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Costs of Sexual Violence in Iowa (2009)



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Costs of Sexual Violence in Iowa (2009):

Final Report to the Iowa Department of Public Health

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Sexual violence, particularly when it occurs in childhood, takes away one's sense of control over their body, disrupts normal emotional and sexual development, and interferes with the development of trusting, safe relationships. The authors wish to acknowledge the courage and resiliency of those who have survived sexual violence and become advocates on behalf of its many victims.

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Executive Summary

Sexual violence is a serious and costly public health problem that affects individuals, families, communities, and society as a whole. In this report, sexual violence is defined as any form of sexual activity that is unwanted, where consent is not obtained or freely given. In 2009, an estimated 23,709 adults in Iowa were raped and another 25,701 adults experienced other unwanted sexual assaults. That same year, an estimated 5,930 children age 17 or under in Iowa were victims of sexual violence by either rape or other sexual assault. In total, an estimated 55,340 individuals experienced sexual violence in Iowa in 2009. Of these, nearly three of every four victims were females and one in ten was under age 18. At least 595 victims were raped or sexually assaulted while incarcerated. Only 853 rape incidents were included in the federal crime statistics as officially recognized criminal cases, excluding many of the sexual violence incidents estimated in this report.

There are significant costs associated with sexual violence. In fiscal year 2009, the total estimate was \$5.8 billion, equating to \$1,875 per resident. This estimate included \$5.5 billion in indirect costs (95% of the total sexual violence costs in Iowa) and \$308 million in direct costs. In the same year, an estimated \$101 million in government money was spent as a result of sexual violence in Iowa. Just over \$900,000 of the government money were funded to prevent sexual violence and change societal norms.

Although the estimated sexual violence costs presented in this report are just a fraction of the true costs, information on the economic costs of sexual violence is crucial for informing policymakers of the importance of intervening and to identify where potential savings may occur. Policy recommendations aimed at preventing sexual violence BEFORE it occurs need to be vigorously pursued, adopted, and sustained. Solutions are not simple and require a comprehensive approach.

Introduction

Sexual violence is a complex problem and has a profound impact, both short- and long-term, on victims' physical, mental, and sexual and reproductive health (Anda et al., 2004). In addition to the enormous suffering and wide-ranging emotional costs, sexual violence also causes substantial financial damage to the victims, their families, and society as a whole. Injuries and deaths due to sexual violence result in high levels of direct expenditures for the health care, law enforcement, criminal justice and welfare systems. More importantly, acts of sexual violence lead to far greater indirect costs that arise from lost productivity and an inability to continue with activities of daily life (Delisi, 2010; Dolezal, McCollum, & Callahan, 2009; Lyon, 2002; MacMillan, 2000; World Health Organization, 2004).

Research has shown that sexual violence can be prevented by implementing effective intervention programs that address its root causes (National Alliance to End Sexual Violence, 2010). Thus, information on the economic costs of sexual violence is often crucial in convincing policy-makers of the importance of intervening and the possible savings that could result from prevention programs. This report has provided an estimate of the economic burden of sexual violence in the state of Iowa. Understanding the cost of sexual violence is an important first step to make policy recommendations aimed at preventing sexual violence BEFORE it occurs.

Sexual violence is defined broadly in this report as sexual activity that is unwanted, where consent is not obtained or freely given. It includes forcible and nonforcible rape and other sexual assaults (e.g., unwanted touching of sexual parts, harassment, voyeurism, or other noncontact abuse). Sexual violence was separated into four categories in this report: 1) rape among individuals age 18 and older, 2) other sexual assaults among individuals age 18 and older, 3) childhood sexual violence including rape and other sexual assaults among individuals ages 0 to 17, and 4) sexual violence including rape and other sexual assaults among institutionalized individuals.

To estimate the costs of sexual violence in Iowa, data from the Iowa Department of Corrections, Iowa Department of Human Rights – Division of Criminal and Juvenile Justice Planning, Iowa Department of Human Services, Iowa Department of Justice – Crime Victim Assistance Division, and Iowa Department of Public Safety were obtained and included.

Categories of Sexual Violence in this Report

Adult Rape, Age 18 and Older. Rape of an adult in the past year was defined as “yes” responses to questions in the 2006 Iowa Behavioral Risk Factor Surveillance Survey (BRFSS) (Iowa Department of Public Health, 2006) that asked about completed or attempted “unwanted sex.” See the appendix for a more detailed description.

Adult Other Sexual Assaults, Age 18 and Older. Other adult sexual assault in the past year was defined as “yes” responses to the 2006 Iowa BRFSS questions, “Did anyone touch sexual parts of your body after you said or showed that you didn't want them to or without your consent

(for example, being groped or fondled)?” or “Did anyone expose you to unwanted sexual situations that did not involve physical touching?” See the appendix for a more detailed description.

Childhood Sexual Violence. Childhood sexual violence incidents include both rapes and other sexual assaults in order to be consistent with the legal definition of childhood sexual abuse. To compute the frequency of childhood sexual violence, an average of the numbers of children in grades 9-12 who reported they had ever “been physically forced to have sexual intercourse when” they “did not want to” in the 2005 and 2007 Youth Risk Behavior Survey (YRBS) was used (Iowa Department of Education, 2008). In addition, an average number of child sexual abuse cases in Iowa between 2006 and 2009 obtained from Iowa Child Protective Services were also included. See the appendix for a more detailed description.

Sexual Violence among the Institutionalized. Because data were available on rapes reported in the prison system and the incarcerated population is considered a high-risk population, data on Iowa’s incarcerated population were included in this report. Data from The Uniform Crime Reports were used to estimate sexual violence among the institutionalized. See the appendix for a more detailed description.

Types of Sexual Violence Omitted from This Report

Other Sexual Violence Victimization. This category includes threats of sexual violence to accomplish some other end and taking photographs of a sexual nature of another person without his or her consent or knowledge. These victimizations were excluded except for those that may have been captured by BRFSS in its question about “other sexual situations that did not involve physical touching.” Most prostitution and other forms of commercial sexual exploitation, such as human trafficking, also were not captured by the data in this report.

People Who Were Victimized by Sexual Violence in 2009

Number of Sexual Violence Victims

In 2009, an estimated total of 55,340 people of all ages were victimized by sexual violence in Iowa (Table 1). Of these, an estimated 5,930 Iowa children ages 0-17 were raped or touched without consent and another 3,030 were victims of other sexual assaults that did not involve touching. Among adults, an estimated 23,709 were raped and 25,701 suffered other forms of sexual assaults. Overall, an estimated 39,304 females and 16,036 males were victimized by sexual violence.

Table 1. Estimated Victims of Sexual Violence, Iowa, 2009

	Childhood Sexual Violence Age 0-17*	Adult Rape, Age 18 & Over	Adult Other Sexual Assaults Age 18 & Over	TOTAL
Female	4,367	18,591	16,346	39,304
Male	1,563	5,118	9,355	16,036
TOTAL	5,930	23,709	25,701	55,340
% Female	74%	78%	64%	71%

Note. The number of perpetrators is unknown. Includes an estimated 44 youth raped in juvenile detention, 322 adults raped and 229 adults experiencing sexual victimization in jails or prisons.

* Childhood sexual violence includes rape and other sex assaults among children.

These numbers are likely underestimated due to the nature of self-reported data. Biases against reporting may exist by age group, gender, race/ethnicity, sexual orientation or a combination of characteristics. Some groups may be especially fearful or discouraged from disclosing sexual violence in surveys; for example, societal messages may discount their victimization or they may have been repeatedly victimized by sexual violence from an authority figure who pressured them to conceal the violence. The biases in self-reports by the incarcerated population are less clear. Moreover, these estimates are based on surveys of non-institutionalized adults, youth attending school, and incarcerated people. They omit sexual violence of high-risk individuals who were not surveyed because they had dropped out of school, or resided in nursing homes or psychiatric hospitals.

Rate of Sexual Violence by Gender and Age

By gender and age, the highest sexual violence rate was 2.87 per 100 Iowa women ages 18-44, meaning that 1 in 35 women in that age group was assaulted (Table 2). The next highest sexual violence rate was girls ages 13 to 17, with 1 in 50 Iowa girls in that age group was victimized by sexual violence. Overall, 1 in every 120 Iowa children under age 18 was victimized by sexual violence, as was 1 in every 96 Iowa adults.

Table 2. Estimated Rate of Sexual Violence, per 100 people by Age Group and Gender, Iowa, 2009

	Age 0-12	Age 13-17	Age 18-44	Age 45 & Over	TOTAL
Female	0.95	2.00	2.87	0.55	1.52
Male	0.43	0.42	0.76	0.17	0.45
TOTAL	0.68	1.19	1.79	0.37	0.99

Many of the sexual violence incidents estimated in this report were not reported to the police, and thus were not included in the federal crime statistics as officially recognized criminal cases. Of sexual violence cases in 2009, according to the National Incidence-Based Reporting System (Iowa Department of Public Safety, 2009), only 1,888 were reported to the police, with 65% of the victims under age 18. At least 1,167 of the reported incidents (61.8%) qualified as

sexual violence. However, only 853 (44.1%) of them are included in federal data on crime rates and related media coverage of national rape rates (U.S. Department of Justice, 2009).

Estimated Rape Incidents

Some individuals were victimized by sexual violence more than once in a year. Parents, caregivers, household/family members, and others in positions of authority may abuse the same person multiple times. Individuals are also sometimes attacked by multiple perpetrators. Nationally, among the non-incarcerated, the average number of times an individual is victimized in the one-year period starting from the date of the first rape is 1.26. Among the incarcerated, the average is much higher at 5.88 per year. This report used the national rate for the non-incarcerated to calculate the number of victimizations in Iowa. Based on this, at least 38,973 rape incidents occurred in Iowa in 2009 (Table 3). Children under age 18 bore an estimated 20% of the incident burden. Females bore a full 75% of the incident burden.

Table 3. Estimated Adult Rape and Childhood Sexual Violence Incidents, Iowa, 2009

	Childhood Sexual Violence Age 0-17*	Adult Rape Age 18 & Over	TOTAL
Female	5,535	23,516	29,051
Male	2,174	7,748	9,922
TOTAL	7,709	31,264	38,973

Note. Includes 292 assaults of youth and 1,712 of adults while incarcerated.

* Childhood sexual violence includes rape and other nonforcible sex assaults among children.

Costs of Sexual Violence

Elements that contribute to the costs of sexual violence are described in Table 4, which separates costs of sexual victimization from the costs of society's response to sexual violence. The costs of sexual victimization include medical and mental health services, other victim services, property damage, work loss, unplanned pregnancy, sexually transmitted diseases, pain, suffering, loss of quality of life, rape-induced substance abuse, and suicidal behaviors. The costs of society's response to sexual violence include personal and public prevention efforts, fear of crime, treatment of sexual offenders, criminal justice costs, costs of risk assessment and community notification (when offenders are released), and costs of falsely accusing individuals who were mistakenly apprehended as suspected perpetrators.

Table 4. Cost Categories and Who Pays the Costs

I. Cost of Sexual Victimization by Cost Element	Who Pays (Before Recovery Through Legal Action)
Medical Care and Mental Health Care for Victim/Family*	
(1) Costs not reimbursed by insurance	Victim/Victim's Family/Society
(2) Costs reimbursed by insurance	Society
(3) Administrative cost of insurance reimbursement	Society
Lost Work*	
(1) Lost wages for unpaid workdays	Victim
(2) Lost household work	Victim/Victim's Family
(3) Lost productivity	Employer/Society
(4) Temporary labor and training of replacements	Employer
Lost School Days	
(1) Foregone wages due to compromised education	Victim
(2) Foregone nonmonetary benefits of education	Victim
(3) Foregone social benefits due to compromised education	Society
Property Damage (e.g., torn clothing, stolen jewelry)*	
(1) Losses not reimbursed by insurance	Victim
(2) Losses reimbursed by insurance	Society
(3) Administrative cost of insurance reimbursement	Society
(4) Recovery by police	Government
Pain and Suffering, Lost Quality of Life*	Victim/Victim's Family
Sexually Transmitted Diseases*	Victim or Offender/Society
Unplanned Pregnancies*	Victim/Victim's Family/Society
Substance Abuse by Victims and their Families*	Victim/Victim's Family/Society
Suicidal Acts*	Victim/Society
Victim Services/Out-of-Home Placement/Family Support Services*	
(1) Expenses charged to victim	Victim
(2) Expenses paid by agency	Government primarily
(3) Volunteer time	Society
Legal Costs Associated with Tort Claims	Victim or Victim's family
Crime Committed by People Whose Victimization Contributed to their Subsequent Criminal Behavior	Society

Note. * Costs estimated in this report

Table 4. Cost Categories and Who Pays the Cost (cont.)

II. Cost of Society's Response to Sexual Violence	Who Pays by Cost Element
Criminal Justice System	
(1) Police and investigative costs*	Government
(2) Adjudication Costs (Prosecutors, Courts, Defense)*	Government/Offenders for Private Defense
(3) Incarceration costs including offender treatment*	Government
(4) Nonincarcerative sanctions (e.g., intensive supervision)*	Government
(5) Post-release costs (e.g., halfway houses)*	Government
(6) Victim loss of dignity and privacy associated with evidence collection and testimony	Victim
(7) Victim time	Victim
(8) Jury and witness time	Jury/Witness
Other Non-Criminal Programs	
(1) Hot-lines and public service announcements	Government/Society
(2) Community treatment programs*	Government
(3) Private therapy/counseling	Society/Offender
Risk Assessment and Community Notification Programs*	Society
Confined/Publicly Identified Offender Costs	
(1) Lost wages*	Offender/family
(2) Lost tax revenue*	Government
(3) Value of lost freedom	Offender
(4) Psychological cost to family/loss of consortium	Family of Offender
"Overdeterrence" Costs	
(1) Innocent individuals accused of offense	Innocent Individuals
(2) Restriction of legitimate activity	Innocent Individuals
(3) Actions taken by offenders to avoid detection (e.g., kill witnesses to reduce chance of being caught)	Society/Offender/Victim
"Justice" Costs	
(1) Constitutional protections to avoid false accusations	Government
(2) Cost of increasing detection rate to avoid differential punishment	Society
Victim Compensation and Reparation Program Administration	Government
Fear of Crime	Potential victims/Society
Precautionary Expenditures/Effort	
(1) Personal Protection (mace/whistles, martial arts training, alarm systems, gated communities)	Potential victims
(2) Defensible space (security guards, lighting)	Society
(3) Primary Prevention (e.g., through education, mass media)*	Government

Note. * Costs estimated in this report

Total Cost of Sexual Violence in Iowa

Sexual violence in Iowa cost an estimated \$5.8 billion total in 2009 (Table 5). The cost was almost \$1,875 per resident. One-fourth of the total cost resulted from sexual violence of children. The largest amount of sexual violence costs is from loss of quality of life and its related pain and suffering (as valued by the legal system). Costs also result from the subsequent sexually transmitted diseases, pregnancy, suicidal acts, and substance abuse that may follow a rape or other sexual assault. Overall, quality of life losses accounted for 89% of total costs. Work loss costs associated with these incidents accounted for 7%, medical costs for 3%, and criminal justice costs for just one percent. Excluding intangibles, the estimated out-of-pocket costs totaled \$624 million.

Table 5. Estimated Total Costs of Sexual Violence, Iowa, 2009 (in 2010 Dollars)

Cost Category	Age 0-17	Age 18 & Over	TOTAL
Medical Care	7,655,000	31,264,000	38,919,000
Mental Health Care	84,784,000	50,867,000	135,651,000
Lost Work	33,681,000	99,263,000	132,944,000
Property Damage	\$717,000	4,627,000	5,344,000
Suffering & Lost Quality of Life	1,150,129,000	\$3,652,698,000	4,802,827,000
STDs	5,188,000	34,797,000	39,985,000
Pregnancy	1,195,000	5,458,000	6,653,000
Suicidal Acts	145,083,000	290,161,000	435,244,000
Substance Abuse	34,251,000	68,468,000	102,719,000
Victim Services/Out of Home Placement	10,053,000	1,376,000	11,429,000
Investigation/Adjudication	8,480,000	4,189,000	12,669,000
Sanctioning/Treatment	8,526,000	34,109,000	42,635,000
Earning Loss While Confined	7,609,000	31,295,000	38,904,000
Primary Prevention			906,464
TOTAL	1,497,351,000	4,298,130,000	5,806,829,464

Costs Per Sexual Violence Incident

Table 6 shows the costs per sexual violence incident in Iowa in 2009 (stated in 2010 dollars). For children, sexual violence costs averaged \$194,238 per incident. For adults, rape costs were \$137,486 per incident and other sexual assaults cost \$405. Adults had lower mental health care costs, less quality of life loss, and were less likely to incur costs related to suicidal behaviors or substance abuse than children when they were victimized by sexual violence.

Table 6. Estimated Costs per Sexual Violence Victimization in Iowa, 2009 (in 2010 Dollars)

Cost Category	Childhood Sexual Violence Age 0-17 *	Adult Rape Age 18 & Over	Childhood Sexual Violence, Age 0-17 and Adult Rape, Age 18 & Over	Adult Other Sex Assault, Age 18 & Over
Medical Care	993	1,000	998	0
Mental Health Care	10,998	1,627	3,502	0
Lost Work	4,369	3,175	3,414	0
Property Damage	93	148	137	0
Suffering & Lost Quality of Life	149,193	116,500	123,041	405
STDs	673	1,113	1,025	0
Pregnancy	159	182	178	0
Suicidal Acts	18,820	9,281	11,190	0
Substance Abuse	4,443	2,190	2,641	0
Victim Services/Out of Home Placement	1,304	44	296	0
CRIMINAL JUSTICE-RELATED EXPENSES				
Investigation/Adjudication	1,100	134	327	0
Sanctioning/Treatment	1,106	1,091	1,094	0
Earning Loss While Confined	987	1,001	998	0
TOTAL	194,238	137,486	148,840	405

Note. Omits problems that result from people who perpetrated and for family and friends of people who were victimized or perpetrated.

* Childhood sexual violence includes rape and other nonforcible sex assaults among children.

Nearly two-thirds (61%, or \$3.54 billion) of estimated costs of sexual violence were spent on victims (Figure 1) ages 18-44. Over one-fourth of the costs (26%, or \$1.51 billion) resulted from sexual violence against children (ages 0-17). An estimated 13% of the costs involved victims over age 45. Assaults of females accounted for 77% of the sexual violence costs (Figure 2). Female child victimizations resulted in 19% of all costs and 74% of the costs for child sexual violence; female adult victimizations accounted for 58% of all costs and 78% of adult sexual violence costs.

\$5.8 Billion Sexual Violence Costs by Age Group

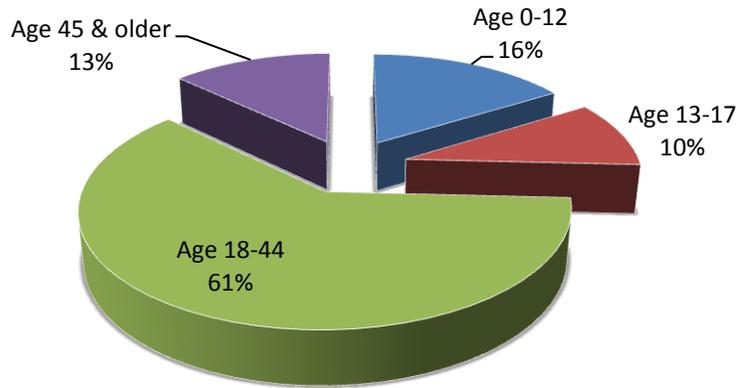


Figure 1. Sexual Violence Costs by Age Group

\$ 5.8 Billion Sexual Violence Costs by Age Group and Gender

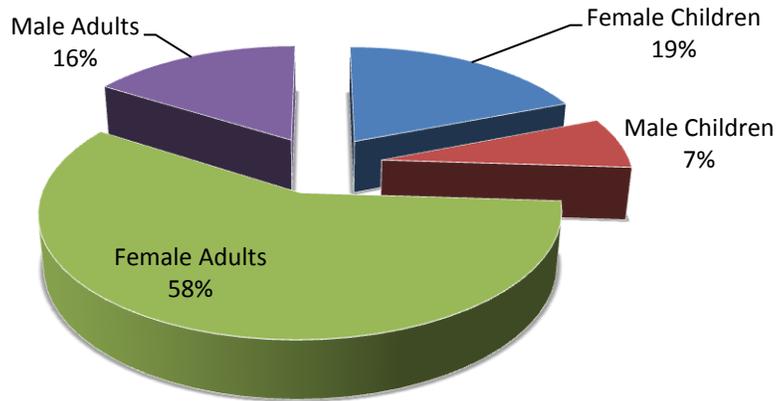


Figure 2. Sexual Violence Costs by Age Group and Gender

Government Spending on Sexual Violence

Government spending is a subset of the costs of sexual violence. Government funds from public sources are predominantly used to support criminal justice system expenses, medical costs of examinations following sexual violence, and services to the victims. These sources are from both tax revenues and fees from criminal fines and penalties, and the costs presented in this report are from these two sources combined. Estimated government spending on sexually violent offenders in Iowa was higher than on people who were assaulted or raped in 2009. Only 44.4 million (44%) of government spending was for victims (Figure 3). This estimate includes both federal and state expenditures.

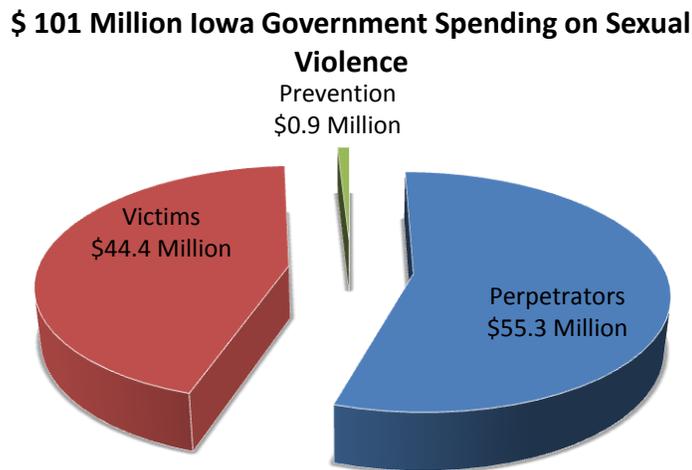


Figure 3. Iowa Government Spending on Sexual Violence Victims and Perpetrators

In fiscal year 2009, Iowa spent at least \$55 million on people convicted of sexual felonies (Table 7) and an unknown amount on offenders who pleaded to or were convicted of a lesser offense like assault or a misdemeanor sexual offense. By far, the largest expenses were for probationary supervision and confinement in prisons and jails. No data were available on the frequency or cost of inpatient treatment for perpetrators not under supervision. At the same time, Iowa spent an estimated \$44 million on victims of sexual violence (Table 8). The bulk of that funding paid medical bills for victims on Medicaid, sexual assault examination payments, and child protective services.

Table 7. Estimated Government Spending on Perpetrators of Sexual Violence, Iowa, 2009 (in 2010 Dollars)

Investigation/Adjudication	12,637,000
Confinement	36,308,400
Halfway House	2,110,100
Community Supervision	1,600,300
Inpatient Treatment	1,753,000
Sex Offender Registry (Partial Cost)	855,000
TOTAL	55,263,800

Table 8. Estimated Government Spending on Victims of Sexual Violence, Iowa, 2009 (in 2010 Dollars)

Medical Care	35,236,000
Victim Services	1,601,200
Child Protective Services	7,567,300
TOTAL	44,404,500

Despite the fact that most money is spent after incidents of sexual violence, Iowa has focused efforts to prevent sexual violence from occurring in the first place. These efforts include promoting respectful dating behaviors, helping parents identify the signs of sexual abuse risk in children, increasing intervention from bystanders to stop sexually-harassing behaviors, and changing social norms around sexual violence. In fiscal year 2009, Iowa spent only \$906,464 (from state and federal sources) (Table 5) on sexual violence prevention programs.

Government costs were compiled primarily from state-level programs and record systems; therefore, this report omits city and county costs. Medicaid costs were estimated under the assumption that Iowa residents with Medicaid coverage were sexually assaulted at the same rate as other residents.

Direct and Indirect Costs of Sexual Violence

In Table 9, the costs of sexual violence in Iowa were categorized into direct and indirect costs. Direct costs in this report were defined as those that arise directly from acts of sexual violence and represent actual payments by individuals or organizations. Indirect costs referred to lost resources and opportunities resulting from sexual violence, including reduced quality of life (Miller, Cohen, & Wiersema, 1996; Miller, Taylor, & Sheppard, 2007; Minnesota Department of Health, 2007; World Health Organization, 2008).

Direct medical costs include costs of medical care, mental health care, victim services and out-of-home placement, investigation and adjudication, sanctioning and treatment, primary prevention, and part of the costs of the STDs, pregnancy, suicidal acts, and substance abuse. An estimated \$307,600,464 was spent on direct costs of sexual violence in Iowa in 2009 (Table 9).

Indirect costs estimated in this report include lost work, property damage, suffering and lost quality of life, loss of earnings while confined, and part of the costs of STDs, pregnancy, suicidal acts, and substance abuse. An estimated total of \$5,499,176,000 was spent on indirect costs for sexual violence in Iowa in 2009 (Table 9).

Table 9. Direct and Indirect Costs of Sexual Violence in Iowa, 2009 (in 2010 Dollars)

Cost items	Total Cost	Direct Cost	Indirect Cost
Medical Care	38,919,000	38,919,000	
Mental Health Care	135,651,000	135,651,000	
Lost Work	132,944,000		132,944,000
Property Damage	5,344,000	5,344,000	
Suffering & Lost Quality of Life	4,802,827,000		4,802,827,000
STDs	39,985,000	5,538,000	34,447,000
Pregnancy	6,653,000	2,935,000	3,718,000
Suicidal Acts	435,244,000	8,354,000	426,890,000
Substance Abuse	102,719,000	15,798,000	86,921,000
Earning Loss While Confined	11,429,000		11,429,000
Victim Services/Out of Home Placement	12,669,000	12,669,000	
Investigation/Adjudication	42,635,000	42,635,000	
Sanctioning/Treatment	38,904,000	38,904,000	
Primary Prevention	906,464	906,464	
TOTAL	5,806,829,464	307,600,464	5,499,176,000

Policy Implications

Sexual violence is a serious and costly public health problem in Iowa, with profound short- and long-term impacts on victims' physical, mental, and sexual and reproductive health (Anda et al., 2004). In addition to the enormous suffering and wide-ranging emotional costs of victimization, sexual violence causes substantial financial damage to the victims and their families and imposes significant costs as a result of society's response to victimization. Injuries due to sexual violence result in high levels of direct expenditures for the health care, law enforcement, criminal justice, and service systems. More importantly, acts of sexual violence lead to far larger indirect costs that arise from lost productivity and an inability to continue with activities of daily life (Dolezal, McCollum, & Callahan, 2009; Lyon, 2002; MacMillan, 2000; World Health Organization, 2004).

Research has shown that sexual violence can be prevented before it occurs by implementing comprehensive prevention programs that address its root causes (National Alliance to End Sexual Violence, 2010). Thus, information on the economic costs of sexual violence and the potential

savings that could result from prevention programs is crucial to inform policymakers as they make decisions about funding, programming, and policy.

The costs of sexual violence provided in this report are likely underreported because of the combination of underestimating the incidence of sexual violence and lack of detailed data on several costs. However, utilizing rigorous methodology and systematically examining the economic costs of sexual violence in Iowa, this report provides important evidence for policymakers as well as community-based prevention program planners. It is critical to ensure that child victims of sexual abuse receive early and prompt treatment to reduce the risk of later victimization or the social costs associated with it. Studies also show that treating adolescent sex offenders is more likely to stop future offenses than simply incarcerating them. Policymakers should weigh the true costs of sexual violence against the benefits of an investment in prevention. By allocating even 5% of the current funds spent on the consequences of sexual assault in the criminal justice system, Iowa could begin to have broader reach for its prevention efforts.

Efforts should be made to impact the risk and protective factors associated with sexual violence. For example, investments should be made in community programs that promote healthy relationship skills among teens and strengthen youth relationships with supportive adults. Moreover, organizational policies can be improved to promote safety and accountability for sexually violent behaviors, and change social norms that condone sexual violence. Finally, more research is needed to add to the growing evidence base in this field.

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Appendix

Methodology Summary

1. **Methods used for estimating numbers of people who were victimized by sexual violence**

Non-institutionalized adult sexual violence victims: To estimate the number of Iowa adults sexually victimized, the average rates from the only Iowa BRFSS Survey that included the sexual violence supplement (2006) were multiplied them by the state’s official 2009 population estimates (**Table 1**). The Iowa Behavioral Risk Factor Surveillance Survey (BRFSS) questions supported separate estimates of rapes, other sexual assaults involving physical touching, and incidents without physical touching.

Adult Rape, Age 18 and Older. To estimate the number of Iowa adults sexually victimized, the rates from the only Iowa BRFSS that included the sexual violence supplement (2006) were averaged, then multiplied by the state’s official 2009 population estimates (**Table 1**). Rape of an adult in the past year was defined as “yes” responses to questions in the 2006 Iowa BRFSS (Iowa Department of Public Health, 2006) that asked about completed or attempted “unwanted sex” that “includes things like putting anything into your vagina [if female], anus, or mouth or making you do these things to them after you said or showed that you didn’t want them to or without your consent. It includes times when you were unable to consent, for example, you were drunk or asleep, or you thought you would be hurt or punished if you refused.”

Adult Other Sexual Assaults, Age 18 and Older. To estimate the number of Iowa adults sexually victimized, the rates from the only Iowa BRFSS Survey that included the sexual violence supplement (2006) were averaged, then multiplied by the state’s official 2009 population estimates (**Table 1**). Other adult sexual assault in the past year was operationally defined as “yes” responses to the 2006 Iowa BRFSS questions, “Did anyone touch sexual parts of your body after you said or showed that you didn't want them to or without your consent (for example being groped or fondled)?” or “Did anyone expose you to unwanted sexual situations that did not involve physical touching? Examples include things like sexual harassment, someone exposing sexual parts of their body to you, being seen by a peeping Tom, or someone making you look at sexual photos or movies?” To avoid double-counting, adults who answered “yes” to the questions about rape were excluded from the estimated number of other sexual assaults.

Non-institutionalized child sexual violence victims: Non-institutionalized childhood sexual violence incidents include both rapes and other sexual assaults in order to be consistent with the legal definition of childhood sexual abuse. To compute the frequency of childhood sexual violence, average numbers of children in grades 9-12 who reported they had ever “been physically forced to have sexual intercourse when” they “did not want to” in the 2005 and 2007 Youth Risk Behavior Survey (YRBS) (Iowa Department of Education, 2008) were used. The YRBS designers assume this question captures anal and oral intercourse. Since some of those incidents may not elicit yes responses, the count is conservative.

It is assumed, by gender, that the ratios of completed/attempted rape incidents versus incidents involving only unwanted touching or incidents without touching reported in the BRFSS (**Table 1**) would apply to the YRBS responses. Since young children are less able than an adult to stop unwanted touching and remarks, childhood sexual violence estimates in this report, therefore, were conservative.

The count of child sexual abuse cases came from Iowa Child Protective Services data (CPS) (National Child Abuse and Neglect Data System) and included the average confirmed cases and cases closed as lacking preponderance of evidence needed to take official action between the year 2006 and 2009. These cases were subtracted from the broader counts. The breakdown of cases by age group came from Iowa CPS data and Iowa Uniform Crime Reports (UCR) data on police-reported child sexual assaults.

Annual assaults were derived from the lifetime assaults taking into account the national pattern of multi-year victimization of children reported in the National Adolescents' Survey. The average annual percentages across the two surveys were multiplied by the corresponding 2009 population estimates by gender and age group in Iowa.

Sexual Violence Incidents among the Institutionalized: Incidence rates by gender from Bureau of Justice Statistics (BJS) surveys of inmates in prisons, jails, and juvenile detention facilities (Beck et al., 2010a,b) were used for the estimation of sexual violence incidents among the institutionalized. These rates were multiplied by the number of prisoners in Iowa reported to BJS (Harrison et al., 2006; Sickmund, 2010; West, 2010). The most recent data were from 2005 for jails, 2007 for juvenile detention, and 2009 for prisons. In the inmate surveys, during a one-year period, the average incarcerated victim is victimized 3.68 times if an adult female, 5.51 times if an adult male, and 5.88 times if a juvenile. Conservatively, only sexual encounters between adult prisoners and staff were included as rape if the prisoners said those encounters were unwilling or pressured, even though legally any such sex is non-consensual.

Rates and incidents: The number of individuals who experienced sexual violence, including rape, per 100 population, by age and gender (**Table 2**), was derived using the following formula: (number of victims by age and gender divided by Iowa population of that age and gender) * 100. Nationally, the average non-institutionalized victim is raped 1.26 times during the year, according to the National Crime Victimization Survey. This multiplier was used to estimate the total number of incidents of adult rape and childhood sexual violence in **Table 3**.

2. Methods used for estimating costs of sexual violence in Iowa

When possible, cost estimates were collected from Iowa state agencies. When Iowa data were not readily available, national and small area studies were used and adjusted to Iowa prices. Most costs not directly available from Iowa sources came from a national study of rape costs (Miller et al., 1996). The U.S. costs were then adjusted to Iowa 2010 prices using ACCRA area price indices, US Census Bureau data on per capita income by state, plus the US consumer price index, employment cost index, and an index based on medical spending per capita. It was assumed that the costs per non-institutionalized incident applied to institutionalized incidents.

**Table 5: Total Cost of Sexual Violence and
Table 6: Cost per Sexual Violence Victimization**

Total costs (**Table 5**) are the product of unit costs from **Table 6**, and incidence from **Table 1**, multiplied by 1.26 incidents per case, the national estimate of the number of times an average victim is raped during the year. This multiplication is carried out separately for each of the three major categories of sexual violence with costs calculated. All computations were carried out before rounding.

*For example, to get medical costs for 0 - 17 year olds: \$993 (the value in Table 6 before it was rounded to the nearest \$100) * 5,930 (from Table 1 total for ages 0 - 17) * 1.26 = \$7,655,000), the number listed in Table 5.*

Medical Costs -- The 2000 - 2004 National Crime Victimization Survey data were pooled and tabulated to estimate the distribution of place of medical treatment for rape victims. Medical costs for physical assault, with or without rape, by place of medical treatment came from a recent national study (Corso et al., 2007). Using this information, the following formula was applied: (a) medical cost per physical assault by place of treatment and gender, times (b) ratio of medical costs per sexual assault to medical costs per physical assault by place of treatment, times (c) an adjuster of 1.054 that adds the costs of medical claims processing. An emergency transport cost of \$14 per case (times the claims processing expense) was added.

Mental health care - Estimated mental health care utilization and costs for sexual violence based on a national provider survey and applied to Iowa.

Lost work - Estimated from the National Crime Victimization Survey data and applied to Iowa.

Property damage - Estimated from the National Crime Victimization Survey data, and applied to Iowa.

Quality of life - Quality of life losses and related pain and suffering dominate the costs of sexual violence. They result from sexual assault and subsequent sexually transmitted diseases, pregnancy, suicide acts, and substance abuse which are listed below.

Pain and suffering - Pain, suffering and lost quality of life costs are based on nationwide jury awards to rape victims for their non-monetary losses, excluding punitive damages (Miller, Cohen, & Weirsema, 1996).

Sexually Transmitted Diseases (STDs) / Pregnancy -Some medical and mental health care costs of sexual violence are immediate, but others arise many years later. For example, the costs of treating sexually transmitted diseases are typically incurred soon after the incident, but mental health care and substance abuse treatment often are not.

These costs were modeled for this report using STDs incidence and pregnancy studies that tracked rape victims, and national STDs and pregnancy unit cost data adjusted to Iowa prices. Incidence of these events was computed from small area studies of the probability of being exposed, times the probability of transmission if exposed. In computing overall transmission, the

formula recognized that no transmission would occur if both the perpetrator and victim already had the same STD. Cost for the different STDs came from national studies focused on the STDs.

A national sexual victimization survey found that rape of a female aged 12-45 yielded a five percent risk of pregnancy and that 50 percent of these pregnancies ended in abortion (Holmes et al., 1996). This pregnancy risk was applied through age 50, which is the average age of menopause. Medical costs for pregnancy were computed and pooled from national survey data using three factors: (1) costs associated with the probability that a pregnancy resulting from rape would end in abortion rather than a miscarriage or live birth; (2) Iowa medical costs per live birth; and (3) Medicaid and private health insurance data on medical costs for abortion, miscarriage, and prenatal care. Work loss and quality of life costs for STDs and for pregnancies not brought to term came from a national study (Miller, 2004) whose findings were then applied to Iowa.

Using national average unit cost data and adjusting to Iowa prices, it is estimated that sexual violence in Iowa in 2009 resulted in an estimated 9,031 STD cases. It caused 600 pregnancies that resulted in 300 abortions. Per case, the most expensive of the sexually transmitted diseases is HIV/AIDS. The second most costly, which strikes women who are not treated promptly for some STDs, is pelvic inflammatory disease which can cause infertility. Pregnancy also is costly. The pregnancy cost estimate includes prenatal care costs. Sexual violence in Iowa during 2009 will eventually cause an estimated 4,770 victims to start abusing alcohol, tobacco, or other drugs. In addition, an estimated 1,220 victims will die or require medical treatment for suicidal acts.

Substance Abuse/Suicidal Acts - Incidence of substance abuse and suicidal acts were modeled using data from studies of twins (Kendler et al., 2000; Nelson et al., 2002). Twin studies often allow for study of unique events or occurrences while controlling for environment, age and other socioeconomic variables. These studies examined responses in which one twin experienced a sexual assault as a child and the other did not. They computed the elevation in risk of substance abuse or suicidal acts resulting from child sexual violence. The analysis assumed that child sexual assaults raise risk by twice as much as do adult rapes. Published national unit cost data were adjusted to Iowa prices. Costs of alcohol abuse and illicit drug use and the medical and work loss costs from smoking came from Miller and Hendrie (2006); with Fellows et al. (2002) providing the data needed to compute the quality of life loss from smoking. Medical and work loss costs for suicide acts came from Corso et al. (2007), with Miller et al. (2005) and unpublished supporting data for adults providing the quality of life loss estimate.

Earnings Loss While Confined – This was estimated by multiplying state data on the number of days in confinement during FY 2010, times the mean daily wage per Iowa adult, plus average fringe benefits computed as a percentage of wages.

Table 7: Government Spending on Perpetrators

Investigation costs – Based on Iowa police expenditure data and the survey by Miller et al. (1996) of police departments with time-monitoring systems.

Adjudication costs – Iowa data on prosecution costs.

Supervision costs – Computed from Iowa data on the number of criminals under supervision and the associated costs.

Table 8: Government Spending on Victims

Medicare and Medicaid costs – Estimates for sexual violence victims were determined by multiplying total medical costs times the percentage of U.S. residents covered by Medicare and/or Medicaid.

Victim services costs – Funding for Iowa sexual violence service programs for 2009.

Out-of-Home Placement – Costs for out-of-home placement for episodes related to sexual violence from Iowa Child Protective Services.

Table 9: Direct and Indirect Costs of Sexual Violence

Direct costs – A total of \$307,600,464 direct costs were estimated for sexual violence in Iowa. Direct costs include costs of medical care, mental health care, victim services and out-of-home placement, investigation and adjudication, sanctioning and treatment, primary prevention, and part of costs of the STDs, pregnancy, suicidal acts and substance abuse costs.

Indirect costs – A total of \$5,499,176,000 in indirect costs were estimated for sexual violence in Iowa. Indirect costs were calculated by summing the costs of lost work, property damage, suffering and lost quality of life, loss of earnings while confined, and part of the costs of STDs, pregnancy, suicidal acts and substance abuse.