Table of Contents

1. Introduction

a. International recognition of violence against women as a human rights issue and the need for research 3

b. Definition and prevalence of violence against women 4

c. The economic costs of violence against women: Types 6

d. The economic costs of violence against women: Categories 8

Table 1: Categories and examples of costs resulting from violence against women 12

e. Why measure the economic costs of violence against women? 14

2. Review of the Literature 17

a. Early studies, predating national violence statistics 18

b. Early top-down studies using nationally representative data 21

c. Supporting papers and estimates of specific costs 22

d. Later top-down studies using nationally representative data 24

3. Methodological Discussion

a. The Accounting Model 27

b. Data requirements for the Accounting Model 29

c. Intangibles: Pain and Suffering 31

d. Importance of data collection and manipulation 34

e. Evaluating estimates of the costs of violence against women 35

4. Conclusions 44

5. Annotated Bibliography 46

Appendix 1- Table 2 Costs of Violence Studies 59

1. Introduction

a. International recognition of violence against women as a human rights issue and the need for research

Violence against women has been recognized internationally as a major violation of a woman's human rights. This was formalized in 1993 with the United Nations Declaration on the Elimination of Violence Against Women, which, building upon themes developed at the World Conference on women held in Nairobi, stated that violence against women is both a result of and an obstacle to the achievement of women's equality, affecting all women world-wide.[1] Echoing this, the 1995 Beijing Platform for Action of the Fourth World Conference on Women not only called for the elimination of all forms of violence against women, but more specifically recommended that work be done to:

> *Promote research, collect data and compile statistics, especially concerning domestic violence relating to the prevalence of different forms of violence against women, and encourage research into the causes, nature, seriousness and consequences of violence against women and the effectiveness of measures implemented to prevent and redress violence against women.*[2]

Additionally, it called for the wide dissemination of these results.

Five years later, the Inter-American Commission of Women, in partnership with the International Centre for Criminal Law Reform and Criminal Justice Policy (ICCLR) and the United Nations Latin American Institute for the Prevention of Crime and the Treatment of Offenders (ILANUD) conducted a review in the Americas of progress made toward the goals set out in the Beijing Declaration and Platform for Action and found that the level of knowledge about violence against women was frustratingly inadequate. It concluded that:

> *The absence of data is being felt and deplored in most countries of the region. In particular, victimization surveys and standardized data on the experience of women who personally face incidents of violence are lacking. The planning and monitoring of social and institutional change and the evaluation of its impact is not possible without such information.*[3]

In 2003, in an effort to take some decisive steps toward addressing these issues, the United Nations (UN) called for an in-depth study on all forms of violence against women. This was intended to be, "A statistical overview on all forms of violence against women, in order to better evaluate the scale of such violence, while identifying gaps in

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[1] *Declaration on the Elimination of Violence against Women*, UN Doc A/RES/48/104, 20 December 1993
[2] Fourth World Conference on Women *Platform for Action*, Strategic Objective D.2, No. 129(a), 1995.
[3] Violence in the Americas - A Regional Analysis Including a Review of the Implementation of the Inter-American Convention on the Prevention, Punishment and Eradication of Violence Against Women: Executive Summary, 2000.

Australia, China (Hong Kong), Costa Rica, the Czech Republic, Denmark, Greece, Italy, Mozambique, Poland, Philippines and Switzerland. Other interested countries such as Argentina, Canada, Estonia, Kazakhstan, Indonesia, Spain (Basque region), Serbia, and Ukraine are still waiting to secure funding for the survey. Results are expected to be released in 2005. Early results suggest that findings are remarkably consistent internationally, and are in line with the 1993 Statistics Canada results.[9]

Reliable prevalence figures are important for any national study of the economic costs of violence against women. Having figures that are comparable across countries, but also address country specific issues, is important to the understanding of the breadth and nature of the problem. As data from these international initiatives become available, the economic costing literature will benefit.

c. The economic costs of violence against women: Types

Costs of violence against women are widespread throughout society. Every recognizable effect of violence has a cost whether it is direct or indirect. Direct costs come from the use of goods and services for which a monetary exchange is made. Direct costs exist for capital, labour and material inputs. Indirect costs stem from effects of violence against women that have an imputed monetary value even though they do not involve an actual monetary exchange, such as lost income or reduced profits. Effects of violence against women also include intangible costs such as premature death, and pain and suffering for which there is no imputed monetary value in the economy. Costs can also be borne in the short-run or the long-run.

To simplify understanding of these different costs, the types of costs can be combined into four categories: direct and tangible, indirect and tangible, direct and intangible and indirect and intangible.

- ***Direct tangible costs*** are actual expenses paid, representing real money spent. Examples are taxi fare to a hospital and salaries for staff in a shelter. These costs can be estimated through measuring the goods and services consumed and multiplying by their unit cost.

- ***Indirect tangible costs*** have monetary value in the economy, but are measured as a loss of potential. Examples are lower earnings and profits resulting from reduced productivity. These indirect costs are also measurable, although they involve estimating opportunity costs rather than actual expenditures. Lost personal income, for example, can be estimated by measuring lost time at work and multiplying by an appropriate wage rate.

- ***Direct intangible costs*** result directly from the violent act but have no monetary value. Examples are pain and suffering, and the emotional loss of a loved one through a violent death. These costs may be approximated by quality or value of life measures, although there is some debate as to whether or not it is appropriate

[9] *The International Violence Against Women Survey*, http://www.heuni.fi/12859.htm

to include these costs when measuring the economic costs of violence against women. This debate is explored in part 3.

- ***Indirect intangible costs*** result indirectly from the violence, and have no monetary value. Examples are the negative psychological effects on children who witness violence which cannot be estimated numerically.

While all tangible costs should be measurable, many are not due to a lack of data. All published estimates of the costs of violence against women include examples of direct tangible costs, and most include some indirect tangible costs, such as lost earnings from time away from paid work. Attempts to measure the direct intangible costs are less frequent and no studies attempt to put a dollar value on the indirect intangibles.

The above types of costs can be borne by individuals, including victims, perpetrators, or other individuals affected by violence; businesses; governments at all levels; and by society in general. With regard to societal costs there are two forms that costs can take: the first reflects aggregate economic changes while the second demonstrates social consequences. The economic form indicates that some costs of

Studies of the prevalence of violence against women world-wide indicate that violence is an issue that permeates every corner of society, is widespread and costly. A common way to organize the economic costs of violence is to place them in categories based on the consequences of violence and the services utilized as a result of violence. Costs can be found in seven major categories: Justice, Health, Social Services, Education, Business Costs, Personal or Household Costs and Intangibles. Table 1 provides a listing of costs found within each of these categories. Separating the costs into manageable categories facilitates an understanding of the extent of the costs and consequences of violent acts. For researchers working to measure economic costs, the categories also point the way to finding different sources of usable data.

Justice

Justice costs include policing, court trials, penal costs and related costs such as victim compensation, administering community sentences, and organizations that support the incarcerated. They can include labour, capital and material inputs. Capital costs cover such things as buildings for police, courts and penal institutions. Labour costs are related to employees who work for the justice system, while material inputs include such things as gasoline for police vehicles or food provided to prisoners. Most of these costs are usually borne by the public sector, although there may be volunteer hours and legal costs incurred by individuals. In addition to the direct costs, the indirect costs include the lost earnings of those incarcerated for violence, as well as those attending court proceedings.

Health

Health is another area that is expensive for the state, and also for individuals depending on the extent to which health care is publicly or privately funded. Health costs result from both direct and indirect health concerns caused by violence. They can also be both short and long-term. Direct health costs in the community include short run and long run health care in doctor's offices, clinics of all types and hospitals. As in the case of justice costs, health costs include capital, labour and material inputs. Capital costs are such things as land, buildings, infrastructure, laboratory equipment, machinery, and vehicles. Labour costs cover services provided by physicians, nurses, other professionals such as dentists and pharmacists, technicians and support staff. Material inputs can include such things as hospital food, drugs, technical materials such as x-ray films and developing fluids, gasoline and electricity. Direct health costs are also paid by the victim through out-of-pocket costs for such things as health care services, medications, prosthetics, elective surgeries, and alternative health services. Indirect health costs are mostly borne by the individuals. They include such things as reduced longevity, the effects of poor health on lifestyle choices, and reduced mobility affecting the ability to participate in public life. These are also included in the personal cost category. Health costs can be multiplied throughout society, such as the spread of HIV/AIDS among

Social Services

Social costs stem from the provision of public services to both victims and perpetrators of violence against women. They can be privately or publicly funded. Social services include social welfare agencies helping abused women, abusive men and their children. Any time an individual accesses any public service as a result of violence against women, a cost is incurred. The service may be provided through a church, community center, social worker, religious leader, or private agency. The list of services accessed by victims of violence is vast. Each agency incurs the direct costs of capital, labour and material inputs. Additionally, many of these agencies use volunteer labour in their operations. To the extent that women victims of violence are also volunteer workers, violence lowers the volunteer hours supplied by them. Those agencies that are supported through volunteer donations also suffer reduced revenue as a result of the reduced discretionary incomes of victims and their families.

There is also a cost to government agencies of administering social welfare payments to women who leave abusive situations. The actual welfare payment itself is not measured as a cost since it is a direct transfer payment, although the opportunity cost of alternative uses of the tax revenue could be included. Finally, governments directly bear many costs related to violence against women such as time in creating laws, administration of ministries responsible, policy analysis, research initiatives and public information programs.

Education

Education costs can include the added demand for special education services related to behavioural problems and learning disabilities in children who witness abuse at home, as well as school programs with the aim of reducing violence against girls. Training programs for women to re-enter the workforce after leaving abusive partners are also included. An indirect cost is the reduced earning capacity of women and girls who have reduced educational attainment as a consequence of violence.

Business and Employment Costs

When violence happens at home, the woman's paid work environment is affected as well. These effects have a serious impact on the business sector. Business costs include her lost time at work and reduced attention, the time her co-workers spend covering for her, the time she may spend in the restroom or on the phone with friends or family, actual time she may need to take off work, administrative time spent processing her time off, administrative costs for the search and training of a replacement employee if she leaves the job, administration costs for programs or policies designed to help support her, lost profits from her decrease in output, and the increase in overtime payments to other workers who cover for her. Some of these costs are accounted for in the woman's personal loss of income, and must not be counted again. However, there are additional costs to the business sector beyond the lost productivity reflected in her earnings. Costs to

the firm can also include the administrative costs of processing harassment suits or union grievance procedures for violence occurring in the workplace.

On a broader scale, violence against women lowers their earning potential which results in lost tax revenue from reduced output and income and consequently lower GNP.

Household and Personal

Many personal and household costs result from violence against women. Victims spend a great deal in direct out-of-pocket costs for such things as transportation, childcare, alternative therapies, replacing destroyed belongings, relocation, and medications. These expenditures greatly affect household consumption, skewing it away from the goods and services that would be chosen in the absence of violence.

Additionally, individuals and their households pay indirectly through attaining lower income. Reduced income stems from time off work, lower productivity while at work, quitting or lost promotions, and generally having a more marginal labour force attachment. Another indirect cost borne by victims and their families is the loss of unpaid household production. When a woman is injured or emotionally upset, she performs less of her household responsibilities.

Finally, the household faces costs if the victim leaves the abusive household and loses the economies of scale derived from sharing one domicile. That is, more work is required to produce the same level of output in two households than in one. For example, one person can cook a meal for two or more people with only a marginal increase in time and materials compared to two people cooking two meals. The additional resources used to produce the same level of output are a longer term cost of the violence that caused the separation.

With the combination of less money coming into the household, money being spent on goods and services required to cope with the violence, and lower levels of household output, it is easy to see that households resources, purchases, time and effort are distorted away from the lifestyle and happiness that could be achieved in the absence of violence.

Intangibles

Many consequences of violence are not tangible. Intangibles are very difficult to cost, and many studies do not attempt to do so. Nevertheless they represent very important and significant costs. A few examples include the fear that women harbour as a result of abuse; pain and suffering or the loss of life; and second generation effects of violence. It is impossible to measure the costs associated with fear and, while attempts have been made at developing measures of pain and suffering or loss of life, they are imprecise at best. Finally, second generation effects are well-documented but also not easy to measure.

Table 1: Categories and examples of costs resulting from violence against women

Justice

Police: vehicle use, dispatch center use, emergency response teams, interrogations, training, administrative time, criminal investigations, forensic services, in-court time, restraining orders, coroner.
Legal: prosecuting and defending lawyers' time in office,

Table 1: Categories and examples of costs resulting from violence against women

increased. Measuring the costs of violence proves with accountability that preventing violence against women is not only the right thing to do but is also the financially prudent thing to do.

Because businesses are also affected by the consequences of domestic violence through lost time and productivity, demonstrating these costs helps to influence businesses to respond to issues of abuse in their workplace. They might choose to support their victimized employees through support services, or through educating managers about violence against women and its effects at work. When violence affects the profit margin, there is incentive for businesses to lobby governments to work toward effective prevention strategies. A result of this can be seen in the US health insurance companies who lobby to reduce violence since they end up paying directly for its health-related costs

2. Review of the Literature

Since the first study was done on the economic costs of violence against women in 1988, there have been many studies undertaken on this issue globally. Most of the literature in this field does not estimate original cost figures, but is rather educational in nature, raising public awareness about the enormous costs of not stopping violence. Most authors refer to a relatively small number of papers that actually estimate the costs. Some of these papers are comprehensive attempts to measure national costs, while others are partial exercises measuring only one or a few of the costs. The comprehensive estimates and some of the partial ones are from Australia, New Zealand, Canada, USA, United Kingdom (covering England and Scotland), Finland, Switzerland, Spain and the Netherlands. These countries have some of the highest per capita Gross Domestic Products in the world.[10] This translates into a strong tax base that provides the funds to

Viewing the literature on estimating costs of violence as a whole, it becomes obvious that the exercise is driven by the availability of data. The idea of violence against women having widespread costs, although complex, is easy to conceptualize. However, the possibility of measuring all of its multiple repercussions in any sort of systematic and reliable way is daunting. Data are needed that provide a profile of the victims and the effects of violence in their lives. For example, whether they were injured, sought medical attention, or took time off work must be known in order to begin estimating the related costs. Second, the responses of all the social agencies must be known. For example, how much time the police spend with victims, what the protocols in hospitals are, or how the clergy respond to troubled families are all relevant questions. The more attention that has been paid to the actual effects of violence in women's lives, the better understanding there is of its consequences and the more comprehensive and complex costing exercises can become. Consequently, the more data agencies are able to provide, the more accurate the final estimates of costs can be. The most significant factor, therefore, in reviewing the economic costing literature is the quality and quantity of the data available to the researchers.

a. Early Papers, predating national violence statistics

Most of the early studies on the economic costs of violence against women were from Australia. The first to measure the economic costs of violence against women was Roberts (1988). This study employed a case study methodology based on interviews with 20 individual victims from Queensland about the history of violence in their lives. Roberts measured the direct costs of services used by the women and their children as well as the indirect loss of income over the women's lifetime. The sample was not representative of the whole population however, as it was very small and contained only women suffering severe domestic violence. The average direct cost per victim was estimated at $AUST 51,000. The total direct and indirect costs for the sample of 20 were over $AUST 1 million. This figure was extrapolated to the whole population of Queensland using a proxy for the prevalence rate of 3% for severe domestic violence, which was based on research done in the United States and Canada on battered wives. The total estimate arrived at was over $AUST 108 million for 1988.

Blumel et al (1993) built upon the Roberts model of a retrospective case study of a small number of victims in Queensland. They expanded their study beyond the domestic sphere, including sexual assault and rape victims in their sample. Interviews were conducted with 50 women victims of violence. Based on the service usage reported by the women and the agencies they used, direct and indirect lifetime costs were estimated for the women, their children, their family and friends, the perpetrators and the public. Lifetime costs were calculated on a case by case basis. Costs incurred by the government included welfare, police, legal services, social work, health costs and child

using the 3% prevalence figure. The total was $AUST 408 million in 1993. It appeared that the lifetime costs were not indexed to a specific year.

Another study which also used the Roberts case study methodology was undertaken by KPMG Management Consulting (1994) in Tasmania. A retrospective case study of a sample of 40 women victims of domestic violence was compiled. It improved upon the Roberts model by making the sample more representative of the range of severity of domestic violence, and including more categories of costs. Costs included

determine the difference in usage rates between victims and non-victims. While these papers were a very important first step in measuring the costs of violence against women, their reliability was questionable. First, lifetime retrospective surveys of victims rely on individuals remembering past events and actions. Controls were not used to cross-check whether or not the women had actually accessed the type and number of social services they remembered using. Second, without good prevalence data, the total number of women affected in the population was unknown. This meant that all extrapolations where based on proxy measures. Overall, these early papers are significant because of the great amount of detailed work they provide on the economic effects of violence in women's lives as well as the costs of agency services. Their accuracy in extrapolating to total national costs, however, is more questionable.

and to estimate a more comprehensive measure of the costs of the effects of violence against women to Canadian society. In contrast, the earlier Australian papers were based

the choice to use aggregate statistics when they are available. It also reflects well on the accuracy of the smaller sample surveys conducted by Stanko et al and McGibbon et al.

There are a large number of papers that feed into the study of violence against women but are not explicitly focused on estimating costs. Results from these papers and others like them are used to support assumptions made in the costing estimates. For example, Straus and Gelles (1987) first discussed the idea that there were medical and social costs resulting from violence against women. Shepard and Pence (1988) demonstrated a strong relationship between violence in women's lives and labour force activity. Their results showed that women suffering from domestic violence had significantly lower propensities to enter the labour force, to stay at a job, to turn up for work on time, to work productively while at work and to stay in the job without quitting. Hyman (2000) examined the economic consequences of childhood sexual abuse among adult lesbian women, and found reduced rates of education and labour force attainment related to mental and physical health consequences. Morrison and Orlando (1999) examined the effect of domestic violence on women's economic status in Nicaragua and Chile, and found that violence was related to lower income and children's education and to higher use of medical services. Teifenthaler and Farmer (2000) used game-theory analysis to examine the interactive effects of women's labour force activities and violence in their lives. They showed clearly that the more economic independence a woman has, the less violence she is likely to suffer since she has a viable threat of leaving the relationship. The Vic Health group from the state government of Victoria, Australia (2003) measured the disease burden stemming from violence in women's lives and found it accounted for 9 percent of the total burden of disease in woman aged 15 to 44. It ranked higher than smoking, obesity or high blood pressure as a contributor to death, disability and illness. While papers such as these do inform the literature on costing, they do not in themselves contain measures of costs.

There are a number of other papers that measure a single category, or specific cost of violence rather than a comprehensive measure of total costs. The results of these papers are often used as inputs to other costing exercises. For example, Walker et al (1999) looked at the costs of health care by adult women survivors of childhood abuse in one Health Maintenance Organization (HMO) in the United States. To study the differences in medical costs between women survivors of child abuse and the rest of the population, the authors created their own data set from a random sample of 1225 adult women patients in the HMO. The women filled out a 22 page questionnaire relating to their childhood experiences. Data on the use of services by these patients and the costs of those services were collected from the HMO automated system. Using regression analysis the authors compared the costs of medical treatments between adult survivors of childhood abuse with the rest of the sample. They found that, "Women with sexual abuse histories had significantly higher primary care and outpatient costs and more frequent emergency department visits than women without these histories." (p.609) The annual median health care costs of the survivors exceeded the rest by $US 245. Women reporting all forms of abuse or neglect showed increased median annual costs of $US 97 in 1996/97. While these may seem like small numbers, when summed across all survivors in the population, they become substantial.

Another example of a more focused study is the National Centre for Injury Prevention and Control's (2003) measurement of the direct and indirect costs of injuries sustained from intimate partner violence. The authors used US national survey data on intimate partner violence to estimate costs incurred from injuries and deaths. Direct costs included medical and mental health care, while indirect costs included lost productivity as well as lost lifetime earnings for victims who died. The total annual estimate was $US 5.8 billion in 1995.

Faley et al (1999) measured the cost to the American Armed Forces of sexual harassment within the organization during 1988. Surveys were mailed to a large representative sample of both men and women enquiring about their actual experiences of sexual harassment while in the Armed Forces. The usable sample size included over 20,000 active-duty personnel. Costs were determined relating to recruiting, training, transfers, grievances, counselling, quitting and other administrative costs. Based on the actual behaviours reported by the survey respondents, Faley et al estimated the annual total costs in 1994 dollars for the whole Army to be over $250 million. Because the authors collected their own data from a large, representative sample, they were able to create accurate, reliable results including accurate comparisons between victims and non-victims.

A final example of a paper focused on a specific sector is Henderson's (2000) study of the costs of domestic violence to businesses in Australia. The prevalence rates of violence against women that are used are drawn from national surveys, and all data and assumptions are substantiated and supported by reference to other literature. Measured costs include health care, legal costs, costs for children's services, perpetrator's services, and social services. Only the corporate sector share of the tax burden of these expenditures is included in the final estimate, although comprehensive costing estimates are made for all the services considered. Many costs that cannot be estimated are also pointed to and described accurately. Indirect costs include lost income and lost taxation revenue as a result of lower productivity. Calculations are made for victims, perpetrators and friends and family. The total esti

Heiskanen and Piispa (1998) conducted a national random survey of 7000 Finnish women on rates and consequences of violence in their lives.[15] Heiskanen and Piispa (2001) used this earlier work to study the economic costs of violence against women in Finland. The authors also employed national victimization surveys and collected statistical material from service providing agencies, previously published reports, and interviews with experts. They measured the direct costs of health care, social services, police, courts and incarceration. Heiskanen and Piispa also included the indirect costs of the value of lost lives, time lost from paid work and volunteer labour. While they do include lost income from deaths, they do not include pain and suffering. The authors caution that the numbers are still partial due to the continuing lack of good data and women's reluctance to reveal violence in their lives. The total estimated annual cost of violence against women amounted to the equivalent of $US 136 million to $US 198 million in 1998.

Using a national survey of inter-personal crimes, Walby (2004) estimated direct and indirect costs of violence against women in England and Wales. Cost categories included justice, health care, social services, housing, legal, lost output, as well as pain and suffering. Walby built on the model used by the English Department of Transport in costing health care and lost productivity from injuries resulting from car accidents. She also drew heavily on the literature on costing crime. The study is very comprehensive, although it does not include business costs or personal out-of-pocket costs. The measured costs excluding intangibles amounted to almost 5.8 billion pounds in 2001. When intangibles of emotional suffering were included, the total rose dramatically to 22.9 billion pounds.

Bowlus et al (2003) produced a comprehensive measure of the annual costs of child abuse in Canada, including children as well as adult survivors. The prevalence rate for child abuse was taken from a study of child abuse cases handled by the child protection services, while the adult survivor rate came from a representative survey on health of a large provincial population that included questions on childhood abuse. The estimate included direct costs for police, court and other legal costs, penal, social and child protection services, special education, health, and personal needs. When possible the authors used differential analysis so the usage rates resulting from violence would not be overstated. Indirect costs of lost income were analyzed in a regression analysis comparing adult survivors with the rest of the population. The authors also conducted a small-scale non-random survey of 19 adult survivors to elicit information on personal out-of-pocket costs borne by victims. The total estimate amounted to over $CDN 15.7 billion for 1998. This total did not include a measure for pain and suffering.

The Institute for Women of Andalusia, Spain (2003) used the results of a national survey on violence against women as well as a survey of 300 women victims designed to elicit information about their service usage over the lifetime of their suffering. Over 100 indicators of the effects of violence on women and their children were compiled. Costs

[15] M. Heiskanen, and M. Piispa, *Faith, Hope, Battering. A Survey of Men's Violence against Women in Finland*, (Helsinki: Statistics Finland & Council for Equality, Ministry of Social Affairs and Health, 1998).

were estimated for health, judicial, social, educational, employment, and psychological components. Including pain and suffering, the total cost amounted to approximately US$ 2.9 billion in 2002.

A final example of a comprehensive study building upon national survey data is Access Economics (2004). This report produced an accurate and comprehensive estimate of the costs of domestic violence to the Australian economy. Large-scale, representative data sets were used. The categories of costs were reorganized in comparison to other reports and separated into more economic categories than social ones. The categories are health, production-related, consumption-related, second generation, transfer payments, administrative and other costs, and pain, suffering and premature death. These economic categories are less recognizable as the outcome of social organization. For example, instead of looking at personal costs as a category, such costs are found throughout the report. Replacement of property is in consumption-related costs, childcare and counselling are in second-generation costs, and funerals and housekeepers are found in administrative costs. Spread throughout all the categories, direct costs include health, child services, legal, some social services, business, police, legal and penal costs. Direct costs for the long-term consequences of children who witness violence are also included, although the numerical estimates mistakenly measure current children and their future cost in the same year. Indirect costs include lost income and lost household output. The authors create an index of pain and suffering which they convert to a monetary figure using the standard "value of a life" method. The total annual cost is estimated at $AUST 4.6 billion without intangibles and $AUST 8 billion with intangibles. While the reorganization into economic categories is an interesting idea in theory, it is less suited to measuring the economic costs of violence against women as many costs are overlooked this way. The true costs of violence are based in victim's behavioural responses. Separating their responses into theoretical economic categories seems somewhat unnecessary and confusing.

The studies discussed above have created a numerical foundation that demonstrates the enormous costs of violence against women in different countries of the

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3. Methodological Discussion

a. The Accounting Model

While economic costing studies differ in the exact costs measured, the methods of data collection, and the calculations used to estimate quantities, a common component is their use of a basic accounting model to aggregate costs. This accounting model sums the costs of all the different effects of violence on women. It can be thought of as a large matrix of effects across many aspects of society. Each entry in the matrix represents a potential cost to an individual or organization in society, and is measured in a unique way. Summing all the entries, the total cost is made up of the wide variety of specific costs. Within each cost category the basic approach to calculating the cost is the same. Each consequence of violence translates into goods or services used by the victims, their family, friends or co-workers, or the perpetrator. The quantity of the service used is multiplied by the cost of the service for each consequence, in every category of costs. After calculating all the separate costs, they are added together to produce a total cost.

As an example, consider the case of women who access the police or emergency rooms following an act of violence. Calling the police translates into officer hours and administrative overhead, while visiting the emergency ward translates into staff time, technical services such as x-rays and medications, and possibly admission to the hospital. Either police and hospital data, or survey data of victims are needed to measure the number of victims who use the goods and services, and how much they use. Different sources of data from the police and hospitals are also needed to show how much each good or service costs. For example, how many women call the police, and how many women visit emergency wards as a result of violence? What is the average time spent with a victim in service provision? What materials are used in serving her needs? Then, what is the hourly rate of police services including officers and administration, and what are the in-hospital costs of x-rays, staff salaries, or overnight stays? As this example shows, even simple cost measures require a lot of information to calculate.

The accounting model may be used to estimate the total costs of violence against women in an economy, or only some costs in a particular category or sub-category. For example, some studies estimate only health related costs, and within those, some measure only specific medical costs. Whether the scope of the project is broad or narrow, the accounting model is used as the basic framework.

The organization of costs in the accounting model is presented in different forms throughout the costing literature edicstim

improves the exposition of the model making it easier to understand the costs that are being measured and how they are being measured.

This accounting model has been widely used in the studies of developed countries. It has also been expanded for use in developing economies by Duvvury et al (2004). The authors schematically demonstrate the potential paths of services women might follow in each of criminal justice, health care, housing and refuge, legal and social services. They also provide specific mathematical formulas that allow for the pathways to be measured. The modelling framework is designed to help in the collection of data in communities, regardless of the quantity or quality of services available to victims. The formulas are comprehensive although complicated. They are designed to enable researchers to calculate costs of any potential service use pathway. Hence, the same formula could be used in different locales with different levels of service provision. As with all theoretical offerings relating to the costs of violence, the final estimates will still depend on what data have been collected within the communities.

The basic mathematical framework on which calculations within the accounting model are based can be expressed as follows:

$$TCV = \sum_{i=1}^{I} (p_i^V - p_i^{NV}) V_i C_i$$

where *TCV* is the total costs of violence against women to be measured of which there are *I* categories of costs; p_i^V is the percent of violence victims using service *i*, p_i^{NV} is the percent of the population not affected by violence who use service *i*, V_i is the total number of violence victims eligible to use service *i*, and C_i is the per person cost of service *i*. Thus, the level of service *i* is measured by taking the differential usage rate by victims of violence and multiplying it by the number of violence victims to get the number of victims using the service as a result of violence. Costs resulting from violence are then found by multiplying that figure by the per person cost of providing the service.

It is important to recognize that if the usage rate of non-victims, that is, the rate at which victims would use a service in the absence of violence, is not substracted, the calculated costs will overstate the true cost

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regression techniques to control for observable characteristics that may differ across the populations. However, a similar assumption must be made that, conditional on the observable characteristics, unobservable characteristics do not vary across victims and non-victims in a way that is related to the usage of the service. By subtracting the non-victim rate of service use from the victim rate, it is then possible to measure only the costs of the differential use that results from violence.

b. Data requirements for the Accounting Model

The ability to use the above formula requires many different sources of information. Prevalence rates of violence are required in order to calculate accurate values for the different V_i. Measures of costs of services are required to calculate C_i. The calculation of the differential usage rates requires information on the usage rates of both victim and non-victim populations. The best source for these rates is a single comprehensive data set showing the use of a service by both groups, although the data need not have been collected with the intent of studying the costs of violence against women. For example, the source may be a survey about health issues and health care usage. As long as victims of violence are identifiable in the data from the rest of the population, an analysis of the differences can be made.

If a single data set is not available, multiple data sets may also be used to calculate differential rates. What is needed in this case are independent measures of either the victim or non-victim usage rate; the usage rate in the total population; and the prevalence rate of violence in the same population. Using these three measures it is then possible to back out the usage rate of the missing group and calculate the resulting differential rate. For example, assume that a survey of victims is available that includes questions on health care use. This survey provides the usage rate for victims. Assume, in addition, that a different survey of the general population is available on the same health care use, but does not differentiate between victims and non-victims of violence. If there is a third survey that provides the prevalence rate of violence in the same population, these three statistics can be combined to calculate the implied usage rate of non-victims.

In some cases it is not necessary to calculate the usage rate of the non-victim population. This is true when the service is only offered to or accessed by violence victims such as the case with women's shelters. If the entire budget of the service agency can be allocated as a victim service, then the usage rate for non-victims can be set to zero. In this case, the entire budget of the organization can be used as an entry in the matrix of total costs.

It is often the case that many of the necessary inputs for the above formula are not available. In this case an alternative method of calculating the cost can be used. This method uses the total rather than per person costs of providing a service, along with an estimate of the fraction of the service used by victims of violence. The total cost is multiplied by the fraction used by victims to estimate the cost of the service resulting from violence. This is a reformulation of the above equation at a more aggregate level. For example, if details on such things as the time police spend with a victim are not recorded anywhere, then the figure could be estimated by looking at all police calls and

measuring the proportion resulting from acts of violence against women. This proportion could then be applied to the total police budget to ascertain the costs of all police services provided to women victims of violence.

The difficulty with this method is in determining the fraction of services provided as a result of violence. If the agency provides statistics on the total number of services provided as well as a break down by the reasons for the service, then it is possible to determine the fraction of services provided due to violence. Often, though, such data are

c. Intangibles: Pain and Suffering

Not all consequences of violence invo

pain and suffering were included. For advocates arguing for anti-violence policies, numbers like these can over-sensationalize the issue. It may be more prudent to offer a more conservative and substantiated number than one that can lead to the results being dismissed out of hand as excessive or ill-founded.

While these are valid arguments against including estimates of pain and suffering, a strong case can also be made for the opposing viewpoint. For policy-makers, seeing the total costs of violence including pain and suffering gives a more accurate measure of the magnitude of the impact of violence on a victim's life and thus society as a whole. For example, Miller's study that showed the economic costs of rape at $US 7.5 billion per year also showed the costs of larceny (theft of personal pr

These difficulties can result from the fact that each agency or service has its own means of measuring and presenting information. Where a unit of service may exist in data collected in one agency, it may not reappear in any other agency report. It may also vary from jurisdiction to jurisdiction. For instance, one district may report court cases by the crime charged, a second may report cases by types of victims, and a third may not give any breakdown by type of case at all. In addition some agencies may highlight one aspect of their work, while another may highlight something else. Such factors make it difficult to combine the figures or make comparisons.

Different agencies and groups collect data for different reasons, and the reasons may be reflected in the numbers. For example, a homeless shelter may collect data that highlight how they are forced to operate deficit budgets as a way of encouraging fundraisers to contribute. However, businesses that collect internal information to show their shareholders how well they are doing may disguise a deficit problem in one of their departments. Hidden in these data sets is information regarding the costs of violence borne by both agencies, but filtering it out of the total requires different tactics for each case.

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i f e d s e l

Bottom-up versus Top-down Styles of Analysis

Both the limited and comprehensive estimates of costs of violence can be either bottom-up case studies or top-down aggregate studies. Bottom-up studies focus on a case study of a small number of individuals while top-down studies begin with aggregate data. In comparing and contrasting the results of bottom-up and top-down approaches, there are benefits to each approach. Case studies are able to elicit a great deal of information about the effects of violence in women's lives (e.g. Blumel (1993) and KPMG (1994)). Extensive surveys of small groups of women enable researchers to delve deeply into the effects of violence in women's lives. For example, with careful attention to the exact questions asked, it would be possible to use a bottom-up methodology to accurately measure personal costs to individuals. To date a few studies have collected information on personal costs including Blumel et al (1993) and Bowlus et al (2003). However no study has performed a careful numerical study measuring the actual out-of-pocket costs to victims.

It would also be possible to construct case studies of the costs borne by companies or by service providing agencies in their response to violence. No such studies are referenced in the standard costing literature to date. Snively (1994), Stanko et al (1998) and Heiskanen and Piispa (2001) each interviewed agency officials to substantiate information about victims, but not to study the effects in the agencies themselves. Snively created a template to include services offered to victims, patterns of their usage, and costs of the services provided. Stanko et al studied 107 service providing agencies, although they were not able to elicit information on either services provided or costs since the agencies did not keep statistics on these variables. Heiskanen and Piispa interviewed a large number of officials from service providing agencies to elicit information about services offered, although no standardized survey was administered. However, there have been no case-studies addressing the costs of violence to social service agencies specifically.

Another benefit of the case study approach is that it can be performed in a local environment with lower research costs. The small scale of the research also allows for specific topics of interest to be designed into the project. When researchers collect their own data, they have the opportunity to go deeply in a specific direction they are interested in elucidating. Top-down studies are more limited in having to work with data that has been collected for other reasons. For all these reasons, there is an important place for the case study approach in the costing literature.

However, the obvious problem with case-studies is that they are not representative of the whole population of their jurisdiction. Therefore, it is not possible to hypothesize national costs of violence against women from small-scale studies of this type. Since estimates of the costs of violence are used to enlighten discussions of government policy and spending priorities, nationally accurate estimates are needed. Case studies can be best used to point out the effects of violence so that top-down studies can aim to measure the

true economic effects of violence against women. The benefit of top-down studies is that they begin with representative national data and can make use of aggregate statistics from governments, institutions and agencies. It is possible to search widely for data to use in estimating additional entries in the total matrix of all costs. With every new data source discovered and integrated, there is a continued improvement in the final estimate of total costs. As long as researchers continue to in

Zealand. Another good example is the later work by Stanko et al (1997) from London. However, to estimate the total costs of violence to a country, national data on both victims and non-victims are preferred.

ii) Differential Analysis

To accurately estimate the costs of violence against women, the rate at which the victimized women would have accessed the same services for other reasons needs to be calculated to compute a differential usage rate. Without doing so, total costs overestimate the effects of violence. For example, when measuring the penal costs for imprisoned perpetrators, Bowlus et al (2003) subtracted a percentage representing those men who would have ended up in jail during that time for some other charge. The rate of imprisonment in the non-victim population gave the probability of such an alternative event. Most reports estimating the costs of violence against women do not consider this requirement. To date, the only papers to have adjusted rates of service down in this way are Access (2004) and Bowlus et al (2003).

iii) Use and appropriateness of proxy variables

When explicit data are not available for a variable, there may be an appropriate close substitute that can be measured instead. The alternative measure will approximate the level of the missing variable, hence 'proxy.' In the early years of costing exercises there were no prevalence data. For example, Leonard and Cox (1991) and Snively et al (1993) used police records to determine the number of police call-outs for domestic violence in a year. From the call-out rate they calculated the proportion of women in the community who asked for protection from violence while accounting for women who might have called more than once during the time period. These figures were then used as a proxy for the percentage of all women in the community who were victims of violence. They acknowledged that this number would be an underestimate since many women never called the police, so they created different scenarios with arbitrarily chosen multiples of the call-out rates. This is a good example of a proxy measure. The number of women calling the police is not the same as the number of women suffering violence, yet given the available data it was the best measure available.

The need for proxy measures stems directly from the lack of good data. It is important to be careful in choosing proxy measures as appropriately as possible. To select a good proxy, the conditions of violence must be understood, as the accuracy of the final totals depends critically on how close the proxy measures are to the actual figure they stand in for. Usually a conservative proxy is chosen in order to under-estimate total costs.

iv) Support for assumptions

Estimating the costs of violence often requires the use of informed assumptions on a wide variety of topics. In order to take advantage of expertise in the relevant area, these assumptions are based on published literature on the topic. The more papers that exist indicating the same result, the more reliable the assumption is. For example, Day

(1995) used many references from the mental health literature to support the assumption that at least 50% of women patients in psychiatric wards were victims of violence. There is no specific number of papers that guarantees valid support for an assumption, but the more that exist, the better the accuracy.

Alternatively an assumption may be based on the expert testimony of front-line workers. For example, Stanko et al (1998) met with service providers to ensure accuracy of their assumptions about the typical situations of victim

leads to health services would require supporting evidence. The figure for diagnoses cannot be used to represent the amount of service acquired unless there is a way of tying the two units together.

Finally, there may be an overlap between components in differing data sets so care must be taken not to double-count entries. Suppose one data set examines women victims of domestic violence including sexual assaults by conjugal partners, while another data set includes all forms of sexual assault. If the two data sets are combined, then the sexual assaults by partners from one of the data sets must be subtracted in order not to count those victims twice.

Creating usable data is the most challenging aspect of estimating the costs of violence. Because data are collected from a wide variety of surveys, documents, reports and experts, care must be taken in how the information is combined. If the data are combined in a haphazard way, the results will not be accurate. An example of such a study is Fromm (2001) in which figures from differing years and jurisdictions appear to be summed and a variety of costs appear to be double-counted.

vi) Full Cost, Average cost and Marginal cost

There are some costs for which it is appropriate to use the full cost of an agency as the cost estimate. For example, all people who access women's shelters are there as a direct result of violence. Therefore, the entire cost of running shelters can be included as a cost of violence. However, in all other cases, what is being measured is the marginal increase in the use of the service that occurs because of violence. Suppose victims of violence also access homeless shelters. In this case the number of women who use homeless shelters as a result of violence is needed. This is actually a marginal addition to the normal use of homeless shelters. As such, the cost should be measured as a marginal ust beose victimein.Thco,access-0.l1.15 it Tc 17c(hom)a0 -1.06 Tsurveys, documected i1tei6ast11 Tw -f6(ei

viii) The Conservative Underestimate

Even though researchers use logic, reason and the data available to them to the best of their ability, cost measures are always estimates, and always underestimates. Because there are many costs that are impossible to measure, such as reduced life satisfaction, and because many direct costs are just too difficult to measure accurately, such as true out-of-pocket costs to victims themselves, it will never be the case that an estimate of the costs of violence against women is totally accurate. However, there is another way in which costing estimates may not reflect the true costs of violence against women. In observing the literature, it is important to note that all studies make conservative estimates. For example, when working with data, if there is a range of numbers, a number above a mid-point is never used, but often one is used from below. Similarly, if there are two assumptions that could be made, the one that results in a smaller cost is usually adopted. This desire to be cautious in measuring costs comes from wanting to avoid public backlash to very high cost figures. Ultimately however, this conservative approach underestimates the scope of the problem by providing only a lower bound of costs.

Who Bears the Costs of Violence

One problem associated with drawing conclusions based on estimated total costs of violence against women comes when asking who bears how much of the financial burden of the costs. While conclusions are often drawn based on the costs calculated within a study, these conclusions are not robust. The percentage of costs incurred by different social agents reflects only the data and modelling techniques of the study rather than being a clear indication of the actual distribution of costs in the economy. For example, if the data are heavily skewed to personal surveys of women's lives, the costs taken from the survey will overestimate the proportion of costs borne personally by women. If instead the data have all been collected from government agencies, then the percentage of costs borne by the government will appear to be very large. If a study has no personal or business costs, but draws conclusions about who bears the costs, the results will obviously not be accurate. Yet most studies do not measure business costs, and few measure much in the way of personal costs. Thus, it can be seen that the percentages depend totally on the data used. Until a fully comprehensive analysis of the costs borne throughout an entire economy is estimated, it will not be possible to ascertain which social agents pay what percent of the costs.

Gaps in the Literature

There are a variety of gaps in the economic costing literature. The most obvious of these is geographic. Although there are many new initiatives planned around the world, large scale national surveys have only been completed in some countries with the economic means to do so. Further, what can be costed in any location or country depends on the available data. In any given jurisdiction, it may be possible to estimate certain costs but not others, depending on the reliability and accuracy of record-keeping practices

and what data are given priority. International bodies such as the UN can lead the way in encouraging nations to make the collection of evidence on violence against women a priority.

Without such economy-wide comprehensive data, the best that can be obtained is careful analysis combining data from agencies that have documented the effects of violence. In recent years governments and agencies have become more sensitive to the effects of violence and have collected more relevant information. Recent papers in the field make use of this data and demonstrate higher levels of sophistication and care in both methodology and scope.

6. Conclusions

All studies on the costs of violence against women have the same goal and use the same accounting model. Differences arise in the details of how the research is carried out and the jurisdiction to which it applies, rather than the questions asked or approach taken. Although each research project has attempted to reach the same challenging goal, the data resources available to them vary widely. This, more than anything, determines the differences in how researchers have approached the techniques of the common goal of estimating a nation's costs of violence against women.

The major strength of the model is that it works, and the major weakness is how complicated it is to apply well. The strengths of the approach are manifest in its results. Researchers from around the globe have used this model to conservatively measure national costs of violence against women in the billions of dollars annually. These range from the low end of estimated annual costs in Snively (1994), Day (1995) or Henderson's (2000) one to two billion dollars, through Greaves et al (1993), and Walby's (2004) of around 5 billion to Access (2004) of over 8 billion. Clearly, the model works to measure the impact violence has on the society in which it is situated. Additionally, the basic concept of the model is easy to understand. It sums the goods and services used by victims and how much they cost. The model can be applied to any community, in any location, for any type of violence against women.

Another strength of the model is its usefulness. The costs can be used as inputs into studies seeking to understand and prevent violence against women. The costs of violence in an area can be estimated before and after an anti-violence initiative is implemented to discover the social savings resulting from any reduction in violence. Policy analysts can observe the effects of different types of initiatives and choose those that maximize savings relative to the cost of implementation. Because the costs of violence against women are so widespread throughout a whole society, it is always the case that a small amount of money spent on eff

changes in the individual costs. Perfectly calculated estimates

7. Annotated Bibliography

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Buvinic, Mayra, Andrew Morrison and Michael Shifter, "Violence in Latin America and the Caribbean: A Framework for Action." Inter-American Development Bank, March, 1999.
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Godenzi, Alberto and Carrie Yodanis, *Male Violence: the Economic Costs. A Methodological Review*, European Council of Europe, Human Rights Section Equality between Women and Men, 1999.
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This paper argues for the importance of studies to measure the costs of male violence. The authors point out methodological problems such as the difference between concept and operation and the need for informed assumptions in costing studies. This is a good discussion of the issues involved in estimating costs and the need to lay down a solid foundation of accurate estimating techniques.

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Greaves, L., Olena Hankivsky and Joanne Kingston-Reichers, *Selected Estimates of the Costs of Violence Against Women.* London, Ontario: Centre for Research on Violence Against Women and Children Publication Series, The University of Western Ontario, 1995.
This paper measures costs associated with violence against women at the national level in Canada using an accounting model. Some costs of child sexual abuse are also included.

implemented to reduce violence that cost less than $10,000 per victim will be cost effective.

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Deloitte and Touche worked in collaboration with Almenara, Estudios Economicos Y Sociales for the Andalusian Institute for Women in measuring the costs of domestic violence for Andalusia, Spain. They employ an itinerary or critical path approach to victims' use of services. Categories measured include labour market, social services, second generation effects, physical and mental health, and judicial costs. The total is 2.356,8 million Euro, or approximately $US 2.9 billion in 2003.

Irazuzta, J.E., James E. McJunkin, Kapriel Da

includes many categories of costs, and compares its results with those of other studies. The total of identified costs are $CDN 385 million.

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income, and other services as well as pain and suffering and homicides. Tangible costs amount to $US 105 billion, while adding in pain and suffering raises the total to $450 billion in 1993.

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This paper examines the effects domestic violence has on women's labour force participation and earnings, use of health services and children's educational attainment in both Chile and Nicaragua. Surveys of 310 and 378 women respectively are compared through regression analysis to examine for the effects of violence in the two countries. Results show abused women earn lower income, use more health services and their children do less well in school to varying degrees in the two countries.

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savings that could accrue from home-visitation programs in four locations in the US in the mid 1990s. All four studies indicate that prevention programs can be cost-effective.

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Stanko, E.A., Crisp, D., Hale, C. and Lucraft, H., *Counting the Costs: Estimating the Impact of Domestic Violence in the London Borough of Hackney*. Middlesex, UK: Brunel University, 1997.

A thorough study examining selected costs of violence in a London authority. Data were collected from surveys of 107 service providing agencies and 129 women. Prevalence estimates came from the files of key agencies to get a percent of their services provided to victims of domestic violence. Composite cases were compiled based on the survey results and the costs for these 'cases' were

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This paper is a review of international research measuring the costs of violence against women. It argues for the usefulness of an economic perspective in tracking changes from interventions, for informing policy discussions, and for increasing data collection and therefore focusing service provision. The authors point out that in a benefit-cost approach to violence, the benefit to males is to control women's behaviour and remain dominant while the cost to males is small because of the low level of true sanctions.

Appendix 1
Table 2 – Costs of Violence Studies
Chronological listing of papers generating a monetary estimate of costs

Author
Leonard and Cox, Distaff Assoc

				-Government documents -prior research			
Author **Day**	**Date research refers to** 1993 Date of publication 1995	**Country** Canada	**Cost** **$CDN** **1.5 billion**	**Data used (including sample sizes)** -Violence Against Women Survey VAWS -National statistical agency publications -Government budgets -Provincial health survey -Crime victimization survey -Other research results	**Costs covered** Short run and long run: Medical, dental, lost time at paid and unpaid work, psychiatry, drug and alcohol abuse, shelters, crisis lines, volunteer time, government support services.	**Strengths** Clear indication of all assumptions, calculations and data used. Data from all sources is adjusted to the base year Thorough and comprehensive coverage of the areas it covers. Lists many costs including ones that cannot be measured.	**Weaknesses** Does not cover all costs to society No differential analysis
Author **Greaves et al**	**Date research refers to** 1993 Date of publication 1995	**Country** Canada	**Cost** **$CDN** **4.2 billion**	**Data used (including sample sizes)** -VAWS – 12,300 sample -Government statistics -Prior research results -Expert opinion	**Costs covered** Personal: lost earnings and unpaid work, accommodation, relocation, self-defense Deaths Government: lost tax revenues, courts, incarceration, police, legal aid, victim compensation, medical, shelters, counselling, public awareness, research, volunteer	**Strengths** Many small estimates Good data sources Good attempt at comprehensive coverage	**Weaknesses** Partial estimates only, not comprehensive Preliminary research, rough-and-ready numerical analysis Arbitrary assumptions that are not supported No differential analysis

					hours		
Author **Kerr and McLean**	**Date research refers to** 1994 - 95 Date of publication 1996	**Country** British Columbia, Canada	**Cost** **$CDN 385 million**	**Data used (including sample sizes)** -VAWS -Provincial government ministry budgets -National crime survey	**Costs covered** Policing, corrections, compensation, social programs for victims and perpetrators, mental health, alcohol and drug treatment, shelters, loss of paid and unpaid worktime.	**Strengths** Clear indication of calculations, assumptions and data used. Comprehensive analysis of costs it covers. Compares own results with other Canadian studies	**Weaknesses** No personal or business costs. Covers government sector only No differential analysis
Author **Miller et al**	**Date research refers to 1990** Date of publication 1996	**Country** USA	**Cost for all crime - $US 105 billion tangible, $450 billion including intangibles**	**Data used (including sample sizes)** -FBI Uniform Crime Reports (UCR) -National Crime Victimization Survey (NCVS) -Other nationally representative sample surveys -Prior research	**Costs covered – All crime, not limited to violence or women victims** Property damage and loss, medical care for injuries, insurance, victim services, lost earnings and housew015 Tc 0.003 Tw 0005 k/P <AMCID 29 >BDC 0.00e of repreMiller et34(billio)-4(n)]Tlist0.0004.003 of Tw 5 Tc 0 Tw alenti0.00 -Oth10(e Rep)-5(TJ0.000Good2 Tc d Tc 0 Tw ta,3 Tc 036 fu Tc 0 -1.15 TD[(m)12(ization)]T		

				the % of caseload resulting from violence -Original survey of 129 women in a Doctor's office waiting room. -Results from other research, specifically McGibbons		generate to accept them and to support the use of the source of their figures.	
Author **Faley et al.**	**Date research refers to** 1988 Date of publication 1999	**Country** USA – US Army – Business sector	**Cost** **$US** **250 million** **–** least cost, 1994 dollars	**Data used** -Original survey, 2079 respondents including males and females US Army budgetary documents	**Costs covered** Productivity loss, absenteeism, separation, replacement, transfer and other	**Strengths** Original survey oriented to costs, excellent questions Robust findings Little need for assumptions taken from other research papers	**Weaknesses** Not a representative sample, so cannot extrapolate
Author **Henderson & Assoc**	**Date research refers to: unclear** Date of publication 2000	**Country** Australia	**Cost** **$AUST** **1.5 billion**	**Data used (including sample sizes)** -Extrapolations from relevant Australian and international research findings -Consultations with relevant organizations and individuals -Prior research findings	**Costs covered – Business sector** Direct: absenteeism, turnover, lost productivity Indirect: tax share of relevant government services, foregone profits from lost income and changes in expenditure patterns of victims, perpetrators and others.	**Strengths** Addresses business sector	**Weaknesses**

Authors	**Date**	**Country**
Heiskanen and Piipsa	**research refers to: 1998** Date of publication 2001	

Estudios Economicos Y Sociales	Date of publication 2002		Includes intangibles and effects on children	left their partners and stayed in state provided shelters	economic independence or employment, and educational	Uses itinerary or critical path for service use, similar to three-stage model adaptation.	situation. Sample of 300 not statistically representative. Looks at partner and ex-partner violence only Draws conclusions about the percent of costs born by different groups
Author National Center for Injury Prevention and Control (NCIPC) **s**							

publication
2004