these categories in the labour market, allowed for estimation of gender-disaggregated values of a single year’s productivity lost in the population. A summary of this approach and these values are presented in Table 16.

Table 16: Labour force data and estimates of the productivity cost of a DALY, by gender in Fiji

| | Males | Females |
|--|-----------------|-----------------|
| Labour Force | | |
| Population aged 15–64 years | 306,648 | 302,282 |
| Labour force | 245,969 | 124,553 |
| Employed | 235,461 | 116,796 |
| Waged and salaried workers | 154,040 | 81,635 |
| Casual workers | 81,421 | 35,161 |
| Productivity Cost of a DALY | | |
| % of adult population waged and salaried workers | 50.23% | 27.01% |
| % of adult population casual workers | 26.55% | 11.63% |
| Average wage for waged and salaried worker (FJD) | 14,629.03 | 14,629.03 |
| Average wage for casual worker | 1,953.73 | 1,953.73 |
| Productivity cost of a DALY | 7,867.45 | 4,178.00 |

Source: Authors’ own analysis of Fiji HIES (2019-20) data

Applying these productivity costs to the DALYs in Table 15 yields the estimates for the total productivity losses attributable to violence against children by gender, VAC type and health outcome. Table 17 illustrates the significant productivity losses associated with current levels of VAC in Fiji, amounting to a total of FJD89.18 million. Of this total productivity loss, FJD38.22 million is attributable to childhood emotional violence, FJD34.25 million is attributable to childhood physical violence, and FJD13.09 million is attributable to childhood sexual violence.

Table 17: Productivity losses attributable to violence against children, by gender, VAC type and health outcome in Fiji

| | Alcohol use | Drug use | Smoking | Mental disorders | Interpersonal violence | Self-harm | STIs | Direct from VAC | Total |
|------------------------------|---------------------|---------------|------------------|------------------|------------------------|-----------------|---------------|-----------------|------------------|
| Males | FJD millions | | | | | | | | |
| Childhood physical violence | 4,693.71 | 916.03 | 20,815.24 | 3,093.77 | 581.60 | 1,056.37 | - | - | 31,156.72 |
| Childhood sexual violence | - | - | - | 4,264.39 | 1,099.32 | - | 226.97 | - | 5,590.68 |
| Childhood emotional violence | 3,423.07 | - | 19,866.15 | 6,572.90 | 2,128.05 | 1,721.03 | 177.03 | - | 33,888.23 |
| Total | 8,116.78 | 916.03 | 40,681.40 | 13,931.06 | 3,808.97 | 2,777.40 | 404.00 | 2,575.65 | 73,211.28 |
| Females | FJD millions | | | | | | | | |
| Childhood physical violence | - | 245.79 | - | 2,228.30 | 79.01 | 316.34 | 228.81 | - | 3 098.25 |
| Childhood sexual violence | - | 68.08 | 3,766.84 | 2,987.20 | 51.06 | 501.04 | 123.33 | - | 7,497.55 |
| Childhood emotional violence | - | - | - | 3,574.52 | 110.96 | 535.06 | 112.08 | - | 4,332.62 |
| Total | 0.00 | 313.88 | 3,766.84 | 8,790.02 | 241.03 | 1,352.44 | 464.21 | 1,039.72 | 15,968.14 |

Source: Authors' own analysis of VAC survey data for Cambodia (2013), El Salvador (2017), Haiti (2012) and Honduras (2017); and GBDS data for Fiji (2019)

In addition to the productivity losses associated with VAC-related health burdens, VAC is also responsible for indirect tangible costs through the reduction in returns to education that occur due to lower educational attainment associated with VAC exposure. Data from VAC surveys from proxy countries (Cambodia, El Salvador, Haiti and Honduras) suggest that exposure to childhood physical violence has a statistically significant negative marginal effect (-6.43%) on the likelihood of male children completing secondary education, while exposure to childhood sexual violence has a statistically significant negative marginal effect (-10.65%) on the likelihood of female children completing secondary education. These marginal effects were applied to the prevalence of each VAC type by gender (as estimated using Fiji MICS data), the total labour-force participation rate and the wage loss associated with non-attainment of secondary education (both estimated using Fiji HIES data), in order to determine the total human capital-related income loss attributable to violence against children in Fiji.

Table 18: Human capital-related income losses attributable to violence against children, by gender, VAC type and health outcome in Fiji

| | Marginal effect on secondary education completion | Prevalence of VAC type in population | Total labour-force participation | Wage loss per incident | Total wage losses due to educational under-attainment |
|-----------------------------|---|--------------------------------------|----------------------------------|------------------------|---|
| Males | | | | | |
| Childhood physical violence | -6.43% | 12.8% | 245,969 | -12,358.06 | 25,004,365 |
| Females | | | | | |
| Childhood sexual violence | -10.65% | 16.0% | 124,553 | -12,358.06 | 26,228,480 |

Source: Authors' own analysis of Fiji MICS (2021) and Fiji HIES (2019-20) data

Table 18 illustrates the further indirect tangible costs of VAC associated with education-related income losses attributable to VAC. In total, these amount to FJD51.23 million, comprising FJD25.00 million among males exposed to childhood physical violence, and FJD26.23 million among females exposed to childhood sexual violence.

5.4 Indirect intangible costs of VAC

Estimation of the indirect tangible costs of VAC, again, begins with estimation of the population-attributable fractions – the proportion of all cases of each specific negative health outcome in the population that is attributable to exposure to a particular type of VAC – for each of these statistically significant relationships. The population-attributable fractions for health outcomes associated with VAC applied in this study (estimated using suitable proxy countries) are presented in Table 19.

Table 19: DALYs attributable to violence against children, by gender, VAC type and health outcome in Fiji

| | Alcohol use | Drug use | Smoking | Mental disorders | Interpersonal violence | Self-harm | STIs | Direct from VAC | Total |
|------------------------------|-----------------|---------------|-----------------|------------------|------------------------|---------------|---------------|-----------------|-----------------|
| Males | | | | | | | | | |
| Childhood physical violence | 596.60 | 116.43 | 2,645.74 | 393.24 | 73.92 | 134.27 | - | - | 3,960.21 |
| Childhood sexual violence | - | - | - | 542.03 | 139.73 | - | 28.85 | - | 710.61 |
| Childhood emotional violence | 435.09 | - | 2,525.11 | 835.46 | 270.49 | 218.75 | 22.50 | - | 4,307.40 |
| Total | 1 031.69 | 116.43 | 5 170.85 | 1 770.72 | 484.14 | 353.02 | 51.35 | 327.38 | 9 305.60 |
| Females | | | | | | | | | |
| Childhood physical violence | - | 58.83 | - | 533.34 | 18.91 | 75.72 | 54.76 | - | 741.56 |
| Childhood sexual violence | - | 16.30 | 901.59 | 714.98 | 12.22 | 119.92 | 29.52 | - | 1,794.53 |
| Childhood emotional violence | - | - | - | 855.56 | 26.56 | 128.07 | 26.83 | - | 1,037.01 |
| Total | 0.00 | 75.13 | 901.59 | 2,103.88 | 57.69 | 323.70 | 111.11 | 248.86 | 3,821.96 |

Source: Authors' own analysis of VAC survey data for Cambodia (2013), El Salvador (2017), Haiti (2012) and Honduras (2017); and GBDS data for Fiji (2019)

Converting the estimated health burden above into a health-related quality of life cost requires an estimate of the subjective valuation of a single year of life lost to poor health, as represented by each DALY above. Such monetization of DALYs requires a country-specific estimate of the monetary value apportioned to the avoidance of premature mortality or morbidity (the value of a statistical life), which can, in turn, be used to estimate the value of a statistical life year (VSLY), which represents the quality-of-life cost of a DALY accrued, expressed in monetary terms. The value of a statistical life (VSL) is typically calculated through empirical studies; including stated preference studies, which collect data on a population's explicit willingness to pay for a reduced likelihood of mortality and/or morbidity, or willingness to accept an increased likelihood of mortality and/or morbidity; or through revealed preference studies, which use extant data to interrogate the implicit value that a population puts on mortality and morbidity risk. In lieu of such empirical estimates, Robinson et al. (2019) propose three alternative population-averaged approaches to estimation of the VSL, based on empirical studies which have estimated VSL in high-income country contexts, namely:

- Extrapolation of the value of a statistical life from the value estimated for the United States in a 2016 study, using an income elasticity of 1.5 to account for the impact of income on willingness to pay estimates, and thus the VSL
- A VSL value of 100 times a country's gross national income per capita, equivalent to the VSL-GNI per capita ratio estimated in an empirical study of OECD countries

- AVSL value of 160 times a country’s gross national income per capita, equivalent to the VSL-GNI per capita ratio in the 2016 US study mentioned above.

Each of the three above approaches were applied to the Fijian context in order to come up with a VSL estimate. Granted that a VSL expresses a population average willingness to pay for reduced mortality risk, converting the VSL to a VS LY requires dividing the former by a population average undiscounted life expectancy – estimated at 34.20 years for Fiji in 2019 (32.63 years for males and 35.87 years for females). This approach yielded the results shown in Table 20.

Table 20: VSL and VS LY estimates for Fiji, using various

| | Value of a statistical life (VSL) | Value of a statistical life year (VS LY) | VS LY-GDP per capita ratio |
|-----------------------------------|-----------------------------------|--|----------------------------|
| Extrapolation from US VSL | FJD455,704 | FJD13,324 | 1 : 1.14 |
| GNI per capita * 100 (OECD ratio) | FJD727,900 | FJD21,282 | 1 : 1.82 |
| GNI per capita * 160 (US ratio) | FJD1,164,640 | FJD34,052 | 1 : 2.91 |

Source: Authors’ own analysis of Robinson et al. (2019) and World Development Indicator (2023) data

As the table shows, the various approaches yield starkly different VS LY estimates, which will have a significant impact on any measurement of economic burden made using such estimates. It is, thus, critical that the most accurate of the above proxy measures be employed for this study. To this end, a further study by Viscusi and Masterman (2017), which calculates a population-average VSL for countries with insufficient or unreliable data, was used to benchmark the above estimates and identify the best-value estimate VS LY for use in this analysis. The VSL estimate for Fiji, as calculated by Viscusi and Masterman (2017), was FJD702,538, which represents a VLSY of FJD20,541, equivalent to 1.76 times GDP per capita. This estimate aligns closely with that proposed by Robinson et al. (2019), using the VSL-GNI per capita ratio estimated in an empirical study of OECD countries. Thus, this approach was applied to the estimation of the VS LY for Fiji for this study (see Table 21).

Table 21: Value of a statistical life year estimates, by gender in Fiji

| | Males | Females |
|--|--------------|--------------|
| Value of a statistical life year | | |
| Value of a statistical life | FJD727,900 | FJD727,900 |
| Undiscounted average adult life expectancy | 32.63 | 35.87 |
| Value of a statistical life year | FJD22,304.37 | FJD20,294.82 |

Source: Authors’ own calculations based on World Development Indicator (2023) data

Applying these values of a statistical life year to the DALYs in Table 19 yields the estimates for the total productivity losses attributable to violence against children by gender, VAC type and health outcome shown in Table 22. The table illustrates the significant health-related quality of life costs associated with current levels of VAC in Fiji, amounting to a total of FJD285.12 million. Of this total health-related quality of life cost, FJD117.12 million is attributable to childhood emotional violence, FJD103.38 million is attributable to childhood physical violence, and FJD52.27 million is attributable to childhood sexual violence.



Table 22: Health-related quality of life costs attributable to violence against children, by gender, VAC type and health outcome in Fiji

| | Alcohol use | Drug use | Smoking | Mental disorders | Interpersonal violence | Self-harm | STIs | Direct from VAC | Total |
|------------------------------|------------------|-----------------|-------------------|------------------|------------------------|-----------------|-----------------|-----------------|-------------------|
| Males | | | | | | | | | |
| Childhood physical violence | 13,306.75 | 2,596.96 | 59,011.62 | 8,770.90 | 1,648.84 | 2,994.83 | - | - | 88,329.90 |
| Childhood sexual violence | - | - | - | 12,089.62 | 3,116.60 | - | 643.46 | - | 15,849.68 |
| Childhood emotional violence | 9,704.48 | - | 56,320.93 | 18,634.31 | 6,033.05 | 4,879.16 | 501.88 | - | 96,073.80 |
| Total | 23,011.22 | 2,596.96 | 115,332.55 | 39,494.83 | 10,798.49 | 7,873.99 | 1,145.33 | 7,302.02 | 207,555.41 |
| Females | | | | | | | | | |
| Childhood physical violence | - | 1,193.96 | - | 10,824.07 | 383.80 | 1,536.63 | 1,111.44 | - | 15,049.89 |
| Childhood sexual violence | - | 330.72 | 18,297.58 | 14,510.45 | 248.02 | 2,433.81 | 599.08 | - | 36,419.66 |
| Childhood emotional violence | - | - | - | 17,363.39 | 538.98 | 2,599.09 | 544.42 | - | 21,045.88 |
| Total | 0.00 | 1,524.68 | 18,297.58 | 42,697.90 | 1,170.80 | 6,569.53 | 2,254.94 | 5,050.50 | 77,565.93 |

Source: Authors' own analysis of VAC survey data for Cambodia (2013), El Salvador (2017), Haiti (2012) and Honduras (2017); and GBDS data for Fiji (2019)

Finally, Table 23 summarizes the total economic costs of VAC in Fiji, as per the typology outlined in Table 4. In summary, the total economic costs of VAC in Fiji amount to FJD459.82 million, equivalent to 4.23 per cent of GDP. These costs comprise FJD19.33 million in direct medical costs, FJD14.96 million in direct non-medical costs, FJD140.41 million in indirect tangible costs and FJD285.12 million in indirect intangible costs. While these costs, expressed as a proportion of GDP, are generally in excess of those estimates from other national-level studies in the literature (as summarized in Table 3 in the previous section), this is largely attributable to the broader coverage of the categories of cost included in this study, as well as the larger valuation of a statistical life year relative to the GDP per capita approach employed in several other studies which do consider these types of cost.

Table 23: Total economic cost of VAC in Fiji, by category and type

| Category of Cost | | Cost | |
|--------------------------|-------------|--------------------|--------------|
| Category | Type | Total (FJD) | % of GDP |
| Direct | Medical | 19,331,567 | 0.18% |
| | Non-medical | 14,958,781 | 0.14% |
| Indirect | Tangible | 140,412,265 | 1.29% |
| | Intangible | 285,121,333 | 2.62% |
| Total Cost of VAC | | 459,823,947 | 4.23% |

Source: Authors' own calculations

5.5 Sensitivity analyses

The above estimates use mean values for the various parameters included in the model. To test the robustness of these results, and their sensitivity to potential variance in these parameters, probabilistic sensitivity analyses were conducted using a Monte Carlo simulation with 1,000 draws. In this analysis, various parameters in the model were varied – including the estimated population-attributable fractions for each VAC-related health outcome, the estimated DALYs accruing to each type of VAC-related health outcome, the estimated productivity cost of a DALY, the estimated marginal effect of VAC exposure on educational attainment, the estimated income loss associated with lower educational attainment and the estimated value of a statistical life year. All of these parameters were varied based on an assumed normal distribution of the variables between the observed minimum and maximum estimates. The aggregate results of these 1,000 draws are presented in Table 24.

Table 24: Results of Monte Carlo simulation sensitivity analyses

| Category of Cost | | Cost (FJD) | | | | | |
|----------------------------------|-------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| Category | Type | Initial Assessment | Mean | Min | Max | Lower (.05) | Upper (.95) |
| Direct | Medical | 19,331,567 | 19,331,567 | 19,331,567 | 19,331,567 | 19,331,567 | 19,331,567 |
| | Non-medical | 14,958,781 | 14,958,781 | 14,958,781 | 14,958,781 | 14,958,781 | 14,958,781 |
| Indirect | Tangible | 140,412,265 | 140,704,596 | 63,975,171 | 186,491,296 | 99,460,815 | 186,491,296 |
| | Intangible | 285,121,333 | 285,495,899 | 198,147,823 | 401,175,310 | 237,293,953 | 339,974,667 |
| Total Cost of VAC (FJD) | | 459,823,946 | 460,528,444 | 296,413,342 | 621,956,954 | 371,045,116 | 560,756,311 |
| Total Cost of VAC (% GDP) | | 4.23% | 4.23% | 2.72% | 5.72% | 3.41% | 5.15% |

Source: Authors' own calculations

The mean economic burden of VAC across the 1,000 draws in these sensitivity analyses was FJD460.53 million, equivalent to 4.23 per cent of Fiji’s GDP. This value aligns almost exactly with the initial estimate using a mean value for each of the parameters, which suggests that this initial result is robust. The estimated economic burden of VAC across the 1,000 draws ranged from a minimum value of FJD296.41 million (equivalent to 2.72% of GDP) to a maximum value of FJD621.96 million (equivalent to 5.72% of GDP). The values at the upper and lower bounds are largely outliers, however, with the estimate at the 5th percentile being FJD371.05 million (3.41% of GDP), and the estimate at the 95th percentile being FJD560.76 million (5.15% of GDP), suggesting a 90 per cent level of confidence that the economic cost of VAC in Fiji falls within this range.

5.6 Benchmarking against other economic cost of VAC studies

Table 25 benchmarks the results of these analyses – both the initial mean-based estimates and sensitivity analyses – against the other national-level economic cost of VAC studies as identified in the literature. The results of the study are largely in line with the results from international comparator studies, particularly those with similar categories of cost coverage (South Africa and Turkey). Indeed, the fact that the economic cost of VAC in Fiji exceeds those observed in many of the other national-level studies in the literature is largely attributable to the broad range of costs included in this study including, uniquely, quality-of-life cost estimates, rather than to a far larger burden of VAC in Fiji. Nonetheless, these results further highlight the significant burden associated with VAC in Fiji (and globally) and highlight the need for investment to avoid these burdens.

Table 25: Summary results of national economic cost of VAC studies

| Country | Loss in GDP due to violence against children (million US\$) | | |
|-----------------------------|---|------------------|--------------------|
| | Minimum estimate | Maximum estimate | Estimated % of GDP |
| Fiji (initial estimate) | 204 | | 4.23 |
| Fiji (sensitivity analyses) | 132 | 276 | 2.72–5.72 |
| Nigeria | 8,900 | | 1.58 |
| Vanuatu | 3.7 | 4.59 | 0.5–0.75 |
| Turkey | 6,403 | 61,526 | 1–7 |
| Australia | 25,423 | | 2 |
| South Africa | 15,810 | | 5 |
| Canada | 15,705 | | 1.7 |
| USA | 124,000 | 585,000 | 1 |
| Germany | 16,323 | 43,823 | 0.45–1.20 |
| Cambodia | 168 | | 1.10 |
| China | 50,000 | | 0.84 |

Source: Authors’ own calculations; UNICEF, 2019; Pollet & Gurr, 2009; Basak et al., 2013; Access Economics, 2019; Hsiao et al., 2018; Bowlus et al., 2003; Fang et al., 2012; Habetha et al., 2012; Fang, 2015; Fang et al., 2015

6. Avoiding the Economic Burden of VAC

6.1 Investing to end VAC

It is abundantly evident, both from the literature and from the above analyses, that violence against children exacts a significant toll in Fiji – on the individual child, on their family, on their community and on society at large – which manifests as health burdens, productivity losses, reductions in quality of life and additional financial burdens on households and on sectors responsible for providing services in response to incidents of violence and its associated negative consequences. All told, these burdens result in enormous social and economic cost to society, estimated here at FJD459.82 million, equivalent to 4.23 per cent of Fiji's GDP annually. This significant economic burden highlights the need for further investment in child protection policies and programmes in Fiji, which both seek to address the aforementioned risk factors which predispose children to violence and also seek to provide adequate response services such that the negative impacts of VAC, should it occur, can be mitigated. The Government of Fiji needs to treat violence prevention as a key enabling mechanism for reducing poverty, fostering economic growth and enhancing social development – and needs to support this prioritization of child protection with the implementation of policies, plans and programmes that set out the roles and contribution sectors need to make to preventing and responding to violence against children.

6.1.1 The INSPIRE strategies

A good basis for the implementation of such policies, plans and programmes are the INSPIRE strategies – an evidence-based resource developed by the WHO and UNICEF which seeks to assist governments in selecting, implementing and monitoring effective multisectoral policies, programmes and services to prevent and respond to violence against children. INSPIRE covers seven key strategies for ending violence against children, namely: implementation and enforcement of laws; changing norms and values; fostering safe environments; facilitating parent and caregiver support; income and economic strengthening; provision of adequate response and support services; and development of education and life skills. Under each of these strategies, there are a number of recommended approaches, and the responsible sectors are listed. These are summarized in full in Table 26.

Table 26: The INSPIRE framework and

| Strategy | | Approach | Sectors |
|---|--|---|---------------------------------------|
|  | Implementation and enforcement of laws | <ul style="list-style-type: none"> • Laws banning violent punishment of children by parents, teachers or other caregivers • Laws criminalizing sexual abuse and exploitation of children • Laws that prevent alcohol misuse • Laws limiting youth access to firearms and other weapons | Justice |
|  | Norms and values | <ul style="list-style-type: none"> • Changing adherence to restrictive and harmful gender and social norms • Community mobilization programmes • Bystander interventions | Health Education Social Welfare |
|  | Safe environments | <ul style="list-style-type: none"> • Reducing violence by addressing 'hotspots' • Interrupting the spread of violence • Improving the built environment | Interior Planning |
|  | Parent and caregiver support | <ul style="list-style-type: none"> • Delivered through home visits • Delivered in groups in community settings • Delivered through comprehensive programmes | Social Welfare Health |
|  | Income and economic strengthening | <ul style="list-style-type: none"> • Cash transfers • Group saving and loans combined with gender equity training • Microfinance combined with gender norm training | Finance Labour |
|  | Response and support services | <ul style="list-style-type: none"> • Counselling and therapeutic approaches • Screening combined with interventions • Treatment programmes for juvenile offenders in the criminal justice system • Foster care interventions involving social welfare services | Health Justice Social Welfare |
|  | Education and life skills | <ul style="list-style-type: none"> • Increase enrolment in preschool, primary and secondary schools • Establish a safe and enabling school environment • Improve children's knowledge about sexual abuse and how to protect themselves against it • Life and social skills training • Adolescent intimate partner violence prevention programmes | Education |

Source: World Health Organization, 2016a

The above strategies, backed by a strong international evidence base, therefore provide a robust basis not only for the design of new policies and plans relating to violence against children, but also for the evaluation of existing policies in this space.

6.1.2 The National Child Protection Strategic Plan (NCPSP)

In response to the high levels of violence against children in Fiji, the Ministry of Women, Children and Social Protection – which is mandated with the statutory role of child protection – has developed the National Child Protection Strategic Framework and Five-year Action Plan 2022–2027, which outlines the Fijian Government’s strategy to prevent and respond to violence, abuse and exploitation of children. The Plan specifies four key purposes, namely: to outline the national vision for the child protection system; to identify key priority outcomes to achieve this vision; to promote coordinated inter-agency planning so that all stakeholders have common objectives and priorities and are moving in the same direction; and to mobilize resources from all sectors to realize the vision. The latter two points, and the acknowledgement of the multisectoral nature of violence prevention and the need for an inter-agency approach to combat VAC, are particularly important in the context of the INSPIRE strategies. Below is a high-level review of the NCPSP within the framework outlined in the INSPIRE strategies.

6.1.2.1 Implementation and enforcement of laws

The first of the seven INSPIRE strategies seeks to develop and strengthen legal protections and policies for children and youth, in conjunction with the means to enforce these protections. This strategy is central to the NCPSP, which specifies the “improved legal and policy framework for child protection” as one of the four chief pillars of the Plan. Indeed, under the five-year inter-agency implementation plan developed as part of the NCPSP, each of the key stakeholders has a number of key activities which fall under this specific pillar, including policies on drug and substance abuse among children and violent punishment of children – both of which are key approaches identified in INSPIRE. There are also ongoing efforts at legislative reform related to the development of new Child Protection and Child Justice legislation.

6.1.2.2 Norms and values

The second INSPIRE strategy seeks to strengthen norms and values that support non-violent, respectful, nurturing, positive and gender-equitable relationships for all children and adolescents. Approaches under this strategy include changing adherence to harmful gender and social norms, community mobilization programmes, and bystander interventions. The importance of such strategies is well acknowledged in the NCPSP, with community mobilization and the addressing of social norms identified as key population-based prevention interventions. Indeed, family and community mobilization represents one of the core activities for the Ministry of Women, Children and Social Protection, while the promotion of community reporting (a key approach identified in INSPIRE) is specifically acknowledged in the Ministry of iTaukei Affairs’ strategic approach.

6.1.2.3 Safe environments

The third INSPIRE strategy – safe environments – seeks to create and sustain safe community environments where children and youth gather and spend time, outside of the traditional locations of home and school. Specifically, the strategy identifies the importance of ensuring community spaces, care facilities, police stations and detention centres are safe for children. These priorities are readily acknowledged in the NCPSP, which specifically mentions creating safe community spaces for children as a responsibility of government. Moreover, the NCPSP promotes the establishment of comfortable spaces for children in police stations, the

development of child-friendly information materials for children in conflict with the law and child victims and witnesses, and promotion of a safe online culture and environment that addresses cyberbullying, posting of intimate visual recording and exposure to offensive and harmful content.

6.1.2.4 Parent and caregiver support

The fourth INSPIRE strategy seeks to reduce harsh parenting practices and create positive parent-child relationships through interventions such as home visits, group-based training and support in community settings, and parenting as a component of comprehensive interventions. Parent and caregiver support represents a cornerstone of the NCPSP implementation plan, with the Ministry of Health and Medical Services' key responsibilities including the promotion of positive parenting practices through its maternal and child health programmes, and the provision of parenting advice to the parents of at-risk children and those showing early signs of abuse and neglect. Similarly, among the key responsibilities of the Ministry of iTaukei Affairs is to facilitate outreach and training on parenting practices and on prevention and response to abuse, neglect and exploitation of children. Parent and caregiver support also features in the implementation plan for the Ministry of Women, Children and Social Protection, through the delivery of positive parenting programmes in partnership with NGOs.

6.1.2.5 Income and economic strengthening

The fifth INSPIRE strategy seeks to reduce child maltreatment and intimate partner violence by improving families' economic security and stability. As noted previously, the socioeconomic status of households represents the most significant household risk factor, with children in low-income households typically more vulnerable to abuse than those in wealthier households. The importance of household economic strengthening is acknowledged in the high-level overview of the continuum of child protection services under the NCPSP, with support to income and living conditions of vulnerable households mentioned as a building block of such services. This said, there is little further mention in the NCPSP of specific interventions to address this significant risk factor. Further attention to this specific strategy is, thus, recommended.

6.1.2.6 Response and support services

The penultimate INSPIRE strategy seeks to improve access to good-quality health, social welfare and criminal justice support services for all children who need them – including for reporting violence – to reduce the long-term impact of violence. Interventions aligned with this strategy represent the core of the NCPSP implementation plan, with a number of specific interventions outlined across the health, social welfare and justice sectors, which each aim to improve quality of and access to such services, particularly among the most vulnerable children.

6.1.2.7 Education and life skills

The final INSPIRE strategy seeks to increase children's access to more effective, gender-equitable education and social-emotional learning and life-skills training and ensure that school environments are safe and enabling. Again, this strategy is well covered by the NCPSP, which recognizes the Ministry of Education, Heritage and Arts, and the education sector in Fiji more broadly, as a key implementing partner in combating VAC, and highlights a significant number

of expected outputs and activities for the Ministry, including strengthening of psychosocial support services, empowerment of children to protect themselves from violence, and improved identification of and support for children at risk of victimization.

The above evidence, together with the literature on reducing the impact of VAC, suggests that the NCPSP is a well-designed national plan for improving the delivery of child protection services in Fiji and has the potential to significantly reduce the large economic burdens associated with current levels of violence against children in the country, the estimation of which is the chief focus of this report. What remains now is for this Plan to be fully and comprehensively implemented. To this end, a costing model, and a further report, have been developed as part of this project in order to facilitate timely and comprehensive implantation of the NCPSP. It is hoped that these two pieces of evidence will, together, facilitate improved and targeted allocations to child protection services in Fiji.



7. Limitations

This study does have some notable limitations, which must be acknowledged. Firstly, the cross-sectional nature of the data used to estimate the relative risk ratios means that the causal inferences made between VAC exposure and subsequent health outcomes are naturally less robust. Indeed, these risk ratios may overestimate or underestimate the causal relationships proposed here. Furthermore, the population-attributable fractions estimated using these risk ratios are fairly sensitive to small changes in the underlying parameters. When subsequently multiplied by large aggregate outcomes, such as national-level health burden and annual earnings this could lead to notable over- or underestimation of the total burden. The fact that proxy data from comparator countries, rather than nationally representative data for Fiji, were used to estimate these risk ratios and population-attributable fractions does weaken the robustness of the results and further suggests potential under- or overestimation of these ratios and subsequent costs. Additionally, the self-reporting and backward-looking nature of the VACS surveys used to estimate these risk ratios is, naturally, open to various biases which are typical of such surveys, including omission bias (as young respondents may be reluctant to report on a sensitive topic) and recall bias (as respondents may not fully remember details of their victimization). It would typically be assumed that such biases would result in underreporting of VAC and thus underestimation of the true cost of VAC. Furthermore, the VACS survey is a household-based survey, which means that the experiences of children living outside traditional households – children in institutional care, incarcerated children, children living on the street, and children in humanitarian situations – were not recorded. Nor, indeed, were the experiences of children who were unable to respond due to disability. The fact that more marginalized and vulnerable children were excluded from the survey also suggests that the true cost of VAC may have been underestimated. Finally, there were some limitations in linking the identified outcomes of VAC to health outcomes as reported in the Global Burden of Disease Study – with some outcomes not being linked due to non-reporting of outcomes in the GBDS database (such as suicidal ideation), or some outcomes being linked at an aggregate, rather than a precise, level due to some mismatch between the health outcomes identifiable in the VACS data and those reported in the GBDS. Again, these limitations likely led to underestimation of the overall VAC burden.

8. Conclusion

The Government of Fiji has developed a robust policy and strategic framework for protecting children from multiple forms of abuse, exploitation, violence and neglect. However, despite this, children in Fiji continue to experience multiple forms of violence, and at significant levels.

In response to this high prevalence of violence against children, the associated economic burdens and the current under-prioritization of child protection services in Fiji, the Government of Fiji has developed a comprehensive National Child Protection Strategic Framework and Five-year Action Plan, which includes a number of robust evidence-based interventions for reducing the incidence of violence against children and mitigating the associated burdens when incidents do occur. Moreover, the Ministry for Women, Children and Social Protection is establishing a dedicated Children's Department and further reform legislation for children's protection. However, such steps will only have the desired impact if they are adequately funded and implemented. Indeed, if adequate whole-of-government financing and policy support for the Plan are not secured, and these robust interventions to prevent and respond to cases of violence against children in Fiji are not developed, then such significant economic burdens are likely to continue to accrue, to the detriment of Fiji's children and at the expense of the country's future economic development. It is, therefore, critical that the strong advocacy messaging around the economic burden associated with VAC presented in this report is considered in conjunction with the comprehensive costing of the NCPSP implementation plan presented in the supporting report in this study.

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