EIGE
European Institute for Gender Equality

Estimating the costs of gender-based violence in the European Union

Report

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Estimating the costs of gender-based violence in the European Union

The publication of this report was prepared by Sylvia Walby and Philippa Olive from Lancaster University and coordinated by the European Institute for Gender Equality's gender-based violence team.

The report provides an analysis of methodological options on the cost of gender-based violence and intimate partner violence, by studying different literatures and studies, and provides recommendations. It includes a case study on the cost of intimate partner violence against women in the UK during 2012 and provides a calculation of the costs in the EU.

The European Institute for Gender Equality (EIGE) is an autonomous body of the European Union, established to contribute to and strengthen the promotion of gender equality, including gender mainstreaming in all EU policies and the resulting national policies, and the fight against discrimination based on sex, as well as to raise EU citizens' awareness of gender equality.

Further information can be found on EIGE's website (http://www.eige.europa.eu).

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Foreword

Gender-based violence is perceived as one of the most severe forms of gender inequality and it remains one of the most pervasive human rights violations of modern time. It is an issue that affects women disproportionally as it is directly connected with the unequal distribution of power between women and men; thus, it has a profound effect on families, communities and societies as a whole. The elimination of gender-based violence and the protection of victims/survivors is a stated goal of the European Union and one of the future key areas of work for the European Institute for Gender Equality (EIGE). Identifying the economic costs of gender-based violence will contribute to better informed decision-making in this area and support the comprehensive process of policy development.

This report aims to analyse and assess the methodological options in the existing literature and studies on the costs to society of intimate partner violence. The European Commission and the Member States are taking steps to develop policies to combat all forms of gender-based violence. An accurate understanding of the costs of gender-based violence can guide EU Member States on which approaches to take while developing policies.

It must be remembered that gender-based violence knows no geographical boundaries, no ethnic differences, class distinction or age limits and that such costs are borne by individuals and by the whole of society. The report looks at costs of lost economic output, health, legal services, social welfare, specialised services, and the physical and emotional impact on victims. Additionally, the report presents a case study on the cost of gender-based and intimate partner violence in the United Kingdom (2012) which later comes to serve as the basis for extrapolation of the costs of gender-based and intimate partner violence for each Member State.

The findings of the study clearly show that the impact of gender-based violence on economies and society is significant; a holistic approach involving all stakeholders focused on the elimination of gender-based violence is fundamental to addressing the root causes. This report will support policymakers and relevant institutions in their efforts.

Virginija Langbakk
Director
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Abbreviations

BCS	British Crime Survey (England and Wales)
CAPI	Computer-Assisted Personal Interview survey method
CASI	Computer-Assisted Self-Interview survey method
CATI	Computer-Assisted Telephone Interview survey method
CAWI	Computer-Assisted Web Interview
DALY	Disability Adjusted Life Year
CSEW	Crime Survey for England and Wales
ENVEFF	Enquête nationale sur les violences envers les femmes en France (National Violence against Women Survey, France)
FHBS	Faith Hope and Battering Survey (Finland)
GBV	Gender-based Violence
GSS	General Social Survey (Canada)
IPV	Intimate Partner Violence
LBT	Lesbian Bisexual Transgender
NVAWS	National Violence against Women Survey (USA)
PAPI	Paper-Administered Personal Interview survey method
PSS	Personal Safety Survey (Australia)
QALY	Quality of Life Year
SCPR	Self-Complete and Postal Return survey method
SVS	Swiss Domestic Violence survey (Häusliche Gewalt in der Schweiz), Switzerland
VAW	Violence against Women
VAW (IdelaM)	Violence against Women Survey (La violencia contra las mujeres, Instituto de la Mujer, Spain)
VLY	Value of a Statistical Life Year
VSL	Value of a Statistical Life
WSS	Women's Safety Survey (Australia)
WTP	Willingness to Pay
YLL	Years of Life Lost

Country Abbreviations

AT	Austria
BE	Belgium
BG	Bulgaria
HR	Croatia
CY	Cyprus
CZ	Czech Republic
DK	Denmark
EE	Estonia
FI	Finland
FR	France
DE	Germany
EL	Greece
HU	Hungary
IE	Ireland
IT	Italy
LV	Latvia
LT	Lithuania
LU	Luxembourg
MT	Malta
NL	Netherlands
PL	Poland
PT	Portugal
RO	Romania
SK	Slovakia
SI	Slovenia
ES	Spain
SE	Sweden
UK	United Kingdom
EU-28	The 28 EU Member States

Executive Summary

Introduction

The purpose of the study is to identify and recommend appropriate methodologies to measure the cost of gender-based and intimate partner violence in EU-28 Member States. To define gender-based and intimate partner violence for this study we draw on the definitions advanced by the Declaration on the Elimination of Violence Against Women (UN 1993) and Council of Europe (2011) respectively. These authorities focus on the forms of violence, violence perpetrated by intimate partners and other family members (domestic violence) and sexual violence that are disproportionality perpetrated against and disproportionality impact women.

Methodology

This study identified and reviewed the studies that cost gender-based and intimate partner violence that have been conducted in the EU and comparable countries in the OECD. We conducted a wide search of the literature on costing gender-based and intimate partner violence and on similar damage, narrowing this down to a set of ten studies for in-depth review.

The initial review identified three main types of costs: lost economic output, provision of services, including health, legal, social and specialised; and the personal (physical and emotional) impact on the victim. The report is structured around these types of costs, providing accounts of our investigations into the methodologies in each of these fields found in the relevant literature. Following an analysis of the feasibility of methodologies with respect to the availability of data sources, recommended methods are illustrated in a case study centred on the UK. In this case study we extend the analysis of impact and cost to include gender-based and intimate partner violence against men. Although this represents a minority of these forms of violence perpetrated, the rationale for this inclusion is two-fold, first it is to incorporate the important practice of gender disaggregation of all data, and second it is relevant to understanding the policy field in some countries.

Lost Economic Output

All ten reviewed studies produced estimates of the cost of lost economic output due to intimate partner violence. Most studies focused on the effects of physical violence, reporting its effects on lost earnings and absence from work. There were three main methodological approaches to costing lost economic output: survey-data based; administrative-data based; and purpose-built modelling. Seven studies used survey-based methods using respondents' responses to the survey, covering work absences and/or days of incapacity to undertake normal activities, and lost wages to the worker as well as costs to the employer. Two studies relied primarily on administrative sources of data for impact and cost, one of which suffered from significant underestimation of economic cost as a result. Two studies used methods that drew on parallel studies of lost economic output due to the incapacitation of workers for other reasons. Across the methodologies employed, some were more robustly underpinned, and had better replicability and feasibility because the requirements for data were lesser and the data required more commonly available. An example of this was the utilisation of an already-established economic model developed in a parallel policy field: economic output losses from injuries sustained in road traffic accidents, differentiated by injury level. Advancing the field into estimating the lost economic output of unpaid (household) work, one of the studies had developed a method for estimating the cost of unpaid (household) work because of intimate partner violence-related mental health impact. There have been methodological advancements not previously employed and, whilst still developmental and thus limited, it is possible to better estimate the cost of lost economic output from productivity losses. However, calculating these costs is more complex than presented and better methods are needed so that they can be more effectively included in future estimates.

Health Services

The cost of health service utilisation for the urgent treatment of injuries sustained during an assault by a partner has been approached in five different ways. First, victims' self-reporting of service utilisation to representative surveys. Second, victims' self-reporting of injuries sustained to representative surveys modelled in combination with accident insurance data. Third, victims' reporting of injuries and acts of violence sustained to a national representative survey modelled through statistical methods predicting the likely course of treatment for specific injuries and their cost. Fourth, service utilisation established from administrative data employing diagnostic groups based on classifications of violence against the person. Fifth, service utilisation scaled from research reporting the prevalence and nature of intimate partner violence assault injuries in accident and emergency department populations.

Three methodologies were employed to estimate the costs of wider and longer-term health impacts of intimate partner violence for the health sector. First, research-based estimates of the proportion of women subjected to intimate partner violence who also suffer poorer mental health. Second, estimates of the additional use of mental and general health services based on victim responses to national surveys. Third, research-based estimates of victims' greater utilisation of mental and general health services. Recent methodological development has focused on 'health loss' frameworks and whilst still insufficiently nuanced to fully account for the health impact and service costs of gender-based and intimate partner violence, they nonetheless provide an important methodological shift.

Legal Sector

There are two types of relevant legal sectors: criminal justice and civil justice. Nine studies provided estimates of the impacts and costs for criminal justice redress and four provided estimates of the costs of civil justice recourse.

The criminal justice system costs included: police service costs, legal aid, court/trial costs, prosecution costs, forensic services, prison costs, conditional sentencing and probation costs, offender programmes, and the cost of second-generation crime. The review found four different methodological approaches for estimating impact for criminal justice systems: workload model, event model, purpose-built economic model and eclectic model.

The purpose-built model has significant advantages, offering the most comprehensive and explicit impact coverage of any of the studies. This model is simple to apply, requires minimal data and produces highly accurate, low-level and weighted assessments of the impact of intimate partner violence for the criminal justice system. It is robust, and requires only police records, (although it has since been updated to rely only on victimisation survey data) and is the model most easily transferable across Member States. It can also accommodate differences between Member States in relation to economic differences and crime classifications. The workload model is a promising practice that could collect real time, time-task data for police services for intimate partner violence. Such a model would necessitate a sophisticated dataset that includes gender, victim-offender relationship, violent incident-type, crime code, intervention and case outcome/disposition.

The event model illustrates the possibility of clear, sophisticated and nuanced cost calculations employing robust administrative, government and service data. This model was able to demonstrate high precision and accuracy. However, given the status of administrative data available across the EU Member States and the likely consistency of the supplemental data required, this model would not be transferable for data imputation by individual Member States. Although most models employ a variety of methods and sources of data, the eclectic models, constituted by a greater reliability on local and context specific research, are particularly distinguishable by their lack of transferability to other territories and are not promoted as possible methodologies for estimating the cost of intimate partner violence in the EU. The review recommends the purpose-built economic model for estimating the criminal justice impacts of intimate partner violence across the EU Member States; it covers the most impacts, is based on robust methodology and is simple to apply.

Only four of the ten studies in the review produced estimates of the cost of impacts for civil justice systems. The range of impacts for which economic analyses was undertaken were: costs of injunctions (protection orders), legal aid, legal costs of divorce or separation and its associated cost impacts relating to child custody and protection. Three methodological approaches were employed: the workload model, the event model and the eclectic model. The workload model produced an average unit cost per divorce based on the average monthly work spent per case. The event model produced coverage of three key civil justice remedies: injunctions/protection orders, divorce/separation and family law proceedings. The eclectic model incorporated event and proportional budget expenditure methods. Administrative data from the civil justice system is not available for all the event model component items. The item with most administrative data coverage was injunctions (EIGE 2014b). Due to the issues of data availability both workload and event models are challenging options for Member States. Based on the data most likely to be available, the recommended model for the economic analysis of the civil justice impacts of intimate partner violence in the EU is a proportional budget-expenditure model. The recommended model enables cost estimates for key civil justice services. The recommended model's constituent components are proposed because of their qualities of robustness, replicability, simplicity, feasibility in relation to likely available data, and the best possible coverage.

Social Welfare

Eight reviewed studies included some aspect of social welfare. There were three distinct fields of social welfare costs: housing aid, financial assistance, and child protection and family support. There was a variance between studies as to which elements were assessed, largely due to the limited availability of robust data. There was reliance on multiple sources of data, which were less

accurate, more localised and non-transferable forms of evidence. The low degree of replicability of methods between studies poses a challenge to the evaluation of the methods applied. The methods have been assessed in relation to their qualities of likely robustness, replicability, simplicity, feasibility in relation to likely available data, and those that offer the best possible item coverage. It was not possible to formulate one recommended methodology outright because of the greater number of different agencies involved in funding and providing services. Nonetheless methodological options are offered to estimate the cost of housing aid and child protection.

Personal Costs

There are a variety of other costs borne by individual victims. Few studies had included the victim's personal costs and in those that did the impacts included were relatively limited. The impacts for which an estimate had been produced included: the cost of damage to property, enhancing phone security, moving expenses, home repossession and personal legal costs. A model to estimate these further personal costs is proposed, while recognising that data limitations may make this difficult to achieve.

Specialised Services

Specialised Services include direct Specialist Services (refuges, telephone helplines, victim support centres, and counselling and advocacy) and specialist government intervention (coordinating functions). Specialised Services methods are examined separately since the providers of these services are often independent and non-government organisations.

Eight of the ten studies reviewed incorporated some specialist services into their analysis of costs. The services included were refuges, telephone helplines, victim support centres, and counselling and advocacy. The most commonly included cost was for refuges with six of the eight studies reporting on this. Specialist service administrative data, whilst not in the public domain, was easily accessible to the study authors and was the most consistent source of information to underpin the estimates of economic impact. There were three models employed to measure the economic impact of specialist victim support services: the unit cost model, the total operating cost model and the proportional operating cost model. The unit cost model was found to be successful in providing reasonably accurate estimates that were simple and likely to be replicable. However, the range of service provisions from specialist services is increasing; specialist services often encompasses refuges, formal non-residential support, informal support, helplines, web-based advice, outreach programmes, victim programmes and perpetrator programmes. Because of the nature of most specialist services, which are often provided by distinct entities, there is little advantage to be gained from the additional work involved in estimating costs separately for each service.

The total operating cost model has the advantage of capturing the cost of the whole range of specialist services provided. Many states provide specialist support services directly under generic 'victims of crime' programmes. Consequently, the total operating cost model would be inappropriate for these state-provided (non-specialist) victim support services and in this context either a unit cost model or proportional operating cost model could estimate state-provided (non-specialist) victim support services.

Four studies in the review included some analysis of specialist government state/federal and provincial coordinating functions. Although only incomplete data appear to be available, an approximate and conservative estimate was possible. The recommended methodology to estimate the cost of specialist government costs employs a total operating cost model from which intimate partner violence attributable proportions can be calculated if necessary.

Physical and Emotional Impact

Estimating the cost of the physical and emotional impact on victims is contentious and challenging. It is included here because it is included in policy fields that compete for resources with that of gender-based violence. If these other fields include estimates of the value of avoiding these impacts and the gender field does not, then this would underestimate the relative importance of policy action to prevent this violence. Since one of the purposes of costing intimate partner violence is to secure appropriate resourcing for the policy field, it is necessary to include these costs in order to ensure fair comparisons between policy fields.

Seven of the ten studies in the review had produced an estimate of the value of avoiding the physical and emotional impact of gender-based and intimate partner violence. Four methodological approaches, originally developed in other policy fields, had been deployed: Court Awarded Compensatory Damages; Willingness to Pay; Quality of Life Losses and Value of Statistical Life. We consider that the better methodology to estimate these costs is based on the willingness-to-pay model applied to Quality of Life Year (QALY) losses. This model is limited, but a nonetheless important development, both conceptually and methodologically. The Court Awarded Compensatory Damages approach is not recommended here because it overlaps with costs already included in the section on justice systems and because

these costs are not solely related to physical and emotional impact, but may also include the cost of practical adjustments to accommodate for a person's changed life. The inclusion of the human cost of fatality on Years of Life Lost is limited to fatalities, which are only one part of the concern. Disability Adjusted Life Year Losses, the product of Years of Life Lost (YLL) and Years of Life Lived with Disability (YLD) has potential for incorporation into methodological approaches for estimating the cost of physical and emotional impact from intimate partner violence in future models and this is discussed in the section on 'Future'. The advantages of the recommended QALY-loss-based willingness-to-pay model are its methodological robustness, and more likely replicability and feasibility.

Data Availability

Costing gender-based and intimate partner violence requires data on the following: the extent of gender-based and intimate partner violence: its prevalence, frequency, type and severity, in the last year; the direct impact of the violence on the individual women concerned: e.g. the injuries to health; increased family breakdown; the extent of the utilisation of services (health services, legal services, social welfare and specialist) by women affected by the violence, since not all the women affected will use services; the cost of the services utilised; the impact of the violence on the employment of the women affected: the measurement of the detriment to employment through lost days of work or lost jobs; the value placed on avoiding the physical and emotional harms of gender-based and intimate partner violence and/or the value placed on the reduced quality adjusted life years (QALYs) or disability adjusted life years (DALYs).

Seven approaches have been used in costing studies to acquire or estimate this data: expert judgement, victim recall studies, surveys, administrative data, population data sets and studies of similar harms, and specialised research projects. The most important of these are surveys and administrative data, especially if there is to be comparability between the EU-28 Member States, so that reported differences in costs are not due to methods but due to real differences. The existing national surveys of the extent of violence against women are not comparable. There are three potential sources of data that are comparable across EU-28: the FRA Survey of Violence Against Women, comparable administrative data from Member States and Eurostat harmonised statistics.

The FRA Survey of Violence Against Women conducted across the EU-28 is a path-breaking innovation in the development of a methodology to collect comparable data in this field. However, the FRA Survey does not deliver the reliably comparable data on the nature and prevalence of violence against women in each EU Member State that is required to support costing studies in Member States. The methodology of the FRA survey is insufficiently robust to provide data that enables the discovery of real differences between the 28 Member States of the EU in the rate of violence against women. This is because variations in the methodology between countries are associated with differences in the rate of violence against women between countries in a statistically significant way. Further, the sample size is too small for there to be reliable estimates of distinctions between forms of violence against women at the Member State level in the last year.

The collection of administrative data on the use of public services in connection with gender-based and intimate partner violence is increasing. However, there are significant gaps in the data, and the data that exists is often not comparable between the EU-28 Member States. While there are some promising developments to ensure that the use of victim support, health and legal services by victim/survivors are recorded, these are not yet sufficient to support cost studies in many Member States, nor do they provide comparable data between the EU-28.

Harmonised data on the economy and population are available from Eurostat. Data on employment, the economy and population are available in comparable and harmonised form.

Methodological Options

The report presents and discusses the methodological options. There are two strategic directions in addition to many detailed alternatives within these two strategies.

In the first strategy, the recommended methodology is built up in detail, piece by piece for each of the main types of costs. In each area a different combination of methods is proposed, as a result of the review of existing studies. The prospects for this methodology being applied so that it is comparable across the EU-28, so that differences in cost estimates are due to real differences not differences in methods, are considered. This requires comparable data across the EU. This is a challenging requirement.

The second strategy takes notice of the lack of comparable data across the EU. In the circumstances that data is not available that is both specific to the Member State and collected in a way that is comparable across the EU-28, this strategy should be adopted. This strategy still allows for the costs to individual EU-28 Member States to be estimated. The process is to estimate costs at the level of the whole EU based on an extrapolation from the case of the Member State that has the best evidence to support the costing exercise.

Feasibility

The requirement for comparable data across the EU-28 required for the first strategy cannot currently be met. Hence the best strategy is the second one.

Future

The data requirements to estimate the cost of gender-based and intimate partner violence to the economy and society are challenging and there are two major gaps in available data, which might be addressed by future research. First is research-based data on the impact of the violence on women and their consequent utilisation of services, losses of employment and physical and emotional impact, including for example the impact of the mental harm caused by the violence on women's employment and the long-term effects on children. Second is data that is comparable across the EU.

Case Study

A case study developed from analysis of the methodological options is presented in the section 'Case Study Annex'. The case study is based on the cost of gender-based and intimate partner violence in the UK, 2012. This finds that the cost of intimate partner violence against women in the UK was EUR 13 732 068 214. We also calculates the cost of the wider category of gender-based violence against women which was EUR 8 418 772 278. The cost of gender-based violence against women and men was EUR 32 557 739 819 and the cost of intimate partner violence against women and men was EUR 15 374 525 253. We then extrapolated the cost of gender-based and intimate partner violence against women for each Member State. The cost of intimate partner violence to the EU was EUR 122 177 800 785, of which EUR 109 125 574 091 was the cost of intimate partner violence against women. The cost to the EU of gender-based violence against women was EUR 225 837 418 768, and this represented 87 % of the total cost of gender-based violence to the EU which was estimated to be EUR 258 728 837 747.

1. Introduction

1.1 Purpose of the Study

The objective of the study is to analyse and assess the methodological options in the existing literature and studies on the costs of intimate partner violence. Gender-based violence is not only a violation of human rights, which is unacceptable, but it is also a cost to economy and society. The European Union and its Member States are taking steps to develop policies to combat various aspects of gender-based violence. The accurate identification of the costs of this violence would be a contribution to the process of policy development.

The aim of this report is to provide recommendations for EU Member States on which approaches to use. The report provides: a desk review of the available methodologies; a review of the strengths and weaknesses of these methodologies; an analysis of the feasibility of the methodologies for application to EU-28 Member States; the production of a recommended methodology, illustrated by a case study (case study annex); and conclusions on the cost-benefit balance of interventions to reduce intimate partner violence.

1.2 The Policy Context

There has been development in policy to combat gender-based violence in many EU-28 Member States and at the European Union level. Violence against women is noted as one of the five aspects of inequality between women and men that is strategically addressed at the EU level.

Among these developments, those at the European Union level include Directives to combat various aspects of gender-based violence. The EU Directive on Victims' Rights (European Parliament and Council 2012) identifies the need for the development of specialised support services, while the Directive on Protection Orders (European Parliament and Council 2011) supports the development of civil law initiatives that work effectively across all EU-28 Member States.

The implementation of these policies to combat violence against women can be expensive. But the benefits may be even greater. In the field of gender-based violence, there has been discussion of the extent to which the benefits of action outweigh the costs of inaction.

In this context, there have been calls by EU institutions for better information about the cost of gender-based violence. The European Parliament, in its Resolution on 5 April 2011 on the priorities of EU policies to combat violence against women, 'calls on the Commission to submit a study on the financial impact of VAW, building on research using methodologies that can financially quantify the impact of this form of violence on health services, welfare systems and the labour market'.

1.3 Why Analyse the Economic Costs of Gender-Based Violence?

Analyses of economic costs facilitates understanding of the wider effects of gender-based and intimate partner violence on society, beyond the immediate victim, allowing the societal dimensions of gender-based and intimate partner violence to become more visible. It measures the impact of this violence on the economy and public services as well as on the victim.

The analysis of the costs of gender-based and intimate partner violence can identify the different scale and location of the impact of this violence on a range of social and economic institutions. These include not only the specialised services for victims, but also the legal sector, the health services and the economy.

This mode of analysis allows for the measurement of the impact of the violence as a monetary value. The usefulness of the monetary value is that it enables comparison between phenomena that might previously have been seen as incomparable. It enables the value of policies to prevent this violence to be compared with the value of other policies. In this way, the analysis of the cost of gender-based and intimate partner violence allows for a comparison of the benefit of policies to prevent this violence with other types of policies, and thereby provides a framework for assessing the priorities for allocating finance between policy areas.

Given the huge costs of gender-based violence, many policy interventions can be seen as worthwhile in prosaic 'value-for-money' terms. They provide an assessment of the cost of non-intervention (Walby and Olive 2013).

Analyses of the costs of intimate partner violence have been used to argue for greater priority in the allocation of scarce resources to programmes to prevent violence against women (Villagómez 2010).

Further, analysis of costs can be applied when monitoring and evaluating interventions to reduce violence against women (Walby 2004). Economic analyses inform policy-makers (NCIP&C 2003), spending priorities (Walby 2004), and provide the basis for the assessment of the impact of intimate partner violence on specific sectors of the economy (NCIP&C 2003).

Costing the violence produces an estimate of the cost of inaction. For example, Walby and Olive (2013) extrapolated the 2001 costs of violence against women in England and Wales to the EU-28, adjusting for inflation to estimate that, for the reference year of 2011, the cost of inaction across the EU-28 was EUR 228 million. The costs of inaction effectively illustrate the potential benefit to society from intervention (Patel and Taylor 2012). The cost of inaction has been innovatively applied for analysing economic impact over time, as in the case in Australia (NCRVAW&C 2009), where the cost of inaction was projected for the future (2020). Using such an approach makes it possible to identify not only the cost of inaction, but also to use this as a measure against which analysis of policy actions/interventions and inactions can be assessed.

As well as these benefits, there are some limitations to the utilisation of costing studies. Estimations of the costs of gender-based and intimate partner violence are always conservative underestimates because there is as yet insufficient evidence to fully document all the relationships between the violence and social institutions, especially but not only, in the case of long-term impacts. In order to have a full costing of the violence, more data is needed. Thus an outcome of undertaking an economic analysis of the cost of intimate partner violence is often the identification of the need for better data in particular areas (Villagómez 2010).

Indeed, some have argued for caution in the use of these cost estimates because they are always underestimated, suggesting that they should not be used for cost-benefit ratio analysis of interventions to prevent intimate partner violence, only to indicate economic savings from its reduction (NCIP&C 2003). This approach, to indicate the savings to society, or rather the cost of inaction, from the reduction of intimate partner violence, is found in NCRVAW&C (2009).

The development of the methodology to cost gender-based violence and the production of the data necessary to populate its fields are both necessary to improve the estimates of gender-based violence.

In summary, key functions of the analysis of the economic costs of gender-based and intimate partner violence are to: establish the cost of gender-based and intimate partner violence for society; provide an economic basis for gender-based and intimate partner violence policy action; inform policy-makers; inform the decision-making process over policy spending priorities; provide an estimate of the cost of gender-based and intimate partner violence for specific sectors of the economy; assist the monitoring and comparative evaluation of gender-based and intimate partner violence prevention programmes; identify where better data is needed to measure gender-based and intimate partner violence and monitor and evaluate reduction programmes; indicate potential economic savings from a reduction in gender-based and intimate partner violence; and to provide an assessment of the cost of non-intervention.

1.4 Costing Intimate Partner Violence in the EU-28

There have been several studies on the costs of gender-based violence, as can be seen in reviews of these developments by the UN (Day et al 2005), the World Bank (Skaperdas et al 2009) and the WHO (Waters et al 2004; WHO 2013a). Most of these studies are at the level of a specific country and are not directly comparable between countries. Several studies have been conducted in Member States of the EU, as can be seen from the 'stock-taking' review by the Council of Europe (2012). There has been one study that extrapolated the cost of violence against women from one Member State, the UK, to the EU-28, which found that the cost to the EU was EUR 228 billion a year (Walby and Olive 2013). But there have not yet been studies that allow for a comparison of the costs of gender-based violence between EU-28 Member States. The purpose of the current study is to establish the best methodology to achieve such knowledge.

1.5 Defining Intimate Partner Violence

As requested, the study principally focuses on those forms of gender-based violence that are from current and former partners.

This is a sub-set of gender-based violence, which additionally includes violence from other family and household members, and also other forms of gender-based violence, such as sexual violence, that are perpetrated by non-intimates and non-household members. An authoritative definition of this broader category of

gender-based violence is that of the UN in the Declaration on the Elimination of Violence Against Women (UN 1993) which defines violence against women as:

'Any act of gender-based violence that results in, or is likely to result in, physical, sexual or psychological harm or suffering to women, including threats of such acts, coercion or arbitrary deprivation of liberty, whether occurring in public or in private life.' (UN 1993, Article 1).

While there is an argument for the inclusion of the costs of the whole of the category of 'gender-based violence', the data available are often of better quality in this more narrowly defined field. This study focused on intimate partner violence, defined as:

'All acts of physical, sexual, psychological or economic violence between former or current spouses or partners, whether or not the perpetrator shares or has shared the same residence with the victim.' (Council of Europe 2011).

Some studies include the costs of gender-based, ***and*** intimate partner, and that perpetrated against men. When comparing estimates, it should be noted that costs that focus solely on intimate partner violence will be lower than those that include forms of gender-based violence that are beyond those from intimate partners to women. In this study we include the costs of these forms of violence in order to compare the extent and impacts of different forms of violence by gender. This is important information for policy-makers so that resources can be distributed according to extent and impacts.

1.6 Methodology

There are five steps in the methodology of the project:

(1) a desk review of available methodologies;

(2) a review of the strengths and weaknesses of these methodologies;

(3) analysis of the feasibility of the methodologies for application to EU-28 Member States;

(4) production of a recommended methodology, illustrated by a UK case study;

(5) conclusions on the cost-benefit balance of interventions to reduce gender-based and intimate partner violence.

The first step has been a desk review of the available methodologies, guidance and options for conducting the costing studies. This phase of the research identifies and discusses the differences between approaches to methodology in existing studies and reviews. It engages with: the types of costs, involving different sectors and actors; the basis for estimating the size of each economic cost; the approach to the collection of the data and evidence required, including surveys, documents concerning service provision and budgets, and interviews with experts; and the methods used to calculate impacts.

Since the purpose of the report is to develop methodologies relevant to the EU-28, the studies reviewed are those that are members of the EU or from countries that have similar levels of economic development to the EU, in particular members of the OECD. While we note reviews and studies from countries at low and medium levels of development, we are cautious about the transferability of their methodology to the EU.

The study reports in detail on the methodologies used to determine the costs of intimate partner violence, reviewing the strengths and weaknesses of these methodologies. This reporting and reviewing is divided into sections: lost economic output, health, legal services, social welfare, personal costs, specialist services, and physical and emotional impact. In each of these areas we offer recommendations on methodological options.

We offer further discussion of areas where there is clearly impact but where the measurement of the impact is not yet sufficiently robust to be included in the recommended methodologies. We call this section 'Future'.

We assess the available data in two ways: first, close to the data used and discussed in the studies under review; and second, potential data for use in future EU-28 studies of the costs.

We assess the feasibility of the methodological options in the light of current data availability and produce a recommended methodology to estimate the costs of gender-based and intimate partner violence.

We produce a case study from the recommended methodology and extrapolate this, adjusting for population size, to estimate the cost of gender-based and intimate partner violence against women and men for each Member State.

We present conclusions on the cost-benefit balance of interventions to reduce gender-based and intimate partner violence.

1.7 Study Format

This report on the study is divided into the following sections:

1. Introduction
2. Methodology
3. Lost Economic Output
4. Health Services
5. Legal Sector
6. Social Welfare
7. Personal Costs
8. Specialised Services
9. Physical and Emotional Impact
10. Data Sources
11. Methodological Options
12. Feasibility
13. Future
14. Conclusions
15. Case Study

Section 1 introduces the report and the methodology of this review is explicated in Section 2. A review of the methodological options for the analysis of lost economic output is presented in Section 3. The methodological options for undertaking analysis of the costs for health services and legal sector (criminal and civil legal sectors) are examined and presented in Sections 4 and 5 respectively. In Section 6 we review social welfare services and this is followed by a summary of the estimates of personal costs in Section 7. There is an examination of methodologies for costing specialist services in Section 8. Methodologies for placing a value on the physical and emotional impact of being subjected to gender-based and intimate partner violence are discussed in Section 9. Information on the availability of data sources is presented in Section 10. In Section 11 alternative analytic strategies for the methodology of costing intimate partner violence are presented, including presentations of detailed recommendations for costs concerning lost economic output, health, legal structure, social welfare, specialised services, and the physical and emotional impact on victims. Section 12 concludes the assessment of the feasibility of the methodological options. A case study on the cost of gender-based and intimate partner violence in the UK in 2012 developed from the analysis of methodological options is presented in Section 'Case Study Annex' and this forms the basis of extrapolation of the cost of gender-based and intimate partner violence for each Member State. Issues for future research that would enhance the accuracy of these cost estimates are presented and discussed in Section 13.

2. Methodology

2.1 Introduction

The purpose of the study is to analyse methodologies that can be used to determine the economic costs of intimate partner violence in the EU-28 Member States. This report addresses the five steps of the study: (1) a desk review of available methodologies; (2) a review of the strengths and weaknesses of these methodologies; (3) analysis of the feasibility of the methodologies for application to EU-28 Member States; (4) production of a recommended methodology, illustrated by a UK case study; and (5) conclusions on the cost-benefit balance of interventions to reduce gender-based and intimate partner violence.

The methodology for the first three steps of the study involved the following stages:

- Undertake a search for literature reporting on studies analysing the cost of intimate partner violence;
- Establish criteria for the inclusion and exclusion of studies for detailed review;
- Establish criteria for evaluating the quality of methods employed by the studies on the review;
- Identify the methodological options employed by the studies reviewed, separately for each of several major types of costs;
- Assess the methodological options;
- Appraise the availability of data across the European Union;
- Address the feasibility of the methodological options.

This second set of data includes an assessment of: the data on the prevalence of intimate partner violence in the FRA survey ([1]); the study on administrative data sources by EIGE ([2]); economic and population data harmonised by Eurostat and the development of a case study from the review and analysis of the methodological options and data sources available.

2.2 Literature Search

The search for literature was carried out via the Internet, databases and websites (Council of Europe; The Cochrane Library; European Commission; Google; UN Women; VAWNET: National Online Resource Centre on Violence against Women; World Bank and World Health Organization) searches using key terms (costs/impacts/economic cost of violence against women); by close study of earlier reviews (Walby 2004; Day et al, 2005; Skaperdas et al 2009; Waters et al 2004; Chan and Cho 2010; Council of Europe 2012; Laing and Bobic 2002; Duvvury et al 2013); and links with other experts (e.g. Markku Heiskanen for Piispa and Heiskanen 2001).

The search included related adjacent terms such as 'violence against women', 'gender-based violence', 'domestic violence' and 'spousal violence' in addition to 'intimate partner violence' because of the different scope of some of the studies known to exist in the broader field.

No limitation was placed on the form of the publication of the study, so official research reports were included in the literature review alongside refereed journal articles.

The literature search identified twenty-one studies (Table 2.2.1) that met the primary inclusion criteria: original studies of cost published since 2000. Studies published prior to 2000 were not included in the review because it was anticipated that methodologies would have changed significantly since the widespread uptake of electronic technologies in administrative systems for recording service contacts and the available data that this has produced. Furthermore the mobilisation of evidence-based policy and interventions means that only relatively recently has it been possible, in some sectors at least, to establish wider, less direct impacts of intimate partner violence in more robust ways using general population surveys.

([1]) European Union Fundamental Rights Agency (FRA) (2014b), *Violence against women: an EU-wide survey — Main results*

([2]) European Institute for Gender Equality (EIGE) (2014a) *Administrative data sources on gender-based violence against women in the EU —Current status and potential for collection of comparable data, Report 1.* Available at: http://eige.europa.eu. European Institute for Gender Equality (EIGE) (2014b) *Administrative data sources on gender-based violence against women in the EU —Current status and potential for collection of comparable data —technical analysis, Report 2.* Available at: http://eige.europa.eu. European Institute for Gender Equality (EIGE) (2014c), Administrative data sources on GBV in the EU, Types of GBV and Sectors. Available at: http://eige.europa.eu/gender-based-violence/administrative-data-sources/european-union

Table 2.2.1: Product of literature search: original studies of costs published since 2000

Country and author	Form of gender-based violence
Italy Intervita (2013)	Intimate partner violence (current or former partner) against women
Switzerland Stern et al, Fleidner et al (2013)	Intimate partner violence (current or former partner) against women and men
Canada Zhang et al (2012)	Intimate partner violence (current or former co-habiting partner) against women and men
USA Logan et al (2012)	Intimate partner violence (current or former partner) against women. Included only cost of injunctions
Vietnam Duvvury et al (2012)	Intimate partner violence against women
USA Varcoe et al (2011)	Cost of intimate partner violence for women who have left an abusive partner
Bangladesh Siddique (2009)	'Domestic Violence' defined as 'marital violence' against a woman by immediate family members
Andalucia (Spain) Villagómez (2010)	Domestic violence against women (of which 75 % was estimated to be intimate partner violence)
Denmark Helweg-Larson et al (2010)	Violence against women (of which 40 % was estimated to be intimate partner violence)
France Nectoux et al (2010)	Intimate partner violence (current or former partner) against women
Australia NCRVAW&C (2009)	Violence against Women: Intimate partner violence (current or former partner) and sexual violence against women
England & Wales Walby (2009)	Intimate partner violence (current or former partner) against women and men
Morocco Duvvury et al (2009)	Intimate partner violence (current or former partner) against women
Uganda Duvvury et al (2009)	Intimate partner violence (current or former partner) against women
England & Wales Järvinen et al (2008)	Violence against Women: Intimate partner violence (current or former partner) and sexual violence against women
Former Yugoslav Republic of Macedonia (FYRM) Gancheva et al, 2006	Intimate partner violence (current or former partner) against women
Sweden Envall et al (2006)	Intimate partner violence (current or former partner) against women
Australia Access Economics (2004)	Intimate partner violence (current or former partner) against women and men
England & Wales Walby (2004)	Intimate partner violence (current or former partner) against women and men
USA NCIP&C (2003)	Intimate partner violence (current or former partner) against women
Finland Piispa et al (2001)	Intimate partner violence (current or former partner) against women

2.3 Exclusion Criteria

After the discovery of a range of literature, a decision was taken to narrow the range of studies that were to be subject to detailed review, using four criteria: updates of earlier studies; studies that did not add materially to the methodology and/or limited focus; and developing country rather than developed country context.

Studies that updated previous research were noted but were not included in the detailed review. This included three studies: Walby (2009), NCRVAW&C (2009), and Järvinen et al (2008). Updated cost estimates were not included in the review because no new methods had been employed; these studies recalculated the economic impact of intimate partner violence on more recent general survey prevalence rates and adjusted the original estimates for inflation. While the updated study by Järvinen et al (2008) did broaden its scope to include additional forms of sexual violence, this extension employed a methodologically pluralist mix of unit cost sources which appear to have been selected on little other basis than highest monetary value (Walby and Olive 2013).

Three further studies (Intervita 2013; Logan et al 2012; Varcoe et al 2011) were noted and excluded from the review because their inclusion would not have provided any additional methodological options and they had some distinct limitations in relation to methodologies for determining the costs of intimate partner violence in the EU. Varcoe et al (2011) focused on the costs in Canada for a small sample sub-population of women who had left an abusive partner. Similarly, the study of costs undertaken in Italy was based on impacts identified through qualitative research with nine victim respondents (Intervita 2013). The study by Logan et al (2012) was a limited, US-based, cost-benefit analysis of the issue of protection orders.

The studies subjected to detailed appraisal were limited to Member States of the EU or other highly developed countries in the OECD. This is because the economies and welfare state systems in developing lower and middle income countries lack sufficient comparability for a detailed review to be productive.

This criterion meant the exclusion of four studies that undertook economic analysis of impacts of intimate partner violence for five low-middle income, developing territories: Siddique 2011 (Bangladesh); Duvvury et al 2012 (Vietnam); Duvvury et al 2009 (Uganda and Morocco); and Gancheva et al 2006 (Former Yugoslav Republic of Macedonia).

These studies, similarly to those from high-income countries, were hindered by the availability of reliable data with which to undertake assessments of economic impact. Although there are thus some common challenges, we follow Duvvury et al (2004) who propose that relevant costing methodologies are different for high-income, primarily industrialised countries and developing countries.

> 'While the existing cost studies point to which costs can be estimated with what methods, few are directly applicable to most developing countries because of different social norms on the acceptability of violence, the lack of a policy framework and information systems, and differences in economic structure which affect valuation.' (Duvvury, 2004:4).

Thus Duvvury et al (2004) propose a framework for estimating costs of violence against women in developing countries that focuses on the household level, i.e. direct out-of-pocket household expenses. Costing at the household level can be important for developing countries where the implications of household poverty is a major national economic concern (Duvvury et al 2004) and where costs other than lost productivity at the household level may hold less significance. Four of the studies from low-middle countries income follow this model (Siddique 2011 (Bangladesh); Duvvury et al 2012 (Vietnam); Duvvury et al 2009 (Uganda and Morocco) and as such are less comparable with studies undertaken with methodologies principally developed for more industrialised states. Consequently, the studies undertaken in low-middle income countries were excluded from the in-depth methodological review

Further, the economic analysis of the impact of intimate partner violence undertaken by Gancheva et al (2006) for the Former Yugoslav Republic of Macedonia was methodologically similar (non-representative, victim recall survey) to the analysis for Andalusia (Villagómez 2010), and as it did not offer any unique methodological options was also excluded from the in-depth review.

The eleven studies excluded from the in-depth review are detailed in Table 2.3.1.

Table 2.3.1: Overview of the excluded studies

Country and author	Rationale
Italy Intervita (2013)	Did not add materially to methodological options (limited qualitative study (nine respondents) of impact)
USA Logan et al (2012)	Limited focus (cost-benefit analysis of injunctions)
Vietnam Duvvury et al (2012)	Low-middle income country context
USA Varcoe et al (2011)	Limited focus (cost for women post leaving abusive relationship)
Bangladesh Siddique (2009)	Low-middle income country context
Australia NCRVAW&C (2009)	Update of earlier study
England & Wales Walby (2009)	Update of earlier study
Morocco Duvvury et al (2009)	Low-middle income country context
Uganda Duvvury et al (2009)	Low-middle income country context
England & Wales Järvinen et al (2008)	Update of earlier study
Former Yugoslav Republic of Macedonia (FYRM) Gancheva et al, 2006	Low-middle income country context

2.4 Studies Included in the In-depth Review

The ten studies included in the in-depth review are presented in Table 2.4.1 below.

Table 2.4.1: Original studies from the EU and high-income OECD reviewed

Country	Author	Scope of costing study
Switzerland	Stern et al, Fleidner et al (2013)	Intimate partner violence (current or former partner) against women and men
Canada	Zhang et al (2012)	Intimate partner violence (current or former co-habiting partner) against women and men
Andalucia (Spain)	Villagómez (2010)	Domestic violence against women (of which 75 % was estimated to be intimate partner violence)
Denmark	Helweg-Larson et al (2010)	Violence against women (of which 40 % was estimated to be intimate partner violence)
France	Nectoux et al (2010)	Intimate partner violence (current or former partner) against women
Sweden	Envall et al (2006)	Intimate partner violence (current or former partner) against women
Australia	Access Economics (2004)	Intimate partner violence (current or former partner) against women and men
England & Wales	Walby (2004)	Intimate partner violence (current or former partner) against women and men
USA	NCIP&C (2003)	Intimate partner violence (current or former partner) against women
Finland	Piispa et al (2001)	Intimate partner violence (current or former partner) against women

2.5 Criteria for Evaluating the Quality of Methods Employed

The methods employed by the studies included in the in-depth review of methodological options for estimating the economic impact of intimate partner violence were evaluated in two domains:

- Comprehensiveness of coverage;
- Robustness, replicability, simplicity and feasibility of information sources and methods.

2.5.1 Comprehensiveness of Coverage

The more comprehensive the coverage, the better the study. Widening the coverage is important in that otherwise significant losses may not be included. But it is a challenge to include many different dimensions of the impact of intimate partner violence on economy and society. Most studies achieve only a partial coverage. Hence a quality criterion is the comprehensiveness of coverage.

2.5.2 Quality of Information Sources and Methods

The quality of the information sources and methods is assessed in relation to its robustness, replicability, simplicity and feasibility. Several methods have been used to identify the scale of the impacts and attribute a monetary value to them. In a review of the literature, Walby and Olive (2013) identified six approaches to sourcing information that had been employed in previous analyses of the cost of intimate partner violence; and these are now expanded to the following seven: expert judgement, victim recall studies, surveys, administrative data, population data sets, studies of similar harms and specialised research projects.

Expert judgement: means asking experts working in the field for their opinion on which services women subjected to intimate partner violence use, how many times, and by how many. This method is often used in the absence of available data and has been employed at some point, in greater and lesser degree, by all the studies in the in-depth review. This method has the advantage of simplicity and low resource intensity, in conditions where the knowledge base is slim. It was used in early studies, when the knowledge base was limited. Today it is still sometimes used to plug occasional gaps where necessary (as in Nectoux 2010; 2007). However, a documented evidence base is usually preferable to expert judgement, since it can be assessed for its validity and reliability by other researchers.

Victim recall: involves using in-depth interviews or surveys with a small number of victim/survivors in which they recall the costs incurred, services used and frequency. Again this method may be used in the absence of available data; this method has the advantage of capturing the experiences of women victim/survivors but as respondents are known to victim services the representativeness of the information for the wider population of women exposed to intimate partner violence is limited. This method was used in some of the very early studies in Australia (Day; Walby 2004). Today it is used primarily in studies in less developed countries, such as those undertaken in Vietnam (Duvvury et al 2012), Bangladesh (Duvvury et al 2009) and Macedonia (Gancheva et al 2006). Victim recall studies were important in the early stages of development of costing methodology, but have been surpassed in most recent studies in the EU and OECD. In the EU, studies by Intervita (2013) and Villagómez (2010) estimated the cost of using this method. The study by Villagómez (2010), although limited by this methodological approach, has been included in the review as an example of this method and because of its importance as an early pioneer in advancing EU gender-based violence costing projects. Detail of some of Villagómez's (2010) methodology was unspecified in the report to which the authors of this study had access; where the particularity of the costing method was not specifically recorded, this is acknowledged.

Surveys: this method asks a representative sample of the population whether they have been victims of violence by an intimate partner, the nature of the impacts experienced, what services were used and how many times. This method is important for establishing the extent of forms of intimate partner violence experienced in the general population, the impacts experienced and the scale of service use, and because it is a representative sample generalisations about the population are exposed and the scale of the impacts for each sector of the economy enquired about can be made. All the studies in the in-depth review had access to general population surveys and these were used to a greater and lesser degree dependent on the scope and usefulness of the survey questions. However, survey responses are subject to respondent recall and as such are likely to be underestimates. Furthermore, surveys may only ask about service use immediately after an incidence of violence, or about service use for the most severe incident, and therefore only partially capture longer-term impacts and service utilisation. The method of implementing the survey will impact the extent of the underestimation error; computer assisted self-completion surveys have resulted in five times more disclosure of intimate partner violence rate than face-to-face interviews (Walby and Myhill 2001). Survey methodology is the recommended method for discovering the extent of intimate partner violence, the forms of intimate partner violence

experienced and the nature of injuries incurred from intimate partner violence in the general population, but data obtained about service utilisation by this method should be used with caution.

Administrative data: this method involves using administrative data routinely collected by health, legal and specialist victim-support services to identify the nature and extent of service utilisation. This method has the advantage of providing information about service utilisation and the costs of episodes of service use from data collected during routine service operations. All the studies in the in-depth review had some access to administrative data, but there were significant limitations to its availability. The usefulness of administrative data depends upon being able to identify the extent of service use that is attributable to the impacts of intimate partner violence. Many services, other than dedicated services, find this a challenging data request. Potentially, this is a source of quality data; but this is currently extremely uneven.

Population data sets: means using statistical analysis to investigate the strength of associations, correlations and causal direction between intimate partner violence and harmful consequences using large nationally representative, usually longitudinal, data sets. This method has been used in attempts to measure the impacts of intimate partner violence on employment (Wilman 2009), health (Black et al 2011) and economic dependence on social assistance (Access Economics 2004). The advantage of this methodology is in its potential to robustly evidence the wider and longer-term harms of intimate partner violence and the proportion of women subjected to intimate partner violence likely to experience such harms. To date, however, there are few datasets of sufficient size and sufficiently high quality to undertake such analysis. Nonetheless studies included in the in-depth review were able to draw on this form of evidence, and analysis of additional service utilisation because of intimate partner violence was possible in a number of studies (Canada: Zhang et al 2012; Denmark: Helweg-Larson et al 2010; France: Nectoux et al, 2010; England and Wales: Walby 2004; Australia: Access Economics 2004).

Studies of similar harms: involves transferring costs that have been established for harms other than intimate partner violence to the calculation of the costs of intimate partner violence. The advantage of this approach is to employ robust methods that have been authoritatively established and tested through research elsewhere. For example, 'injury' is a form of harm that has undergone economic analysis in the policy fields of road traffic accidents, crime and public health. In these analyses the costs of healthcare for treating injuries and of disability from injury have been established to inform government ministries. These parallel fields of study have also established agreed methods for ascribing an economic value for the physical and emotional impact or human pain and suffering from harms and these include, willingness to pay to avoid such harms (England and Wales: Walby 2004; Sweden: Envall and Eriksson 2006; Finland: Piispa and Heiskanen 2001) loss of quality of life years and life years (Switzerland: Stern et al 2013; Australia: Access Economics 2004) and value of a statistical life (Switzerland: Stern et al 2013; Canada: Zhang et al 2012). The limitation in this method lies in the degree of similarity/dissimilarity of the harms: when they are very similar the transfer works well; but when there are differences the transfer works less well.

Specialised research projects: means tailor-made research projects to establish the extent to which there are causal links between: intimate partner violence and specific harms; between these harms and the extent of utilisation of specific services; between harms and lost economic output; and of the value placed on the detriment of the harms. In short, many of the components of this field of costing intimate partner violence may be informed by research projects that are either dedicated to this field or relevant to it. Many of the larger studies (e.g. Walby 2004) draw extensively on a wide-ranging research base.

Criteria for assessment of methods: These seven types of information and method have been used in the studies under review. As discussed above, the use of the first two, expert judgement and victim recall, is not preferred. It is better to use documented evidence than expert judgement, where there is a choice. It is better to use representative samples or administrative data than victim recall, since they more accurately reflect the actual population of victim/survivors. All the other five methods have a legitimate place in the analysis of costs, for specific purposes. In the following chapters, there are detailed assessments of the methodological options for specific service sectors (health, legal, social welfare and specialist) for lost economic output, and for the value placed on physical and emotional impact.

The criteria for the evaluation of the methodology is its ability to deliver findings including that it is comparable and replicable, is simple to apply, and is feasible in practice. The ability of the methodology to deliver comparable findings of cost in circumstances where there are comparable conditions matters. Here the criterion of replicability is core to the assessment of the extent to which the method allows for effective comparisons. It is important that the findings are not distorted by the methodology. It matters that any findings of differences in cost between EU-28 Member States are due to real differences and not due to differences in the statistical data available.

2.6 Identification and Review of the Range of Methodological Options

This report aligns the costs in relation to who bears it. Following the review of the literature, the costs have been grouped into seven categories: losses to the economy, health services, legal services, social welfare, personal costs, specialised services and willingness to pay to avoid the physical and emotional impact of gender-based violence. Each of these sectors is aligned with a specific set of cost-bearing stakeholders: public services (health, legal, social, and specialised services); the public (lost economic output and physical and emotional impact) and individuals (personal expenses).

The findings from the in-depth review of the ten studies in the literature are grouped into seven chapters that reflect the categories of costs. In each case the items costed and the methods to do this are described in relation to the methods employed and the sources of information underpinning them.

Cost estimates are derived from relatively straightforward accounting methods (Day et al 2005). Component items may be costed using a 'bottom-up' or 'top-down' approach (Chan and Cho 2010). In the bottom-up approach a unit cost per item is established which is then multiplied by the number of victims and/or incidents (i.e. prevalence and/or incident rates); for the top-down approach, a total service or overall budget cost is established, of which, based on administrative data, a proportion is identified as the intimate partner violence component (Chan and Cho 2010). Each method whether top-down or bottom-up requires a unit cost in monetary terms and a multiplier (the scale of the impact). This review explicates these accounting methods by analysing each item impact cost and presenting these in table format that indicates:

- the unit of cost used;
- the data source underpinning the unit of cost;
- the multiplier (scale of the impact) use;
- the data source of the multiplier.

Item costing and its robustness is dependent on available data to identify the size of the impacts and attribute a monetary value, and consequently a variety of methods have been deployed, as discussed above. This review presents information for each sector that indicates the range of the sources employed by each of the studies to underpin their unit cost (C) and multiplier (M).

The seven chapters on the seven cost sectors engage in a detailed review of the strengths and weaknesses of the methods used in each of these sectors. While some items were commonly reported on across the studies, many others were distinctly reported for the different cost sectors. Each item and method that had been costed is analysed and evaluated with reference to the quality of methods criteria: potential robustness, replicability, simplicity and feasibility for being employed across the European Union.

2.7 Appraise the Availability of Data across the European Union

For each sector and the items it holds, consideration of the likely availability of comparable data to support analysis across the Member States was undertaken within each sector. In addition a separate chapter is devoted to the issue of the availability of comparable data across the EU. This includes the extent to which there are sufficient findings from the FRA Survey on violence against women (EU FRA 2014a, 2014b), and from EIGE studies on victim services (EIGE 2012) and EIGE's reports: (2014a) Administrative data sources on gender-based violence against women in the EU — Current status and potential for collection of comparable data (Report 1) and (2014b) Administrative data sources on gender-based violence against women in the EU — Current status and potential for collection of comparable data— technical analysis (Report 2).

2.8 Comparing Methodological Options

In Section 11 a summary of the range of options articulated in the sections on lost economic output, health, legal sector, social welfare, personal costs, specialised services, and physical and emotional impact is presented. Based on an evaluation of the potential robustness, replicability, simplicity and feasibility for being employed across the European Union in relation to likely available data and for offering the best possible coverage of item impact, a cost model for undertaking an economic analysis of each item for each sector was recommended.

These methodological options are then further discussed in relation to the availability of evidence in Section 10. This chapter establishes two potential methodological strategies. Some of the issues that might be addressed in future research so as to extend the range of impacts for which costs may be accurately estimated are discussed in Section 13, Future.

2.9 Address the Feasibility Options of Undertaking an Economic Analysis of the Cost of Intimate Partner Violence in the European Union

This report offers conclusions on the feasibility of the available options for costing gender-based and intimate partner violence against women in the EU-28 Member States. This pays attention to the quality criteria of: comprehensiveness of coverage and the robustness, replicability, simplicity and feasibility of the information sources and methods. The findings from the in-depth review of methodological options is then brought together with the appraisal of the available data and limitations and weaknesses in the underpinning evidence base to address the feasibility options for undertaking an economic analysis of the cost of gender-based and intimate partner violence in the European Union. From this further analysis a recommendation for the case study model (case study annex) is proposed alongside default options for circumstances when data for particular items is not available in Member States.

3. Lost Economic Output

3.1 Introduction

Intimate partner violence causes lost economic output as a consequence of its detrimental impact on women's employment. The violence leads to measureable time taken off work and lost jobs, as well as to less easily measureable lost productivity on the job. The lost economic output has wider ramifications for the economy and society, since all would benefit from a high productivity, high output economy.

3.2 Lost Economic Output: Coverage

The importance of identifying the impact of the damage from intimate partner violence on economies is illustrated by the fact that all of the studies in the review included some kind of estimate of this cost.

3.2.1 Range of Processes Producing the Cost of Lost Economic Output

The studies under review varied as to whether the losses in economic output were focused on the victims' lost income and jobs or on the employers' losses through sick pay, underperformance and absence administration — or if they included both. Most of the studies included the costs of lost economic output due to physical injuries or fatal violence. Only one study (Canada: Zhang et al 2012) produced estimates for absence from work that could be specifically linked to the mental health issues that arise from intimate partner violence. Whilst loss of lifetime earnings was frequently assessed in context of intimate partner violence homicide, only one study (England and Wales: Walby 2004) differentiated the losses by the severity of injuries sustained. Approximately half had estimated the cost of unpaid household labour. The most comprehensive range of forms of losses from paid and unpaid work was found in Zhang et al (2012). A summary of the impacts included in the studies of the in-depth review is presented in Table 3.2.1.1.

Table 3.2.1.1: Range of the economic output losses included

Study	Economic Losses Included											
	Victim Losses								Employer Losses			Long-term losses
	PI	MH	Death	Lost output	Paid work	Unpaid work	Child care	Ed loss	T/D	Absence	Admin	
Switzerland (Stern et al, 2013)	x		x	x	x	x						
Canada (Zhang et al, 2012)	x	x		x	x	x	x	x	x	x	x	
Denmark (Helweg-Larson et al, 2010)	x			x	x					x		
France (Nectoux et al, 2010)	x		x	x	x							
Andalusia, Spain (Villagómez, 2010)	x			x						x		
England & Wales (Walby, 2004)	x		x		x					x		x
Australia, (Access Economics, 2004)	x	x	x	x						x	x	
Sweden (Envall et al, 2006)	x		x	x	x	x						
USA (NCIP&C, 2003)	x		x	x	x	x	x					
Finland (Piispa et al, 2001)	x		x			x						

Key: PI: Physical injury; MH: Mental Health; Ed: Education; T/D: Tardiness and Distraction.

3.2.2 Methods of Estimates

There were three main methodological approaches to cost lost productivity: administrative data-based, survey data-based and a purpose-built economic model.

The administrative data-based model (Table 3.2.2.1) primarily relied on administrative data to evidence the scale of lost economic output.

The survey data-based model (Table 3.2.2.2) employed survey data as the source of information to evidence the scale of the impact, and national administrative information to identify the cost of the impact.

The purpose-built economic model (Table 3.2.2.2) was developed for a parallel policy field of similar harms to estimate the losses in economic output for injuries of varying severity.

Table 3.2.2.1: Methods employed in administrative data-based approaches to estimate the cost of lost economic output

Study	Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
Switzerland (Stern et al 2013)	Annual cost of sickness absence. (paid and unpaid work): Average hourly wage.	Federal Statistics Office	Average number of sick days per year: Number of incidents of domestic violence from insurance information adjusted with reference to violence and injuries reported in victimisation survey. Average number of hours of unpaid work (28) per woman per week.	Insurance Statistics. Victimisation Survey. Proportion of DVAW assumed to be IPVAW. Federal Statistics Office.
	Incapacity to work (paid and unpaid work): Annual cost of lost productivity due to disability: Age- and gender-adjusted gross wages.	Administrative data.	Annual productive years lost: Number of disability pensions per year as years of lost productivity. Age-adjusted lifetime losses of productivity in years. Average number of hours of unpaid work (28) per woman per week.	Insurance Statistics. Victimisation Survey. Proportion of DVAW assumed to be IPVAW.
	Death: Reference year and lifetime losses of productivity due to death. Age- and gender-adjusted gross wages.	Administrative data	Number of deaths distributed across age groups: Each death = one year of lost productivity for reference year. Age-adjusted lifetime losses of productivity in years. Average number of hours of unpaid work (28) per woman per week.	Federal Statistics Office (BFS 2012). Proportion of DVAW deaths assumed IPVAW (75 %)
Denmark (Helweg-Larson et al 2010)	Unclear	Comprehensive administrative database	Lost income and production losses because of violence. (~40 % of this is assumed to be IPV).	Statistics Denmark

Administrative Data-Based Approaches

The study undertaken for Switzerland (Stern et al 2013) drew on administrative data to estimate lost productivity because of incapacity to work. The estimate was based on three type of loss: absence, disability and death. The size of impact cost of absence and disability was established from Accident Insurance information about the amount of sick leave and disability pensions claims. Productivity losses for fatalities were established from the estimated number of deaths and the estimated lifetime of lost productivity based on average wages. The estimates for sickness and disability rely on people reporting that the injury was caused by an assault and that the location of the assault was in the person's home. It is likely that information about location and perpetrators of acts of intimate partner violence may not be fully disclosed leading to underestimation. Underestimation may also be affected by the threshold of sick pay. Sickness payments only commence on day three and whilst the authors (ibid) adjusted for the two pre-payment days, claims may not be submitted for absences of two days or less. In addition, underestimation was also likely because people who were students, non-employed, self-employed, retired or work less than 8 hours per week were not included because they were covered by a different insurance. Furthermore, only incidents that required medical intervention were captured in this administrative data.

The Danish study (Helweg-Larsen 2010) was able to use linked comprehensive administrative databases available in Denmark to identify the scale of lost employment by individuals. Within these databases each person has a unique identifier, making it possible to firmly identify the extent to which income, and therefore contribution to economic output, is lower among women who had been subjected to violence as compared with women who had not. However, the databases do not disaggregate by type of violence against women, and whether it was from an intimate partner or someone else, so they used an expert-based assumption that around 40 % of this violence was intimate partner violence. The report for Andalusia (Villagómez 2010) is somewhat unclear as to how it produced its information to estimate income and productivity losses, though this may be clearer in their full Spanish report; nonetheless, they consider that this loss was important since it amounted to around 30 % of the total costs (Villagómez 2010).

Survey Data-Based Approaches to Estimate the Cost of Lost Economic Output

Zhang et al (2012) were able to utilise comprehensive survey data from Canada's General Social Survey in which respondents reported their i) main activity ('working at a paid job'; business' or 'maternity/paternity leave'; 'providing childcare'; 'going to school/college') and ii) days of incapacity to carry out usual daily activities because of intimate partner violence. These two pieces of information formed the cost and impact for productivity losses from work absence, out-sourcing childcare services or missing school.

This methodology employed by Zhang et al (2012) produces a more nuanced calculation of cost in monetary and impact terms (Table 3.2.2.2, 1 of 2). Victim productivity losses were calculated from self-reported average incomes across demographic groups and days of incapacity. To estimate the cost of unpaid household work losses, it was assumed that all women exposed to intimate partner violence undertook the same number of hours per day of unpaid work. The cost of unpaid work was based on the average wage for household work and this was multiplied by the number of days of incapacity to carry out their usual daily activities because of intimate partner violence.

Zhang et al (2012) also include employer lost output from absence, lost productivity from victim tardiness/distraction and the additional administration of absences. The underpinning information informing absence and administration costs seem robust, however lost productivity from victim tardiness/distraction was made on assumptions of i) an association between survey-reported emotional impact and the resultant distraction from work and ii) the duration of the distraction. As such it was not considered wholly reliable and hence was not recommended for inclusion in an economic analysis of impact.

Table 3.2.2.2: Methods employed in survey data-based approaches to estimate the cost of lost economic output (1 of 2)

Study	Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
Canada (Zhang et al 2012)	Lost wages based on average incomes across demographic groups.	General Social Survey	Days absent from work because of IPV-related physical injuries extrapolated from GSS and disaggregated across age groups.	Self-reported days of incapacity to work because of IPV to General Social Survey.
	Lost household services: Average hourly wage of household worker.	Statistics Canada's Labour Force Survey.	Number of days of incapacity. Number of hours per day women spent on household services (4 hours).	Self-reported days of incapacity to because of IPV-related physical injuries to the General Social Survey, disaggregated across age groups and persons; main activity type.
	Lost childcare services: National average cost of childcare.	'Today's Parent' website.	Number of days of incapacity.	
	Lost education: Average tuition fee per day.	Statistics Canada.	Number of days of incapacity.	
	Mental health: Lost wages based on average incomes across demographic groups.	Self-reported incomes disaggregated by demographic information to the General Social Survey.	Number of women that self-reported suffering depression or anxiety within a year of being subjected to IPV sub-classified as diagnosed (on medication) or undiagnosed not on medication. Number of missed work days due to IPV-related diagnosed (23 days) and undiagnosed (17 days) mental health issues disaggregated across age groups	Self-reported to the General Social Survey, disaggregated across age groups. Lim et al (2008).
	Employers lost output:	Net loss of 5.2 % per USD 100 employee investment (wages).	IPV-related physical injuries and mental health issues.	(as above)
	Employer's productivity loss per month due to victim's tardiness/ distraction.	Research (Reeves and O'Leary-Kelly, 2007)	Number of months that victims were assumed to have exhibited tardiness and distraction. 1 incident of IPV per year assumed to exhibit 1 month; 2 incidents of IPV per year assumed to exhibit 2 months; and ≥ 3 incidents of IPV per year assumed to exhibit 6 months of tardiness/distraction.	Assumption of the numbers of women exhibiting tardiness and distraction at work based on the reported emotional impact of IPV incidentss to the GSS. Number of incidents per year reported to the GSS.
	Average managers wage.	Administrative data.	0.5 hour loss of productivity per day of absence.	UK Health and Safety Executive.

Table 3.2.2.2: Methods employed in survey data-based approaches to estimate the cost of lost economic output (2 of 2)

Study	Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
France (Nectoux et al 2010)	Victim wage losses (including on-costs): Average gross hourly wage.	Administrative data.	Estimated number of working women subjected to IPV. Lost hours of work per working woman subjected to IPV per year.	IPV Prevalence: EVS survey. Number of working women: Administrative data. Research: Reeves and O'Leary-Kelly 2007.
	Lifetime loss of production due to death: EUR 1.125 million per person.	Research.	Estimated number murders and other deaths (perpetrator suicide and family homicides).	Official Statistics.
Australia (Access Economics 2004)	Paid work losses: Average Weekly Earnings (AWE) and on costs. Unpaid household labour: Lost wages and on costs at 30 % of AWE.	Authors' choice.	Self-report of paid time off. Lost output adjusted for lower rate of employment and AWE.	WSS and US NVAWS (data on IPV and time off work). Absenteeism rates assumed to be the same as US. Unpaid work estimated at ~2 hours per day.
Sweden (Envall et al 2006)	Cost of production losses from accidents and sick leave. Value of unpaid work.	Research: Swedish Rescue Services and Stockholm County Social Insurance Office. Source of value of unpaid work unclear.	Number of homicides. Number of women subjected to IPV.	Crime Statistics. Swedish Living Survey.
USA (NCIP&C 2003)	Average daily earnings and household production lost because of rape/physical assault/stalking.	US Bureau of Labour; US Bureau of the Census. Research: Value of Lifetime Earnings by age.	Number of IPV incidents and days of incapacity to carry out usual activity (number of days lost per type of violence incident).	Uniform Crime Reports Supplementary Homicide Report of IPV to NVAWS survey.
Finland (Piispa and Heiskanen et al 2001)	Paid work: Average value of daily production.	Day value of the GNP at market prices.	Days absent from work because of IPV-related physical injuries extrapolated from FHB.	Self-reported days absent because of IPV-related physical injuries.
	Volunteer victim support: Average hourly wage including on costs.	Administrative data.	Estimated number of volunteer hours.	Victim support centre estimates of volunteer hours.

Nectoux et al (2010) drew on the same research (Reeves and O'Leary-Kelly 2007) as Zhang et al (2012) which reported the additional number of work hours lost (29 hours) due to absenteeism per female victim of intimate partner violence per year. The number of hours lost per year was then multiplied by an estimated proportion of working women (9 %) subjected to intimate partner violence (9 % proportion derived from a victimisation survey). There is an assumption that all working women subjected to intimate partner violence will exhibit the same rates of absenteeism and tardiness/distraction. Reeves and O'Leary-Kelly's (2007) research is of good quality involving 1 588 women from three mid-sized businesses in a southern US state. However, the current victimisation prevalence rate in this study (ibid) was 10.3 %, which is notably much greater than that reported for the EU-28 (4 %) (FRA 2014) and therefore caution is advised in transposing the findings of Reeves and O'Leary-Kelly's (2007) report to the EU.

In estimating economic losses from femicide, Nectoux et al (2010) also include perpetrator suicide and family member homicide. We do not recommend including these costs in an estimate of the costs of intimate partner violence on women. This is partly so as to keep a victim-centred focus, and partly because the evidence as to the causation of the suicide of perpetrators lacks sufficient robustness.

The comprehensive methodology of calculating unpaid work output losses proposed by Zhang et al (2012) is troubled by the authors of the Australian study. Access Economics (2004) suggest that unpaid labour should not be granted the same value in monetary terms because:

> '(…) no-one else tends to value the individual's leisure similarly. In an attempt to overcome these problems, some human capital approaches over the years have treated leisure time at a discounted proportion of earnings, although there is debate over what proportion should be used. Reasons why leisure time is valued as a proportion of earnings include tax reducing the effective income from work and restrictions on the amount of time that can be used for work (for both biological and governmental regulation reasons). For the purposes of this study we have chosen to value leisure time at the lowest valuation of 30 % of AWE.' (Access Economics, Part II, 2004b:16)

The economic value of unpaid labour is seemingly contested. The argument articulated for this report is that it would be unjust and gender discriminatory to propose that household labour has a lower monetary value, and therefore the average hourly wage cost of household services, as illustrated by Zhang et al (2012), was a preferred model for the unit cost of unpaid household labour. Access Economics (2004) also include an assessment of lost taxes based on 20 % of total lost income. Although lost taxes will have further impact for the public purse, this impact is not advocated as it could arguably be considered to be double-counting economic losses.

Purpose-built Economic Model

Walby (2004) drew on an established government model for similar harms in a parallel policy setting. This model had been developed by the Department of Transport in order to estimate the cost of different levels of injuries sustained in car accidents, and was applied by the Home Office to injuries sustained as a result of violent crime. The underpinning research supporting this model included longitudinal studies of the actual losses to employment and actual use of health services over a four-year period after the initial injury. This model was then applied to the analysis of lost economic output due to intimate partner violence (see Table 3.2.2.3) differentiated by injury severity. One advantage of this model was the production of a unit cost of lost economic output differentiated by the severity of injury suffered and this type of methodology was preferred because of its ease of application and transferability.

Table 3.2.2.3: Purpose-built economic model approaches to estimate the cost of lost economic output

Study	Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
England & Wales (Walby 2004)	Lost lifetime output in GBP per: fatality; serious injury; slight injury; no injury.	Home Office Research: (Brand and Price 2000). Levels of lost output based on severity of injury from research for the Department for Transport.	Number of IPV Homicides. Last 12 months of IPV self-report prevalence data and reports of type and severity of injury sustained.	Crime Statistics. BCS victimisation survey with self-completion IPV module.
Finland (Piispa et al 2001)	Lost lifetime output per fatality differentiated by age of victim.	Developed government model for estimating loss of production associated with fatality (road traffic accidents) and gross lifetime national product per woman.	Number of IPV Homicides.	Causes of Death Statistics.

Studies vary as to whether they attribute the cost of lost employment to the employer (who might pay sickness benefits), to the individual (who might lose wages) or to both. Walby (2004) splits the total figure of lost economic output between the victim and employer. The benefit of this method is its greater potential for replicability: it only requires victim self-reporting of the severity of injuries to a victimisation survey for it to be calculated. The cost figure produced is of course limited by the survey questions and the input options available to respondents which are often limited to the most recent or worst incident, and by its focus on physical injury and not mental health harm.

The model employed by Zhang et al (2012) implicitly includes absence because of mental health issues, but these are hard to estimate accurately. In future studies it may be possible to include the lost economic output due to the impact of intimate partner violence on mental health which has an impact on the victim/survivor's employment (Zhang et al 2012), but it is hard to do so on the basis of the existing evidence. Walby (2004) does not account for the unpaid labour productivity losses and the most robust empirically-based methodology for this impact that had been applied to gender-based violence was found in Canada's (Zhang et al 2012) analysis. However, this model required victims' self-reporting

of days of incapacity and multiple sources of information. It is difficult to estimate these costs accurately.

There are two further models that have attempted to estimate lost economic output from being subject to violence. The first, Duvvury et al 2013, is gender sensitive, and focused on the interconnections of violence against women, gender inequality, and gendered productivity, poverty and economic growth. This innovative and gender-nuanced model was developed using Vietnam as a case study and is currently focused on low and middle income countries. However, it is still in the developmental stages, and in its current form may not be transferrable to middle-/high-income contexts, nonetheless, Duvvury et al's approach, is ground-breaking and important and is discussed further in the 'Future' section. The second is an advancement in the UK government's Home Office methodology. The first Home Office methodology for the cost of crime 'HORS 217' (Brand and Price 2000) had based estimates for the cost of violent crime on the best available evidence-based methodology at the time, some of which had been developed from research produced for the Department of the Environment, Transport and the Regions (DETR). Brand and Price (2000) acknowledged that this was not ideal being based on the cost impacts of injuries sustained in road traffic accidents rather than interpersonal violence. Challenges for the HORS 217 methodology were identified as: the transferability of injurious impacts and health costs from road traffic accidents to the context of violences against the person and the transferability of the method to estimate emotional impacts of violences against the person. Of particular concern to Brand and Price (2000) was inattention in the methodology to psychological trauma, and which was highly likely to be an important cost impact for violent crime. HORS 217 was understood then as a best available, but first methodological step to estimate the cost of crime and correspondingly the Home Office commissioned research into the physical and emotional cost impacts of violent crime (Brand and Price 2000).

The Home Office Online Report (HOOR 30/05, Dubourg et al 2005), The economic and social costs of crime against individuals and households 2003/04, reported on new methodology for estimating the lost economic output cost of violent crime. Central to the new methodology are 'health state outcomes' formulated from respondents' reports of injury from incidents of violence to the British Crime Survey. An average value of lost economic value for each category of violent crime was formulated from simulated statistical probability modelling of the prevalence of psychological and physical health injuries (health state outcomes), and the corresponding poor-health state outcome-related work-time losses. To use this methodology the only information required is incident-level data disaggregated by type of violence and police recorded crime statistics for the numbers of domestic and intimate partner homicides (ONS 2014a). One advantage of this model is that it is focused on ***time of lost productivity*** irrespective of whether that time involved is actual time-off work (absenteeism) and thus treats paid and unpaid productivity losses equally. In addition, as health loss is focused, it has incorporated lost productivity from mental ill-health, although this is extremely partial. Loss through acute and post-traumatic stress disorder has been incorporated across all categories of violent crime but only rape has lost productivity because of the common mental disorders (anxiety and depression) included. HOOR 30/05 (Dubourg et al (2005) is an important methodological development and is an important step to better analysis of the economic impact of lost productivity. The duration of health state outcomes were based on assumptions of duration and this limits the accuracy of estimates. Notwithstanding its limitations, HOOR 30/05 has produced a government-backed. Average value of lost economic output per incident of each type of violent crime that is transferable and easy to apply and this method was selected as the preferred methodology for the case study.

3.2.3 Recommended Model: Cost of Lost Economic Output

The recommended model for estimating the cost of lost economic output as a result of intimate partner violence draws on the UK Government method (HOOR 30/05, Dubourg et al 2005) to estimate the cost of lost economic output. The components of this model are summarised below (Table 3.2.3.1).

Table 3.2.3.1: Recommended model to estimate the cost of lost economic output

Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
Lost productivity: Lost economic output in monetary terms (EUR per incident of violent crime (homicide; serious wounding, less serious wounding, common assault, rape and sexual assault).	Cost of lost output based on the severity of injury from health state outcomes from the UK Home Office methodology.	Number of IPV Homicides. Survey-based estimates of the extent of intimate partner violence per category of crime.	Crime Statistics. Population based victimisation survey.

3.2.4 Overview of the Types of Data Employed to Estimate Lost Economic Output

Table 3.2.4.1 summarises the sources of information employed by the studies in this review for estimating the scale, or multiplier (M) of the impact of lost economic output and the costs (C) of this impact. (See Section 2.5.2 for a discussion on different approaches to sourcing information to estimate costs.)

Table 3.2.4.1: Overview of data sources of methods employed to estimate lost economic output

Study	Expert judgement	Victim recall	Survey	Admin data	Correla-tion	Parallel study	Unclear
Switzerland (Stern et al 2013)			**M**	**M** **C**			
Canada (Zhang et al 2012)			**M**	**C** **M**			
Denmark (Helweg-Larson et al 2010)				**M** **C**			
France (Nectoux et al 2010)			**M**	**M** **C**			
Andalusia, Spain (Villagómez 2010)		**M** **C**	**M**	**M** **C**			**x**
England & Wales (Walby 2004)			**M**			**C**	
Australia (Access Economics, 2004)			**M**	**M** **C**			
Sweden (Envall et al 2006)			**M**	**M** **C**			
USA (NCIP&C 2003)			**M**	**M** **C**			
Finland (Heiskanen et al 2001)	**M**		**M**	**M** **C**		**C**	

Key: M denotes the multiplier source (size of the impact) and C denotes the source of monetary impact (cost)

4. Health

4.1 Introduction

The World Health Organization (WHO 1948) defines health as,

> 'A state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.'

This is a useful rubric from which to establish the impacts of intimate partner violence in terms, not only of health, but also of 'well-being'. Three key causal mechanisms for potential pathways of harm leading from being subject to intimate partner violence to effects on health and well-being have been identified as:

- Physical trauma;
- Psychological trauma and stress;
- Fear and control (WHO 2013b).

Some of these causal mechanisms have long been established and can be easily comprehended, such as physical trauma from physical violence. Other causal associations and hence the extent of the impacts between intimate partner violence and health impacts are less well established, such as in the case of cardiovascular disease and substance use. In this section, the focus is on health services for health impacts; 'well-being', understood more broadly, is addressed in the later section 'Future'.

4.2 Coverage

All of the ten studies in the review had produced some estimates of the costs for health services for the urgent treatment of injuries sustained from physical intimate partner violence and for associated longer-term health impacts.

4.2.1 Health Service Costs

A variety of health services responding to the health consequences of intimate partner violence were incorporated in the analyses including:

- Accident and emergency department attendances and medical treatment for the physical injuries suffered in an assault.
- Accident and emergency department attendances and medical treatment for the self-harm and suicide attempts associated with mental health ***sequelae*** from intimate partner violence.
- Primary healthcare services for greater experience of ill-health for women subjected to intimate partner violence which may manifest as physical and/or psychological ill-health.
- Specialist psychological healthcare services for acute and longer-term mental health impacts from intimate partner violence.
- Forensic medicine to record violence and assess injuries or cause of death, and collect and secure evidence for the criminal justice system.

Health impacts of intimate partner violence have been established as having two different components: physical injury from acts of violence that warrants immediate, often emergency, healthcare; and long-term mental and physical health impacts from psychological trauma and stress, and physiological stress responses. Economic analysis models have commonly itemised and costed these different short- and long-term impacts separately reflecting common service configurations and divisions of health services. Consequently they are presented separately and the range of impact items costed for i) physical injuries from assault and ii) wider and long-term health impacts, are presented in Tables 4.2.2.1 and 4.2.3.1 respectively.

4.2.2 Range of Physical Injury Health Impacts Costed

The range of health sector impact items for the immediate, emergency healthcare for, primarily, the physical injuries that women incur through an assault by a partner included in economic analyses for each study of the review are presented in Table 4.2.2.1.

Table 4.2.2.1: Range of impact items included (physical injury)

Study	Impacts Included								
	Ambulance	Emergency treatment	Emergency treatment + 1 year	Emergency Treatment + 4 years	Hospital Stay + Outpatient	Primary Care Treatment	Prescriptions	Travel	Unclear
Switzerland (Stern et al 2013)			x		x	x	x		
Canada (Zhang et al 2012)	x	x				x			
Denmark (Helweg-Larson et al 2010)		x			x	x			
France (Nectoux et al 2010)		x			x				
Andalusia, Spain (Villagómez 2010)									x
England & Wales (Walby 2004)	x			x	x	x	x	x	
Australia (Access Economics 2004)				x	x	x			
Sweden (Envall et al 2006)		x							
USA (NCIP&C 2003)			x		x	x			
Finland (Piispa et al 2001)		x			x	x			

4.2.3 Range of Long-Term Health Impacts

The long-term health impacts associated with intimate partner violence that had been included in cost estimations were for mental health services, acute care services and primary health services. The range of items that had been included are summarised in Table 4.2.3.1.

Table 4.2.3.1: Range of items included (long-term health impacts)

Study	Impacts Included											
	Dep	Anx	MH Care	PH Care	Px	SH	Risk	Phys Inj	Rep	Femicide	2nd Gen	Perp
Switzerland (Stern et al 2013)	x		x		x							
Canada (Zhang et al 2012)	x	x	x		x	x					x	
Denmark (Helweg-Larson et al 2010)			x	x	x							
France (Nectoux et al 2010)			x	x	x							
Andalusia, Spain (Villagómez 2010)			x	x							x	

England & Wales (Walby 2004)			x									
Australia (Access Economics 2004)	x	x		x	x	x	x	x	x	x		x
Sweden (Envall et al 2006)			x	x								
USA (NCIP&C 2003)			x									
Finland (Piispa et al 2001)			x (some)		x							

Key: Dep: Depression; Anx: Anxiety; MH; Mental Health; PH Primary Health; Px: Prescriptions; SH: Self Harm/Suicide; Risk: Harmful Health Behaviours; Phys Inj: Physical Injuries; Rep: Reproductive Health Problems (cervical cancer and sexually transmitted diseases; 2nd Gen: Second Generation; Perp: Perpetrator.

4.3 Methods of Estimates

Health services that address the impacts of intimate partner violence have two components: services providing for the immediate treatment of injuries; and services responding to longer-term health impacts. The analysis of the methodological options is consequently presented in two parts:

Methods to cost immediate, emergency healthcare for, primarily, the physical injuries women that incur through an assault by a partner.

Methods to cost health services for wider and longer-term health impacts associated with intimate partner violence.

4.3.1 Physical Injuries

Estimates of the scale of the cost of health service utilisation for the urgent treatment of injuries sustained during an assault by a partner had been approached in five different ways, formulated from:

- Victims' self-reporting of service utilisation to representative surveys (Zhang et al 2012; Envall et al 2006; NCIP&C 2003; Piispa and Heiskanen 2001) and non-representative survey (Villagómez 2010).
- Victims' self-reporting of injuries sustained to a representative survey modelled in combination with an accident insurance data (Stern et al 2013).
- Victims' self-reporting of injuries and acts of violence sustained to representative survey modelled through established methodology predicting likely course of treatment for specific injuries and their cost (Walby 2004).
- Service utilisation established from administrative data employing diagnostic groups based on classifications of violence against the person (Nectoux 2010; Helweg-Larsen 2010).
- Service utilisation scaled from research reporting prevalence (Nectoux 2010) and nature of intimate partner violence assault injuries (Access Economics 2004) in emergency department populations.

Health systems in different countries are differently operationalised, and the unit costs for emergency care and hospitalisation for physical injuries caused by intimate partner violence found in the review were sourced differently, established from macro-level administrative data and/or small scale, bespoke research. Although operating different systems, many studies sourced average unit cost from macro or state-level health data sources, and these included:

- Accident insurance information (Switzerland: Stern et al 2013);
- Health administration information (Canada: Zhang et al 2012; Sweden: Envall et al 2006; USA: NCIP&C 2003; Finland: Piispa and Heiskanen 2001);
- Diagnosis related group (DRG) costs (Denmark: Helweg-Larson et al 2010; Australia: Access Economics (2004);
- Health insurance information (France: Nectoux et al 2010; USA: NCIP&C 2003).

Victim report of service utilisation to surveys

The methods employed by studies estimating the treatment costs for physical injuries from self-reporting to representative and non-representative surveys are summarised in Table 4.3.1.1.

Table 4.3.1.1: Methods of health costs based on victim self-reporting of utilisation to surveys

Study	Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
Canada Zhang et al (2012)	Average cost per physician visit. Average length of stay per hospitalisation. Average cost of accident and emergency department visit. Average cost of ambulance service.	Canadian Institute Health Information. Ministry of Health. Ambulance Fee Changes.	IPV prevalence data and self-report of medical attention. 60 % of people hospitalised would require an ambulance.	General Social Survey. Ambulance utilisation based on assumption.
Sweden Envall et al (2006)	Cost per patient for medical treatment.	National Board of Health and Welfare register of number of treatments. Swedish Association of Local Authorities and Regions.	Self-reporting to survey about out-patient treatment at hospitals, emergency or primary care centres following IPV.	Population-based prevalence data from self-reporting to Statistics Sweden's Living Conditions Survey.
USA NCIP&C (2003)	Unit costs per episode of care for IPV rape and physical assault.	Medical Expenditure Panel Survey. Medicare data.	Self-reporting to survey about medical following IPV injury.	Population-based prevalence data from self-reporting to the National Violence Against Women Survey.
Finland Piispa et al (2001)	Unit cost of visit to a healthcare centre. Average cost of a visit to a special surgical health service. Average length of stay for ICD-10 IPV classifications.	Association of Finnish local and regional authorities. Study of cost of hospital care.	Self-reporting of IPV and service use to a representative survey. Assumption that half of visits were to a general health centre and half to a specialist healthcare centre. ICD-10 IPV classifications applied to hospitalisations.	Population-based prevalence data from self-reporting of IPV to the Faith, Hope, Battering survey. Administrative data for Hospitalisations.
Andalusia, Spain Villagómez (2010).	Service utilisation estimated from a survey of women known to specialist services reporting IPV.	Unclear in report.	Last 12 months IPV prevalence data.	Population-based DVAW survey (IPV accounted for ~ 75 % of DVAW reported).

Four studies utilised victim/survivor's self-reporting of service utilisation to representative surveys (Zhang et al 2012; Envall et al 2006; NCIP&C 2003; Piispa and Heiskanen, 2001) to estimate the scale of the impact for health services. However, women's reporting of service utilisation may be affected by recall and consequently, figures based on women's recall are likely to produce underestimations of impact. Underestimation is furthered because some surveys limit the respondents' reporting of multiple hospitalisations; Zhang et al (2012) identify that the GSS survey for Canada only asks dichotomously about 'hospitalisation', as such the estimation is based on the number of victims and not incidents. Another study also used victim/survivor's self-reporting of service utilisation to a survey, but this was not a representative sample. In this study, Villagómez (2010), estimating the cost of intimate partner violence against women, surveyed 300 women known to the specialist victim support services to establish service use for this population. Undertaken in this way, service utilisation would not be generalisable to the wider population of women experiencing intimate partner violence, i.e. women subjected to intimate partner violence but who have not accessed specialist services. Within this method of estimating cost based on victim self-reporting of utilisation to surveys there are two dimensions that contribute to its underestimation of cost impact: victim recall of service utilisation and the restriction of surveys to capture all respondents' health contacts for each incident of violence producing injury. Due to these limitations, victim/survivor's self-reporting of service utilisation to representative surveys was not proposed as a recommended model.

Victims' reporting of injuries to surveys modelled in combination with accident insurance data

Stern et al (2013) established an average impact for health service providers in terms of injury healthcare over the course of a year arising from a violent incident in a domestic setting. The cost was calculated from central insurance data and has the advantage of including not just the immediate treatment episode but also follow-up care for the duration of one year. This model is summarised in Table 4.3.1.2 below.

Table 4.3.1.2: Methods of health costs using victim reporting of injuries to surveys combined with accident insurance data

Study	Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
IPV Switzerland, Stern et al (2013).	Estimated average annual treatment cost of a violent incident in domestic situations during leisure time.	Central Office for Statistics in Accident Insurance.	Last 12 months IPV-prevalence data and self-reporting of physical injury from IPV.	Population-based Swiss victim survey.

The unit cost in this model was formulated from data input in the classificatory categories of the current administrative data systems, in which the closest classification for intimate partner violence was 'a violent incident in domestic situations during leisure time'. Therefore the unit cost estimate was not specific for the treatment impacts of intimate partner violence.

Victims' reporting of injuries and violence to surveys modelled through established methodology predicting the likely course of treatment for specific injuries and their cost

Walby (2004) integrated injury data and act of violence data with established government economic costing models from the parallel fields of road traffic accidents and crime. This modelling estimated the scale of the impacts, as courses of treatment for periods of up to four years, for different levels of injuries based on violent crime severity. The model is summarised in Table 4.3.1.3 below.

Table 4.3.1.3: Methods of health costs for injuries modelled on methodology that predicts the likely course of treatment and cost

Study	Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
England and Wales, Walby (2004)	Average unit costs estimated for: Hospitalisation (includes ambulance costs) for three levels of violent wounding (fatal GBP 670, serious GBP 9 190, slight GBP 680) Follow-up healthcare 3 x GP visits (GBP 48); 3 x Prescriptions (GBP 53) (Plus 3 x Prescriptions (GBP 19); lost wages and travel expenses (GBP 20) victim costs).	Three levels of cost for violent wounding based on the severity of the injury from Home Office health costs of violent crime methodology mapped onto the Department for Transport injury severity scale. Unit costs GBP per minute for GP costs from research.	Last 12 months IPV self-reporting and reports of type and severity of injury sustained.	Population-based victimisation survey.

The two studies above (Stern et al 2013; Walby 2004) utilised data from victim/survivor's self-reporting of injuries and/or acts of violence sustained from representative surveys to establish the scale of service utilisation. Although they were modelled differently both approaches used established and tested government methods of

measuring impact in economic terms. A further advantage of the approaches utilised in these two analyses is that treatment costs are assessed for a **course of treatment** rather than only for the immediate first-contact healthcare attendance. Walby's (2004) cost methodology included treatment costs for up to four years whilst Stern et al's (2013) included treatment costs for one year. The weakness of the model undertaken by Stern et al (2013) for Switzerland lies in its dependency on insurance data; those without insurance are excluded from the estimate as are insurance claims that are misclassified into other categories of accidental injury rather than interpersonal violence. The model undertaken by Walby (2004) for England and Wales is more accurate and robust because it is based on statistical probabilities (predictive) of likely courses of treatment and the corresponding costs. Furthermore the model is injury-/act-of-violence-based and thus not susceptible to the potential classificatory errors that the Switzerland model may be. The advantages of the model undertaken by Walby (2004) for England and Wales are: previously established government use; coverage of a greater range of impact items; inclusion of the cost of (up to) four-year treatment costs; robust method of costs based on statistical probabilities; and limited data requirements.

Some studies (Zhang et al 2012) have limited cost analyses to the reference year so that costs of treatments beyond one year post-injury would not be included. However this approach becomes complicated when one considers that in the reference year, victims of intimate partner violence will be incurring year two, three and four post-violence/injury costs. There are thus two approaches possible to include long-term violence/injury costs. One method is to include projected post-reference year costs for the estimated victims of intimate partner in the reference year, bringing attention to the matter that there will be a subjected population in the reference year, who may not have experienced intimate partner violence in the last twelve months but who nonetheless continue to exercise public (services), economic (lost productivity) and/or individual impacts; this method is most simple to apply. The second method is to attribute only those impacts directly incurred during the reference year; whilst this method may seem appropriate on first reading it becomes increasingly complex as it requires estimating attributable fractions of impacts from previous years' intimate partner violence exposures so that these could be included for the reference year. This review recommends the simpler method, i.e. to include the projected post-reference year costs for the estimated victims of intimate partner violence in the reference year, as these will also account for those women incurring impacts in the reference year but who were not subjected in that year.

Service utilisation established from administrative data employing diagnostic groups based on classifications of violence against the person

Two studies used administrative data based on diagnostic groups classified as violence against the person to estimate the size of impact (utilisation) for health services treating physical injuries from intimate partner violence (Nectoux 2010; 2007; Helweg-Larsen et al 2010) (see Table 4.3.1.4).

Table 4.3.1.4: Methods of health costs from administrative data employing diagnostic groups based on classifications of violence against the person

Study	Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
France, Nectoux et al (2010)	Emergency healthcare visits. Hospitalisation cost: Diagnosis Related Groups for violence by a known person.	Administrative health data.	Estimated number of women attending emergency healthcare for injuries. Estimated number of those hospitalised.	Epidemiological research and expert opinion that ~2 % of ED visits are for injuries related to IPV. Hospitalisation rates are estimated from the administrative data of rates of hospitalisation by diagnosis (violence by a known person).
Denmark, Helweg-Larson et al (2010)	Specific diagnosis related (DRG) costs.	Administrative health data.	Number of patients contacting health services because of violence.	National Patient Register. Cost for 'VAW', of which ~40 % IPV.

Health service administrative data employing classifications of violence against the person were used to establish the scale of hospitalisations for injuries sustained in France (Nectoux 2010) and the scale of accident and emergency department attendances in Denmark (Helweg-Larsen 2010). Because the administrative data collected was for 'violence' and not specifically for 'intimate partner violence', both of these studies supplemented

health service administrative information with representative survey data to best estimate the proportion of the admissions/attendances for violence against the person attributable to intimate partner violence. The advantage of administration data collected at the point of health contact is that it has the potential to provide the most accurate data of service utilisation for emergency healthcare provision for injuries incurred from intimate partner violence. However, its quality is based on the specificity of classification options and accuracy of their application by practitioners at the point of service. Piispa and Heiskanen (2001) also employed administrative data on the numbers of hospitalisations for intimate partner violence identified by ICD-10 classification, however, data about victim/perpetrator relationship and/or ICD classification was missing for some entries. To ameliorate for missing data assumptive imputation was used to ascribe a proportion of these non-classified hospitalisations as attributable to intimate partner violence (Piispa and Heiskanen 2001). These studies have indicated that health sector administrative data was often incomplete requiring further modelling using estimates of the likely scale of the population affected.

Service utilisation scaled from research reporting the prevalence and nature of intimate partner violence assault injuries in accident and emergency department populations

The study undertaken in France (Nectoux et al 2010) was additionally complex because administrative data for accident and emergency department attendances was not available. In the absence of this data, Nectoux (2007) referred to the epidemiological research of accident and emergency department attendances undertaken in different countries that reported the proportion of accident and emergency department attendance attributable to the harms of intimate partner violence but none of these were undertaken in France. The proportion of accident and emergency department attendances in France attributable to intimate partner violence was based on local expert opinion with reference to the epidemiological research from other regions and states.

One further study (Access Economics 2004) drew on research as a basis to estimate emergency care costs for physical injuries sustained through intimate partner violence. This study drew on small-scale research that reported on the characteristics of injuries sustained from intimate partner violence injuries in an emergency department population, large-scale survey research establishing the risk ratio for intimate partner violence injuries, and representative victimisation survey research to extrapolate intimate partner violence injuries and the risk of incurring them to the wider general population (see Table 4.3.1.5).

Table 4.3.1.5: Methods of health costs based on extrapolation of characteristics of assault injuries identified in an accident and emergency department population

Study	Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
Australia, Access Economics (2004)	Health costs were based on health utilisation and expenditure for disease-related groups (DRGs). Costs were calculated to include estimated short- and long-term health effects from IPV-related physical injury.	Australian Institute for Health and Welfare. Disease Costs and Impact Study.	Estimation of the relative risk for injury associated with IPV from self-reporting to a longitudinal survey extrapolated using prevalence data from a representative survey.	Australian Longitudinal Study on Women's Health source for health risks associated with IPV. Women's Safety Survey and Personal Safety Survey provide population prevalence data.

This method involved a number of different elements that included:

- Identification of the character of injuries from intimate partner violence from a small-scale research study of women presenting to an accident and emergency department in Brisbane that catalogued the women's physical injuries sustained;
- Assessment of the scale of the health service impacts (health service utilisation and expenditure) from physical injuries using established government methodology that produced health costs specified for International Classification of Disease (ICD-10) based on disease-related groups (DRGs);

- Calculation of the health burdens of physical injury so that service utilisation for longer-term health effects (disability) were included;
- Estimation of the relative risk of women sustaining different kinds of injuries based on data from the Australian Longitudinal Study on Women's Health;
- Extrapolation of the risk of injury in an exposed population using prevalence data from a representative survey.

This model is largely methodologically robust and covers a good range of item impacts; however there are spaces for the introduction of error. Firstly, the characteristics of injuries were based on a small-scale study undertaken in one emergency department in Brisbane. The calculation of health service utilisation and expenditure from physical injuries was produced from International Classification of Disease (ICD-10)-based disease-related groups (DRGs) not specific to intimate partner violence. The most assault classifications in the International Classification of Disease (ICD-10) do not specify the victim-perpetrator relationship (Olive 2013). The complexity of this model, drawing on five sources of information, some of which are complex, and large-scale surveys, means that the feasibility, in terms of replicability and data availability, for its application across other territories is not viable.

4.3.2 Overview of Data Sources of Methods Employed for Health Sector Impacts for the Immediate Treatment of Physical Injuries

The variety of data sources for estimating the scale of the impact (M) and cost of the impact (C) employed by the different studies included in the review is illustrated in Table 4.3.2.1.

Table 4.3.2.1: Overview of types of data employed to estimate health sector impacts (physical injuries)

Study	Methods employed					
	Expert judgement	Victim recall	Survey	Admin data	Correlation / research	Parallel fields
Switzerland (Stern et al 2013)			**M**	**C**		
Canada (Zhang et al 2012)	**M**		**M**	**C**		
Denmark (Helweg-Larson et al 2010)				**M** **C**		
France (Nectoux et al 2010)	**M**		**M**	**M** **C**	**M**	
Andalusia, Spain (Villagómez 2010)		**M**	**M**	**C**		
England & Wales (Walby 2004)			**M**			**C**
Australia (Access Economics 2004)			**M**	**M** **C**		**M**
Sweden (Envall et al 2006)			**M**	**C**		
USA (NCIP&C 2003)			**M**	**C**		
Finland (Piispa et al 2001)	**C**		**M**	**M** **C**	**M** **C**	

Key: M denotes the multiplier source (size of the impact) and C denotes the source of monetary impact (cost)

Administrative health data has been a valuable source of information for establishing the cost of healthcare for injuries in monetary terms. Administrative health information was relied on much less as the basis for the scale of health service utilisation. Four studies had used it to some degree. These studies identified rates of attendances and/or hospitalisation identifiable from administrative data classifications for violence against the person (Nectoux et al 2010; Helweg-Larsen et al 2010; Access Economics 2004; Piispa and Heiskanen 2001). However these studies

reported incomplete data and/or were not specific for intimate partner violence and consequently other sources were drawn on to formulate estimates.

Of the methods employed to date to estimate the impact of physical injuries the better model was that employed by Walby (2004). This methodology estimates costs in monetary terms for the short- and longer-term (up to four years) healthcare needs for injuries sustained, differentiated by injury severity. Walby (2004) modified this model by integrating research by Netten and Curtis (2002) estimating GP costs and prescription costs. This model had good item coverage over time and has greater accuracy being underpinned by statistical probabilities (predictive) of likely courses of injury severity-based treatment and corresponding costs. Furthermore it did not rely on administrative data which has often been found to be incomplete by the studies in this review, and only requires one source of widely available data (report of injuries and acts of violence to a representative survey). However it is limited because of its origins in the parallel policy field of Transport (road traffic accidents) and therefore its transferability to estimate the impact of interpersonal violence is not ideal.

4.3.3 Methods of Estimates for Wider and Longer-Term Health Impacts

There were three methodologies employed by the studies in the review to estimate the costs of wider and longer-term health impacts of intimate partner for the health sector.

- Research-based cost estimates of the likely proportion of women subjected to intimate partner violence that suffer poor mental health (Stern et al 2013; Access Economics 2004);
- Additional utilisation of mental and general health services based on self-reporting to a survey (NCIP&C 2003; Envall et al 2006; Villagómez 2010; Helweg-Larsen et al 2010; Nectoux et al 2010; Zhang et al 2012);
- Additional utilisation of mental and general health services based on other research (Walby 2004; Piispa and Heiskanen 2001).

Research-based cost estimates of the likely proportion of women subjected to intimate partner violence that suffer poor mental health

Table 4.3.3.1: Methods employed in research-based cost estimates of the likely proportion of women subjected to intimate partner violence who also suffer poor mental health

Territory and Study	Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
Switzerland, Stern et al (2013)	Estimated treatment cost of depression per case for one year.	Unit Cost for Switzerland (Jäger et al 2008) extracted from a 2004 economic review of costs of brain disorders in Europe.	Estimated proportion of women subjected to IPV likely to suffer depression from a meta-review of research (Golding 1999).	Population-based Swiss victim prevalence survey (Killias et al 2011). Meta-review of research: relationships between mental health problems and IPV (Golding 1999).
Australia, Access Economics (2004)	Health cost estimation based on ICD-10 and International Classification of Primary Care Version 2 disease-related groups (DRGs). Perpetrator health costs.	Australian Institute for Health and Welfare. Disease Costs and Impact Study.	IPV attributable health burden in terms of DALYs calculated for conditions and harmful behaviours associated with IPV..	Population-based prevalence data from self-reporting to the Women's Safety Survey Personal Safety Survey. Australian Longitudinal Study on Women's Health. Homicide data.

Stern et al (2013) note the gaps in Canton and national healthcare data for conditions associated with intimate partner violence. Consequently, research reporting on the proportion of women subjected to intimate partner violence that suffer mental health conditions was employed as a basis for long-term health costs. Only mental health impacts were considered; and of these only the cost of depression was included. The rationale behind limiting the study to the economic impact of depression lay in the authors' consideration that the field of research lacked data of sufficient quality for robust estimates of the strength and direction of the causal relationship to be

confidently proposed. Furthermore depression alone was estimated for because of a concern that integration of a range of different mental health conditions associated with intimate partner violence may inadvertently result in 'double counting' because of co-morbidity. The unit costs for the annual treatment of each condition (Jäger et al 2008) apart from suicidality was also research-based derived from Andlin-Sobocki et al's (2005) economic review of the costs of brain disorders in Europe.

The Australian study (Access Economics 2004) includes an estimate for the widest range of health impacts. Costs are assessed for Femicide; Suicide; Physical Injuries; Depression; Anxiety; Eating Disorders; Harmful Tobacco, Alcohol and Drug use; Sexually Transmitted Diseases and Cervical Cancer. The Australian Longitudinal Study on Women's Health explored the health burden of intimate partner violence for conditions consistently reported in the literature as associated with exposure to it. The relative risk of these conditions occurring was called the 'Attributable Fraction', meaning the proportion of health burden that it is reasonably robust to assert as being associated with intimate partner violence. The Relative Risk and Attributable Fractions formed the basis for estimated intimate partner violence-associated Disability Adjusted Life Years and Years of Life Lost for the associated conditions and harmful health behaviours. Calculations of the relative risk and attributable fractions of health burden controlled for potentially confounding factors, this means that it is a best possible estimate of the wider and longer-term direct health impact of intimate partner violence. However, the technical detail evidencing the calculations of relative risks is not explicitly recorded in the report documents, meaning that on the available data it is not replicable. The data sources required to underpin these calculations are multiple and complex and therefore it would not be feasible to transpose this method to estimate costs for the European Union. Furthermore the service utilisation and hence health sector impact is assumed rather than evidenced.

Additional utilisation of mental and general health services based on self-report to survey

Table 4.3.3.2: Methods employed in cost estimates of additional utilisation of mental and general health services based on victim self-reporting to a survey

Study	Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
USA, NCIP&C (2003)	Unit cost of episode of per IPV rape, physical assault and stalking incident.	Medical Expenditure Panel Survey.	Self-reporting to a survey of mental health consultation episodes.	National Violence Against Women Survey.
Sweden, (Envall et al 2006)	Cost per patient for medical treatment.	National Board of Health and Welfare. Swedish Association of Local Authorities and Regions.	Self-reporting to a survey about service utilisation following IPV.	Sweden's Living Conditions Survey.
Andalusia, Spain Villagómez (2010)	Service utilisation estimated from a survey of women reporting IPV.	Unclear in report.	Last 12 months IPV prevalence data.	Population-based DVAW survey 2011 (IPV ~75 % of DVAW)
France, Nectoux et al (2010)	Estimated annual cost of general and medical healthcare costs for women subjected to IPV, established from the unit cost of general medical and mental health visits.	Administrative data. Health insurance data.	Self-reporting of service utilisation to EVS survey. Additional prescriptions estimated in ratio to additional healthcare visits.	EVS (Events of life and health) survey. ENVEFF (National survey on VAW).
Denmark, Helweg-Larson et al (2010)	Average unit of cost of healthcare (mental health services, primary healthcare, prescriptions) from diagnosis-related groups.	Administration data	Additional utilisation of healthcare by women subjected to violence compared to the reference non-exposure group.	Danish Health and Morbidity Survey. National Patient Register. (IPV ~40 % VAW)
Canada, Zhang et al (2012)	Estimated average annual incremental medical costs for diagnosed and undiagnosed mental health issues.	Research (Lim et al 2008) establishing incremental healthcare costs for people with diagnosed or undiagnosed mental health issues, differentiated by age group.	Number of women that self-reported suffering depression or anxiety within a year of being subjected to IPV.	Population-based General Social Survey.

It has previously been suggested that self-reporting often results in underestimation. However, one important difference between the US (NCIP&C 2003) study and other self-report utilisation surveys is that the estimate is based on episodes of care (18.5 million) and not the number of people who received care. Consequently, it may have less introduction of underestimation error.

Stern et al (2013) and Zhang et al (2012) refer to the meta-analysis by Golding (1999) that reports the weighted mean prevalence of mental health conditions in women subjected to intimate partner violence and which found that 48 % of women who had been 'battered' stated that they had wanted mental health intervention. However, Zhang et al (2012) discuss the constraints of the available research and complications of co-morbidity and, because of the availability of the GSS representative survey data of service utilisation, employ this whilst limiting their analysis of impact to depression and anxiety. The Canadian study (ibid) drew on research by Lim et al (2008) that identified the additional, incremental healthcare costs of people with mental health problems differentiated by whether diagnosed or undiagnosed and by age group. Zhang et al (2012) were able integrate these cost differentials as the GSS data provided information about whether the respondents used medication, and thus could be classified as diagnosed, or did not use medication (undiagnosed). Whilst the associations between exposure to intimate partner violence and the subsequent development of a mental health problem still warrants further research, Zhang et al (2012) nonetheless employed a preferred concept of causal direction of onset — mental health service utilisation after an incident of intimate partner violence.

For non-emergency health services, two studies (Nectoux et al 2010; Helweg-Larson et al 2010) employed two surveys; one survey had established greater healthcare utilisation by women subjected to intimate partner violence and the degree of additional utilisation was multiplied by the proportion of women subjected to intimate partner violence from a second survey that reported the estimated national prevalence rates. The additional utilisation for Denmark was based on the health service utilisation of a sub-sample (N=323) who had reported intimate partner violence and who had accessed police and/or accident and emergency department services. The additional utilisation was estimated to affect 5 210 women nationally who reported intimate partner violence and access to police and/or accident and emergency department services; the cost in monetary terms was estimated using diagnosis-related cost averages (Helweg-Larson et al 2010). For France, additional healthcare utilisation by women subjected to violence by a known person was established from the Events of Life and Health (EVS) survey. The EVS survey indicated that women subjected to physical, psychological or sexual violence by a person known to them had 1.05 more visits to their GP and 1.21 more visits to a mental health practitioner (psychiatrist or psychologist) per year than those not reporting exposure (Nectoux 2007: Annex B). Additional service utilisation was then extrapolated by multiplying it by the proportion of women (9 %) estimated to be subject to violence by a known person in the general population. Administrative data sourcing the average number and costs of prescriptions per healthcare visit were multiplied by the additional service utilisation rates. Prescription costs were assessed relationally to additional utilisation in euro, meaning that prescription costs were based on prescription rates per euro of healthcare expenditure.

As discussed in the section identifying the methods employed for estimating health impacts of physical injuries from intimate partner violence, Villagómez (2010), estimating the cost of intimate partner violence against women in Andalusia, employed data from victim/survivor's self-reporting of service utilisation. However, this was a survey of 300 women known to the specialist victim support services to establish service use for this population and as such is not generalisable to the wider population.

Additional utilisation of mental and general health services based on other research

Walby (2004) and Piispa and Heiskanen (2001) also employed additional utilisation of healthcare models but these were formulated on other (non-survey) forms of research.

Table 4.3.3.3: Methods employed in cost estimates of additional utilisation of mental and general health services based on other research

Study	Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
England and Wales Walby (2004)	Cost of mental health services per capita. Estimate of 4x cost of increased use of mental health services (GBP 332) per woman subjected to IPV.	Research: Burdens of Disease (MH) for England. Administration data providing estimate of England's population. Research estimating 4 x greater utilisation of mental health services for women subjected to IPV.	Last 12 months IPV-prevalence data.	Population-based victimisation.
Finland, Piispa et al (2001)	Proportion of medicine economy in Finland attributable to IPV. Proportion of calls to a mental health crisis line attributable to IPV. Proportion of mobile crisis service attributable to IPV. Proportion of crisis centre service attributable to IPV. Average cost of a course of therapy based on two agencies.	National Agency for Medicines (Medicine statistics of Finland. Administration data of the national crisis telephone service budget. Administration data of the average per visit per course of treatment costs.	3 % of medicine utilisation attributable to IPV. 2.4 % of calls to MH crisis are because of IPV. 5.7 % of call outs to mobile crisis units were because of IPV. 3 % of contacts with crisis centres were because of IPV.	Research. Administrative data and expert estimation of the number of calls to crisis lines. Administrative data of the number of call outs to mobile crisis units. Expert estimation of number of contacts to crisis service centre. Number of women's visits to mental health services extrapolated to national figure from two regional studies.

In the economic analysis for England and Wales, Walby (2004), estimates the cost of mental health services per capita from the parallel field of 'Burden of Disease' and from research findings (Ulrich et al 2003) reporting four times greater mental health service utilisation by women subjected to intimate partner violence. These data sources were used as evidence to multiply the GBP per capita mental health cost for England by four to establish a GBP per woman subjected to domestic force. This figure was then multiplied by the estimated number of women subjected in the general population. Walby (ibid) acknowledges and calculates the costs for suicide, attempted suicide, post-traumatic stress disorder and depression, but these are not costed separately because of incomplete or unavailable data and because some of the research from the US may not be transferable (Walby 2004).

The study undertaken by Piispa and Heiskanen (2001) separately cost a number of different mental health impacts. Costs are assessed for medicine, mental health crisis services and courses of therapy. Research is used as the basis for the costs of medicine for women subjected to intimate partner violence. From this research, undertaken in Switzerland, an assumption was made that 3 % of medicine utilisation by women is attributable to intimate partner violence. Administrative data was used to underpin the costs for a range of crisis services (telephone, mobile and centre-based). Expert opinion was used in combination with administrative data to estimate the proportion attributable to intimate partner violence on occasions that this level of specificity was missing from available administrative data. The cost of a course of treatment was based on regional data and data from two regions was extrapolated to establish the best estimate of number of women subjected to intimate partner violence and access to mental health services. Although limited by the possible ambiguities of the data available, it is nonetheless likely to be an underestimate, and as such, can stand up to scrutiny. This is a good example of a patchwork of data sources being used to configure an economic analysis.

Only one study estimated the cost of attempted suicide; this is an important cost because of the strong association between violence against women and suicide attempts (Devries et al 2013). In estimating the health service cost of suicide and suicide attempts, the base data for the Canadian study (Zhang et al 2012), was the number of hospitalisations for suicide attempts recorded in administrative data (Canadian Institute for Health Information), of which a proportion (10.8 %) is estimated to be attributable to intimate partner violence (see Table 4.3.4.3).

Table 4.3.3.4: Methods employed to cost the impact for the health sector for intimate partner violence-related suicide attempts.

Study	Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
Canada, Zhang et al (2012)	Average length of stay per hospitalisation. Average cost of accident and emergency department visit. Average cost of ambulance service.	Canadian Institute Health Information. Ministry of Health. Regional Ambulance Fee Changes.	Number of hospitalisations for suicide attempts. 10.8 % of hospitalisations for suicide attempts are directly because of an incident of IPV. Number of ED visits per hospitalisation for suicide attempts.	National administrative data. Research of suicide attempts by women subjected to IPV (Stark et al 1996). District administrative data.

Administrative data was the source for the average length of stay in days for attempted suicide and the unit cost of hospitalisation per day. Data from three districts were used as evidence of accident and emergency department attendances relating to a suicide attempt; from this data it was assumed that there were 2.5 emergency department attendances for each hospitalised suicide attempt. An assumption was made that 90 % of these accident and emergency department attendances utilised ambulance transport. The evidence base for the ascribable proportion (29.5 %*36.5 %) was derived from research (N=176) that found that 29.5 % of women that had attended an emergency department for a suicide attempt had been battered and that 36.5 % of the women who had been battered and attempted suicide had attended the emergency department on the same day, before the suicide attempt (Stark and Flitcraft 1996).

4.3.4 Overview of Data Sources of Methods Employed for Health Sector Costs for Wider and Longer-Term Health Impacts

Table 4.3.4.1 summarises the data sources underpinning the methods employed to estimate the economic cost of healthcare services for longer-term psychological and/or physical health effects from exposure to intimate partner violence.

Table 4.3.4.1: Overview of the types of data employed to estimate the health sector impact (wider and longer term)

Study	Methods employed					
	Expert judgement	Victim recall	Survey	Admin data	Correlation / Research	Parallel study
Switzerland (Stern et al 2013)			**M**		**C** **M**	
Canada (Zhang et al 2012)	**M**		**M**	**M** **C**	**M** **C**	
Denmark (Helweg-Larson et al 2010)			**M**	**M** **C**	**M**	
France (Nectoux et al 2010)			**M**	**M** **C**	**M**	
Andalusia, Spain (Villagómez 2010)		**M**	**M**	**C**		
England & Wales (Walby 2004)			**M**	**M**	**M**	**C**
Australia (Access Economics 2004)			**M**	**C**	**M** **C**	**M** **C**
Sweden (Envall et al 2006)			**M**	**C**		
USA (NCIP&C 2003)			**M**	**C**		
Finland (Piispa et al 2001)	**M**			**C**	**M**	

Key: M denotes the multiplier source (size of the impact) and C denotes the source of monetary impact (cost)

4.3.5 Discussion: Health Sector Costs (Wider and Longer-Term Impacts)

This review has identified a wide range of methods employed to estimate the cost to the health sector of responding to the longer-term health impacts, most often, mental health impacts. Much has depended on data that evidences additional mental health service utilisation by women who have suffered intimate partner violence. Although there is an increasing body of literature that is strengthening the direction and causal relationship between intimate partner violence and poor mental health it remains lacking in the data to be able to identify the predictive probability of intimate partner violence exposure and the directly related consequential development of poor mental health or a diagnosed mental health condition. Furthermore additional utilisation from poor mental health may not necessarily be captured in additional utilisation models that require a mental health diagnosis or classification. One model that captured both diagnosed and undiagnosed mental health problems (differentiated by whether the person had been prescribed or used medicines for the problem) was found in the study undertaken in Canada (Zhang et al 2012). However, this model required data from General Social Survey which had asked respondents about their experiences of depression or anxiety within one year of being subject to intimate partner violence which may preclude some territories from employing such a model.

The models most easily replicable and based on robust research were those presented by Walby (2004) for England and Wales, Helweg-Larsen et al (2010) for Denmark, Nectoux et al (2010) for France, and Stern et al (2013) for Switzerland. The research underpinning the England and Wales estimation was based on a small sample (n=62) of women in the USA who had 'domestic violence' documented in their medical records, consequently this population may not be representative of the wider population of women subjected to intimate partner violence but who do not report their exposure to health services. The research underpinning Stern et al (2013) that estimates that 48 % of women subjected to intimate partner violence are likely to suffer depression (see Golding 1999) was largely drawn from samples from the USA of 'battered' women in shelters and consequently may not be representative of the wider population of women suffering intimate partner violence. Furthermore the studies included in the meta-analysis were published between 1982 and 1996 and may not best reflect women's experiences today. The study undertaken in Denmark had a larger but relatively small sample of women reporting intimate partner violence exposure (n=323). Although the population reporting intimate partner violence exposure was not reported on, the Events of Life and Health Survey (EVS) that Nectoux et al (2010) refer to had 10 000 respondents. The advantage of Nectoux et al's (2010) method is because it was based on more recent data from a representative survey undertaken in the European Union. However, the focus was not 'intimate partner violence', the survey asked about ***interpersonal violence*** and consequently it is not a robust indicator of additional health service utilisation because of gender-based or intimate partner violence. For studies wanting to undertake additional utilisation studies in the EU better information to underpin unit costs in monetary terms has since become available. A good source for unit costs of mental health per capita is drawn from Stern et al (2013; Jäger et al 2008) who utilised the 2004 economic review of costs of brain disorders in Europe (Andlin-Sobocki et al 2005) and which has since been updated for 2010 (Olsen et al 2012). A source for the unit cost of additional general healthcare is a country or pan-European average estimate based on the Primary Care in Europe: Country Information on Primary Care (Netherlands Institute for Health Services Research (NIVEL 2014).

In the model that estimated a cost for suicide attempts, it is important to note the small sample size of Stark and Flitcraft's (1996) study that underpins Zhang et al's (2012) estimate of the impact of suicide. Furthermore, this research (Stark and Flitcraft 1996) was undertaken in the US in the 1970s and 1980s which is likely to impact its generalisability for today. More recently, however, Devries et al (2011) in a meta-analysis of research, find that there is a strong association between intimate partner violence against women and suicide, but that presently, the state of the research does not allow for probabilities of suicide for women subjected to intimate partner violence to be robustly stated. Therefore we are not currently recommending including the cost of suicide in economic analyses of impact.

4.4 Contemporary Developments in Estimating Health Loss

The separation of physical and mental health impact in estimates of the impact of gender-based violence and intimate partner violence is likely to arise from criminological framing of assaults and battery and further propagated by the 1970s concept of 'battered women' in which physical injury was, albeit perhaps inadvertently granted primacy. The body of research from over the last thirty years has evidenced the causal association between forms of gender-based violence and poor mental health (Riggs et al 1995, Breslau 1998, Golding 1999, Harvey and Bryant 2002, Ehrensaft et al 2006, Trevillion et al 2012, Devries et al 2013) and which has also found that whilst health may improve once violence has ended, long-term poor health often continues.

The perpetration of gender-based and intimate partner violence is often complex involving multiple forms of violence. This multi-dimensional character of the violence means that people subject to it may experience myriad, yet interconnected, adverse health effects. The body of contemporary research has also shifted attempting to accommodate multiple layers (social, cultural, environmental and economic) of causal complexity (Murray and Lopez 1999) involved in gender-based violence and broader health impacts (WHO 2013b). One way of conceptualising these myriad health effects is through the Global Burden of Disease 2010 (GBD 2010) construct of 'health losses'. Health losses are understood as time spent in less than (relative) hypothetical perfect health because of exposure to a causal agent, i.e. gender-based violence (Murray et al 2012a&b).

The advantage of a 'health loss approach' is that it can underpin estimation of likely health service use, duration of health loss, physical and emotional impact suffered and productivity loss. A 'health loss' approach is particularly important for economic analyses of the impact of gender-based violence. Duvvury et al (2013) place violence against women as a key concern of economic growth by highlighting the interconnections between violence against women, gender inequality, poverty and economic growth. As Duvvury et al (2013) state:

> 'Health as a key aspect of human capital makes it an integral part of economic growth.' (2013:9)

Health loss as Quality of Life Year (QALY) losses has formed the basis of new government methodology (HO OR 30/05) to estimate the impact of violent crime in the UK (Dubourg et al 2005) and health losses underpin the estimates for health service utilisation, lost economic output and physical and emotional impact. This new methodology was developed in response to the limitations of previous methodology that had been transferred in from the Department of Transport to cost the impacts of road traffic accidents. The new methodology, developed by Dolan et al (2005) and Dubourg et al (2005), modelled Quality of Life Year (QALY) health losses from prevalence of injuries per category of violent crime reported to the Crime Survey for England and Wales. Because the Crime Survey did not collect information about psychological harms suffered, this new methodology added psychological trauma outcomes to each of the crime types (Dubourg et al 2005b). The added psychological trauma health state outcomes applied to the wounding, common assault and sexual assault violent crime categories were acute stress disorder and variable severities of post-traumatic stress disorder. In the case of rape, probability prevalences of additional psychological health state outcomes were calculated for drug abuse, alcohol abuse, depression, suicide, obesity/eating disorders, anxiety and sexual dysfunction (see Dolan et al 2005). These health losses formed the basis to estimate an average health treatment cost for each category of crime.

Dubourg et al (2005) note the limitations of this new method, that it may underestimate, because only one treatment episode is accounted for, and overstate the costs of treatment for minor injuries as some people may self-manage. It is also limited through its generality, focused on all crime which is likely to understate the greater extent of psychological injury and harm from gender-based violence (Golding 1999, Riggs et al 1995). However, this method is better than previous cost of health service estimates because it is focused on victims' reporting of injuries incurred through interpersonal violence ***and*** it incorporates the mental health impacts of interpersonal violence, albeit that these are limited to acute stress disorder and post-traumatic stress disorder for most categories of crime. As a unit cost model requiring minimal data it is more easily transferable.

4.4.1 Recommended Model to Estimate Health Sector Impact

The health loss approach to estimate the health impacts of gender-based violence, as developed by Dubourg et al (2005) and Dolan et al (2005) and employed by the UK government is the recommended model for this study (Table 4.4.1.1). Its limitations are acknowledged; nonetheless its incorporation is an important methodological step in the development of economic analysis of health impact and health losses because of gender-based and intimate partner violence. Advancement of health loss approaches to estimate the cost of gender-based violence are discussed further in the chapter on 'Future'.

Table 4.4.1.1: Recommended model to estimate health sector impact

Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
Cost of lost health treatment in euro per incident of homicide; serious wounding, less serious wounding, common assault, rape and sexual assault and based on the severity of injury health state outcomes.	HO OR 30/05, UK Government (Dubourg et al 2005).	Number of IPV Homicides. Survey-based estimates of the extent of intimate partner violence per category of crime.	Crime Statistics. Population-based victimisation survey.

4.5 Health Sector Administrative Data in the EU

This review has identified the reported lack of administrative data available to the authors undertaking economic analysis of the impact of intimate partner violence. The rationale for its limited use is perhaps reflected in EIGE's report (2014b) Administrative data sources on gender-based violence against women in the EU —Current status and potential for collection of comparable data —technical analysis, Report 2. This study (ibid) identified that in total ten Member States collect data on violence against women in health systems ([3]). Seven Member States collect administrative health data for intimate partner violence (AT, FI, LV, MT, RO, SE and SK). Five Member States employ health systems codes for forms of violence against women (DK, ES, LV, RO and SE (two data sources)) ([4]) and three for intimate partner violence (LV, RO and SE). The scope of data collected specifically on intimate partner violence by administrative systems in the health sector is very limited. The following list indicates the data collected by Member State (MS) health systems on intimate partner violence available at national level. This information was extracted from the Table, Type of administrative data available for intimate-partner violence — Health Sector, EIGE 2014b ([5]).

Age:	7 MS (AT, FI, LV, MT, RO, SE, SK)
Sex:	7 MS (AT, FI, LV, MT, RO, SE, SK)
Further information on victim	7 MS (AT, FI, LV, MT, RO, SE, SK)
Offender age and sex:	1 MS (LV)
Victim Perpetrator relationship:	4 MS (AT, LV, RO, SE)
Gender-based violence revictimisation	1 MS (AT)
Reoffending on gender-based violence	0 MS
Children witnessing IPV	0 MS

([3]) Administrative data sources on GBV in the EU, Types of GBV and Sectors (EIGE 2013c). Available at: http://eige.europa.eu/gender-based-violence/administrative-data-sources/european-union

([4]) These sources can be consulted online, under the section 'Incident', (EIGE 2013c). Available at: http://eige.europa.eu/gender-based-violence/administrative-data-sources/search?title=&t[]=eige_administrative_data_source&vt[]=950&s[]=1021

([5]) The sources of health sector and IPV data, (EIGE 2013c). Available at: http://eige.europa.eu/gender-based-violence/administrative-data-sources/search?title=&t[]=eige_administrative_data_source&vt[]=950&s[]=1021

5. Legal Sector

5.1 Introduction

Two types of legal sectors are used to address intimate partner violence: the criminal legal sector and the civil legal sector. They are both largely funded by the public purse, though some of the civil legal costs are borne by the victim/survivor.

5.2 Criminal Justice System

Nine of the ten studies in the review had produced estimates of the impacts and costs for the Criminal Justice System. The study undertaken for the USA (NCIP&C 2003) was framed solely by health and did not include legal sector costs.

5.2.1 Range of Criminal Justice Systems Impacts

The impacts included for economic analyses in the studies under review were:

- police service costs;
- legal aid, court costs;
- prosecution costs;
- forensic services;
- prison costs;
- conditional sentencing and probation costs;
- coroner costs;
- second-generation crime.

The Criminal Justice System impacts included in analyses for each study of the review are presented in Table 5.2.1.1.

The most comprehensive range of impacts covered in one study was that undertaken in England and Wales (Walby 2004). Forensic services is a boundary item as some items are incurred by the criminal justice system and some by the health sector, particularly in responding to sexual assault. In some studies individual items are not costed separately and the extent of coverage is unclear. Two studies (Denmark: Helweg-Larson et al 2010; France: Nectoux et al 2010) include prison costs but it was not possible to discern whether this included probation and conditional sentences. Some studies included prosecution costs (Canada: Zhang et al 2012; Denmark: Helweg-Larson et al 2010; France: Nectoux et al 2010; Sweden: Envall et al 2006), but again whether this included forensic service costs was not expressed. Access Economics (2004) estimated the cost of coroner services but they did not consider it to be suitably robust enough and hence it is not included here. This section presents the review in relation to the costs associated with the woman, second-generation costs for the criminal justice system are included in Section 13 (Future, Intergenerational Impacts).

Table 5.2.1.1: Criminal justice impacts included

Study	Criminal Justice Impacts Included											
	Police	Legal Aid	Court	Pros.	Jury service	Forensic	Prison	Cond. sent.	Prob.	Victim comp	2nd Gen.	Unclear
Switzerland (Stern et al 2013)	x			x			x	x	x	x		
Canada (Zhang et al 2012)	x	x	x	x			x	x	x		x	
Denmark (Helweg-Larson et al, 2010)	x		x	x			x					
France (Nectoux et al 2010)	x		x	x			x					
Andalusia, Spain (Villagómez 2010)												x
England & Wales (Walby 2004)	x	x	x	x	x	x	x	x	x	x		

Study	Criminal Justice Impacts Included											
	Police	Legal Aid	Court	Pros.	Jury service	Forensic	Prison	Cond. sent.	Prob.	Victim comp	2nd Gen.	Unclear
Sweden (Envall et al 2006)	x		x	x			x		x	x		
USA (NCIP&C 2003)	Criminal Justice System impacts not included.											
Finland (Piispa et al 2001)	x		x				x					

5.2.2 Methods of Estimates: Criminal Justice

All the studies constructed their analysis of costs in different ways and this reflects differences in availability of administrative data or country-specific research. However, despite this multiplicity there were, loosely, four methodological configurations for estimating criminal justice costs:

1. Workload model;
2. Event model;
3. Purpose-built economic model;
4. Eclectic model.

Workload Model

A workload model basis its estimation directly on time-based units of work, such as the cost of a service per worked hour or per worked day. In a workload model the focus is on the average unit of time spent, such as an hour or a day, on a specific event task, and the cost of this unit of time. The monetary value per time-task period is then multiplied by the number of event tasks. Three studies employed a workload model and an overview of their methodologies is summarised in Table 5.2.2.1.

Table 5.2.2.1: Workload model methodologies: criminal justice system

Study	Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
Switzerland (Stern et al 2013)	Hour of police time: 120CHF (included structural infrastructure and overheads)	Swiss Financial Statistics.	Time spent per incident. Number of interventions multiplied by calculation of median time per intervention. For cantons with missing data, data imputed from above methods.	Police administrative data from cantons.
Denmark (Helweg-Larson et al 2010)	Costs per reported case established from personnel utilisation per hour.	Administrative data.	Reported cases. It is unclear how time utilisation per case was established.	Administrative data.
Finland (Piispa et al 2001)	Police: Average unit cost in FIM per hour. FIM per hour and one hour per case.	Research.	Proportion of home emergency calls against women.	Police administration data. General victimisation survey.
	Investigation: Average unit cost in FIM per day.	Research	Number of police recorded IPV offences based on a proportion of all assault offences.	Yearbook of Justice Statistics

From the information provided in the studies' reports, the data to underpin the workload model employed was sourced by administrative event recording or from time-task research studies. The most sophisticated

administrative data collection of time spent per task/event was available to the Switzerland study (Stern et al 2013). Data of time spent per incident was collected routinely by some cantons. However, the cantons had different ways of recording operations and thus a three-pronged model was devised to calculate police costs based on workload but that included structural infrastructure and overheads. The three methods were:

a) Data of recorded time spent (in hours) on responding to 'domestic violence' multiplied by 0.75 (proportion of domestic violence estimated to be intimate partner violence), multiplied by hourly rate of CHF 120. This method was possible for five cantons;
b) Data of recorded number of interventions: the number of basic interventions multiplied by 8 to 15 hours (as low and high range) multiplied by hourly rate (CHF 120) plus the number of protective measure interventions multiplied by 20 hours multiplied by the hourly rate. Costs were estimated for seventeen cantons using this method;
c) For the four cantons where data was unavailable for time spent on interventions, an estimate was formulated based on the number of victims of domestic violence on the above methods.

The advantage of this method was its base on actual interventions; i.e. not on cases or numbers of offences but specific interventions: deployments, intervention at the scene, documenting events and protection measures (removal orders, restraining orders, arrest or mental health service arranging). Unfortunately, intimate partner violence was not specifically identifiable from records, so the cost of intimate partner violence was calculated as a proportion (75 %) of all 'domestic violence', i.e., violence perpetrated in a domestic environment. Another advantage of this particular methodology was that overheads and structural infrastructure was included, although police training was not.

The study undertaken in Finland (Piispa and Heiskanen 2001), had also developed a workload model for police call outs and criminal investigation. An emergency home call out involves 'talk to the parties involved, either together or separately and pacify the situation'; the time estimated for a police call out is one hour. It is clear that the Switzerland study having been undertaken more recently, interventions are defined specifically and clearly. Indeed the authors of the Finland study note that violence protection orders were not available in the reference year. The workload analysis that calculated the time and monetary cost of police call out and criminal investigation were independent pieces of research and which are likely to be, due to changes in Finland's legal recourse options, somewhat out of date.

This workload model (ibid) was also limited to include only the costs of direct personnel and equipment (police car). The number of police call outs was estimated from a mix of data sources: police administration data and a victimisation survey. This victimisation survey information provided the authors with the number of intimate partner violence call outs and number of callers that were female. The percentage proportion of female:male victims of violent incidents at home was applied to police administration data recording the number of home emergency calls to estimate the number of intimate partner violence against women police call outs. The number of criminal investigations that police undertook drew on research undertaken in 1999 that estimated the proportion of all assault offences that were intimate partner violence.

In these two studies other methodologies were also employed in the construction of estimations for the impact of intimate partner violence on criminal justice systems. Consequently, whilst it is a suitable model for discrete services such as the police, as administrative data becomes more sophisticated, such a model is unlikely to be tenable for the complexity of all the criminal justice system costs that need to be taken into account. Nonetheless, the workload model is a promising practice that could collect real time, time-task data for police services for intimate partner violence, but it warrants a sophisticated dataset that includes gender, victim-offender relationship, violent incident-type, crime code, intervention and case outcome/disposition.

One further study (Helweg-Larsen et al 2010) based criminal justice costs on a workload model per hour of service utilisation; however it is unclear in the study report which criminal/judicial component costs were calculated in this way, and whether this was the model for court fees and imprisonment costs.

Event Model

The category 'Event Model' includes methodologies of cost estimates that are principally event or task orientated, but rather than a cost per unit of workload, the unit cost is broader, articulated as a monetary cost per incident, per case, per average length of probation, per type of sentence, per average length of prison sentence, per day of imprisonment and the annual cost of offender programmes. In this category the unit cost and multipliers are sourced principally from administrative data, with some supplemental materials from sector, service and/or government reports. The importance of this is to note that the economic analyses in this category were not possible by administrative data alone. The methods employed by this group are summarised in Table 5.2.2.2.

Table 5.2.2.2: Event model methodologies: criminal justice system

Study	Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
Switzerland (Stern et al 2013)	Average daily rate in CHF of imprisonment costs.	Swiss Administrative data.	Proportion of imprisonments per type of crime attributable to IPV.	Federal Statistics Office. Police Crime Statistics.
Canada (Zhang et al 2012)	Police costs: Per-incident cost for each criminal code weighted to reflect offence severity determined by sentencing length.	Canadian Centre for Justice Statistics. Crime Severity Index	Number of incidents per crime code.	Statistics Canada. Uniform Crime Report Survey.
	Court, prosecution and legal aid costs: Average cost per case (length adjusted).	Statistics Canada	Estimated number of 'charges resulting in court cases' for IPV.	Statistics Canada, Uniform Crime Report Survey; Adult Criminal/ Youth Court Survey.
	Sentencing Daily rate unit costs per type of sentence.	Public Service Canada. Adult Criminal Court Survey. Research.	Number of sentence days by type of sentence.	Public Safety Canada. Adult Criminal Court Survey. Research.
	Annual cost of offender programmes.	Correctional Service.	Proportion of cost of IPV offender programmes.	Research.
France (Nectoux et al 2010)	Unit cost of police and gendarmerie service per case	Finance data. Police and Gendarmerie records	Number of complaints to police and gendarmes for IVP.	Police and Gendarmerie records
	Unit cost per criminal court case.	Ministry of Justice	Number of convictions for IPV.	Statistical Yearbook of Justice.
	Proportion of prison budget	Finance data.	Proportion of total number of sentence months for IPV.	Directorate of Criminal Affairs. Statistical Yearbook of justice.
Sweden (Envall et al 2006)	Unclear if calculated as s unit cost or as a proportion of total budgets.	Swedish Police Service. Annual Government reports.	Number of cases of assault and battery against women. Estimation of femicide.	Swedish National Council for Crime Prevention.

The table indicates that it was not possible for these studies to employ one methodology throughout. The study from Switzerland (Stern et al 2013) overlaps with two of the other models (Workload and Eclectic), and the studies from France (Nectoux et al 2012) and Canada (Zhang et al 2012) each employ three and four different methods respectively, to estimate the range of criminal justice system costs. Each employ different data sources to calculate police, court/trial and sentencing, and Zhang et al, 2012 also cover the annual cost of offender programmes. The methods also differed by whether they employed low-level unit costs, such as per day of imprisonment (Stern et al, 2013) or per court case (Zhang et al 2012; Nectoux et al 2012) or high-level unit costs such as the proportion of the service's whole budget likely to be attributable to intimate partner violence (Zhang et al 2012; Nectoux et al 2012).

The report from Canada indicates the most sophisticated set and use of administrative data across the studies, this economic analysis involved:

1. Police: Police unit cost per incident weighted to reflect the offence severity determined by sentencing length and multiplied by the number of incidents per offence type (crime code).

2. Criminal proceedings: Court, prosecution and legal aid separate unit costs multiplied by the estimated number of 'charges resulting in a court case'. The estimated number was sourced from a combination of data sources as intimate partner violence did not have a specific classification in the system.

3. Sentencing: Sentence costs were estimated from the number of 'charges resulting in a court case' for intimate partner violence multiplied by the conviction rates

per type of offence (counting only the most serious sentence), distributed across types of sentence, multiplied by the daily cost of custodial sentences differentiated by type of institution as this was different according to the length of sentence.

4. Offender programmes: Cost of offender programmes based on the proportion of annual costs attributable to intimate partner violence (53 %).

However, data was not available that indicated the proportion of the police budget that was directly for crime-related activities and to source this information the authors consulted with a police service, and the resulting estimate of 65 % formed the basis of the weighted appraisal of costs. Other than the estimated cost for offender programmes, the Canadian study (Zhang et al 2012) employed low-level unit cost methods and this was possible because of the detailed level of administrative and robust supplemental data available to them. It is likely that nuanced and weighted low-level unit costing produces a more accurate figure than high-level costing based on proportions of overall budgets. Similarly, the study undertaken in France employed low and high level event costs; low-level unit costs for police, gendarmerie and criminal proceedings; and high-level proportion budget costs for sentence costs. The French model (Nectoux et al 2010) was as follows:

1. Police: Number of reports of intimate partner violence to gendarmes and police multiplied by the unit cost per reported case. Unit cost calculated by dividing the total police and gendarme budgets by the total number of events processed by each respective service.

2. Criminal proceedings: Number of convictions multiplied by average cost of criminal proceedings per court case. Average cost of criminal proceeding established by dividing the total budget by the total number of cases prosecuted by courts.

3. Sentencing: Proportion of sentence administration attributable to intimate partner violence. This was calculated using data on the number of different types of sentence multiplied by the respective average length of stay in months, reflecting one third assumed remission, as proportion of total number of sentence months.

Purpose-built Economic Model

Only one study (Walby 2004) employed a tested and established government model for the economic analysis of crime (see Table 5.2.2.3).

Table 5.2.2.3: Purpose-built economic model methodology: criminal justice system

Study	Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
England & Wales (Walby 2004)	Percentage proportions of total Criminal Justice System costs calculated in average GBP per incident type stratified by the severity of crime (wounding).	Home Office Economic and Resource Analysis Unit. Police Statistics. Home Office research (Brand and Price 2000). Crime Injuries Compensation Board. Police Service Activity-Based Costing model (No-crime reports).	Number of Homicides. Percentage proportion of the number of police recorded crime (assault and sexual violence) IPV (extrapolated from London Metropolitan Research. Percentage proportion of no-crimed DV was IPV.	Criminal Statistics. National Police Recorded Data. London Metropolitan Police Research that classified victim/perpetrator relationship.

In this model it was possible to calculate the total Criminal Justice System component costs (police, magistrates court, prosecution, crown court, jury service, legal aid, non-legal aid defence, criminal injuries compensation, other CJS and non-police costs, probation service and prison service) for violent crimes (homicide, serious wounding, other wounding and common assault) in average GBP per incident type stratified by the severity of crime (wounding). This model, developed for the UK Government, produces a 'weighted by severity' cost in monetary terms of each type of police report and crime and is regularly updated by the Home Office (Dubourg et al 2005, HO 2011). The financial cost of each type of police report or crime is embedded within the model and this can be adjusted for inflation/deflation and weighted by population so that an estimate for Member States and European Union can be extrapolated. National administrative police recorded data was the principal source of the number of domestic violence crimes stratified by crime type and severity, and of 'no-crimes'. Similar to many EU Member States, the countries of the UK do not have specific crime codes for intimate partner violence, and nor do they consistently record the victim/offender relationship. Walby (2004) also estimated a cost

of 'no-crimes'. 'No-crime' is a category of police workload in which the police have been called to respond to an incident that was deemed not to meet the legal threshold of a criminal offence. In England and Wales in 2012/13 there were more than 1 million calls to the police for domestic abuse-related incidents and only 269 700 police record domestic violence-related crimes (HMIC 2014). From this data, 'no-crime incidents' are a substantial component of police activity (and it is also important to note that many events are likely misclassified). Because no-crimes fall out of the criminal justice system they were not included in the UK criminal justice system cost methodology. This cost of police services responding to 'no-crime' domestic incidents was calculated as a proportion (3 %) of the police budget (Walby 2004). To undertake analyses of the cost to the criminal justice system and of 'no-crimes' of gender-based and intimate partner violence it was necessary to multiply the total cost by the fraction attributable to them. In Walby's (2004) study the proportion of crimes and no-crimes attributable to intimate partner violence was calculated from the findings of a one-year study by the London Metropolitan Police Force (2002) and (Stanko) 2001) that recorded the victim/offender relationship.

The advantage of this model is that the financial unit costs per crime and no-crime are easily adjusted to account for economic differences across EU Member States and the only multiplier source required is the updated version of this model Crime Survey Data. The intimate partner violence impact can be articulated by either a local survey reporting the proportions of crimes that were intimate partner violence or an assumption that these are similar to the UK. A further benefit is that it employs highly accurate, low-level and weighted assessments of the impact of intimate partner violence for the criminal justice system.

Eclectic Model

The eclectic model category holds studies that have principally integrated a multiplicity of methods and relied significantly on regional data which has been used to extrapolate national estimates.

The first study presented in this model is that for Australia (Access Economics 2004; Table 5.2.2.4). That this study's methods were configured in this way may reflect the autonomy of territories; in such decentralised systems data collection is more likely to vary.

Table 5.2.2.4: Eclectic criminal justice system model methodology: Australia

Study	Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
Australia (Access Economics 2004)	Average unit cost per type of crime.	Henderson (2000).	Number of IPV incidents across seven crime categories.	New South Wales Bureau of Crime Statistics.
	Court unit cost per perpetrator (AUD 530).	Government Service Provision Report: Total court costs divided by number of defendants.	Number of defendants. IPV proportion of court costs based on IPV proportion of police call outs.	Government Service Provision Report. New South Wales Bureau of Crime Statistics.
	Cost per incarcerated day (AUD 200).	Government Service Provision Report.	IPV proportion of total incarceration days across seven crime categories based on IPV proportion of police call outs.	New South Wales Bureau of Crime Statistics.
	Perpetrator programme: constructed total cost.	Assumptions of numbers of facilitators, sessions and average labour costs.	National number of perpetrator programme participants scaled up from Victoria.	Data from the 'No to Violence' organisation in Victoria.
	Estimated value of victim compensation payments.	Weighted scaling of NSW data to estimate national amount.	Total number of IPV claims and compensation paid in one territory.	Victim Compensation Tribunal report.

Access Economics (2004) undertook a weighted extrapolation of the costs of police services for New South Wales to estimate the cost for Australia. This was because the New South Wales Bureau of Crime Statistics could provide data on intimate partner violence for seven key crime categories (murder, attempted

murder, assault, sexual assault, indecent assault, abduction and kidnapping, and other: deprivation of liberty). Most other jurisdictions could not provide this information or could not be sure that they could provide it. This scaled estimate was calculated from multiplying the number of each type of crime incident classified as intimate partner violence by its unit cost sourced from research undertaken by Henderson (2000). This proportion of numbers of crime incidents for intimate partner violence in New South Wales was used as the basis for attributing intimate partner violence costs to court and prison costs. The court cost of AUD 530 per defendant seems low and consequently it is assumed that this does not include prosecution costs or legal aid. Sentences for crimes that were longer than 12 months were included to account for those convicted in previous years; this assumes that sentences remain largely consistent. A report from the New South Wales Victim Compensation Tribunal was also the source to scale a national estimate of victim compensation related to intimate partner violence, although the authors (ibid) suggest that this estimate may not be robust because of different compensation regimes across jurisdictions. They provide a cost for coroner services but again advise that this is not robust. Where data was lacking but services known to exist (perpetrator programmes), the cost estimate was manufactured through the authors' assumptions of costs. This model provides a weighted assessment based on crime severity; however it does not employ national data, relying on extrapolation from one territory. The representativeness of this data for the rest of Australia is not explicitly discussed.

The studies from Finland and Switzerland were first introduced under the workload model. They are further exampled here as studies employing an eclectic model that sources multiple data sources for different constituents of the criminal justice system (see Table 5.2.2.5).

Table 5.2.2.5: Eclectic criminal justice system model methodology: Finland and Switzerland

Study	Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
Switzerland (Stern et al 2013)	Costs per case/case file. Average per case court fees.	Research. Administrative data.	Proportion of criminal statistics estimated as IPV. Number of victims.	Public Prosecution records. Interviews with professionals. Survey of cantons and prosecutors.
Finland (Piispa et al 2001)	Arrest: Average unit cost per arrest.	Research.	Number of home emergency call outs that led to arrest.	Research.
	Trial: Average unit cost per type of court appearance.	Ministry of Justice	Number of IPV femicide. Proportion of number of different court appearance estimated to be IVP.	Administrative data. Statistics Finland. Research.
	Prison: Daily cost of imprisonment.	Administrative data.	Number of sentences. Median length of imprisonment per crime category.	Administrative data.

Often eclectic models result from inadequate administrative and supplemental data. Stern et al (2013) report that very little information was routinely collected in public prosecution offices on intimate partner violence, only nine cantons recorded the number of 'domestic violence' cases. The data that was available was extrapolated to estimate the numbers of criminal proceedings for Switzerland. Research involving interviews with prosecutors and a stratified survey of prosecutors was undertaken to establish the financial impact of criminal proceedings, and expert opinion was the basis for estimating the proportion of cases heard in court that were because of domestic violence to estimate the court fees for intimate partner violence. Piispa and Heiskanen (2001) also presented an estimate of victim compensation for violence against women but it was not possible to disaggregate between partner violence and non-partner violence.

Although most of the models presented, except Walby (2004), have employed a variety of methods and sources of data, the eclectic models are perhaps more clearly distinguishable by their lack of transferability being constituted by greater numbers of local research studies. One further study is also problematic in terms of its transferability. The model developed for Andalusia (Villagómez 2010; see Table 5.2.2.6) undertook research with women victim/survivors accessing specialist

intimate partner violence services to identify the common impacts and services accessed. The impact for the judicial sector were established from survey responses, the cost of these victim-reported impacts in monetary terms was reported as sourced from 'secondary sources' and this figure was multiplied by an estimation, drawing on regional and national population surveys of the proportion of women subjected to intimate partner violence that come forward to services to extrapolate the judicial sector cost for Andalusia.

Table 5.2.2.6: Eclectic criminal justice system model methodology: Andalusia

Study	Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
Andalusia, Spain (Villagómez 2010)	Unclear	Secondary sources	Number of women seeking judicial redress.	Non-representative survey of impacts. Representative survey of the affected population.

This model is unlikely to have transferability beyond Andalusia. This is because the survey methodology on which the impacts are based includes only the trajectories of women known to Andalusian specialist services and so is likely to be skewed in relation to local service provision. Such a method of sampling could result in an underestimation or overestimation of the numbers of women seeking criminal justice system redress.

5.2.3 Overview of the Types of Data Employed to Estimate Criminal Justice System Costs

Table 5.2.3.1: Overview of the types of data employed to estimate criminal justice system costs

Study	Methods employed					
	Expert judgement	Victim recall	Survey	Admin data	Correlation or Research	Parallel study
Switzerland (Stern et al 2013)	**M** **C**		**M** **C**	**M** **C**	**M** **C**	
Canada (Zhang et al 2012)	**M**			**M** **C**		
Denmark (Helweg-Larson et al 2010)				**M** **C**		
France (Nectoux et al 2010)				**M** **C**		
Andalusia, Spain (Villagómez 2010)	**M**	**M**	**M**	**C**		
England & Wales (Walby 2004)				**M**	**M**	**C**
Australia (Access Economics 2004)	**M**			**M** **C**	**C**	
Sweden (Envall et al 2006)				**M** **C**		
USA (NCIP&C 2003)	Impact not included					
Finland (Piispa et al 2001)			**M**	**M** **C**	**M** **C**	

Key: M denotes the multiplier source (size of the impact) and C denotes the source of monetary impact (cost)

5.3 Criminal Justice Administrative Data in the EU

EIGE's reports: (2014a) Administrative data sources on gender-based violence against women in the EU — Current status and potential for collection of comparable data (Report 1) and (2014b) Administrative data sources on gender-based violence against women in the EU — Current status and potential for collection of comparable data— technical analysis (Report 2) show that the police and criminal justice sectors collect more intimate partner violence-related data than the health and social services sectors.

Police and Criminal Justice System costs are in some ways simpler to identify, because, unlike health, an individual has to report an incident to police for an impact and cost to be incurred. Furthermore arrest, prosecution, trial, legal aid, sentencing and probation are distinct events for which administrative data is captured. The most common problem is that in many states intimate partner violence is not a distinct crime, rather it is subsumed into other crime categories such as homicide, assault, sexual violence, rape, kidnap, impingement of liberty and stalking. In these categories it is necessary that the victim/perpetrator relationship is recorded in the system's administrative data. EIGE's report (2014b) found that twenty-one Member States had information recorded and available at the national level about the victim/perpetrator relationship for incidents of intimate partner violence in the police administrative data; this compares favourably to the criminal justice sector in which only nine Member States had victim/perpetrator information recorded (EIGE 2014b:146/7)

Furthermore, the definition of 'intimate partner violence' is different across states with some employing narrow definitions that include married and/or cohabiting partners whilst this is broadened to non-cohabiting partners in others. Another problem is that some states may have different rates of attrition across the crime categories; states with higher attrition rates will incur fewer and less cost at points further along the report to conviction trajectory. According to EIGE (2014c) report, fourteen Member States have data for the number of 'guilty verdicts' readily available (2014c, Figure 3 ([6]).

The collection and availability of police data on intimate partner violence is better than that available in the criminal justice sector. EIGE (2014c) research reports that twenty-eight Member States' police services collect data on intimate partner violence ([7]); the most important data item is that of the victim/perpetrator relationship, and twenty-one Member States' police services reportedly collect this (EIGE 2014b). The seven who do not are: Denmark, Finland, France, Ireland, Italy, Romania and the United Kingdom (EIGE 2014b:146). The coverage of police administrative data is potentially promising for future comparability across the EU, as EIGE's (2014b) report:

'In 19 Member States (AT, BE, BG, CY, CZ, DE, EE, EL, HR, HU, LT, LU, LV, MT, NL, PL, SE, SI and SK), the police system has available administrative data disaggregated by sex and age of both victim and perpetrator and data also on their relationship through the same administrative source (19 administrative data sources in total), and in 15 of these Member States (AT, BE, CY, CZ, DE, HR, HU, LT, LU, LV, MT, NL, SE, SI and SK) police data sources cover at least, intimate partner violence, sexual assault and rape. This can provide an opportunity in the future, to collect EU-level comparable administrative data on IPV, rape and sexual assault.' (2014b:36, our emphasis).

EIGE (2014b) reporting on the status of sources of administrative data in the EU indicate that the police and criminal justice sectors collect more intimate partner violence-related data than other sectors. However, it is important to note that there are significant limitations and restrictions for its wider use. Firstly, not all Member States collect and produce data specific to intimate partner violence data, and secondly, information about sources and types of data available are presently not sufficiently clear to make an assessment of the quality of the data that is there. EIGE's online mapping tool (EIGE 2014c) is an excellent advancement storing a wealth of information about administrative data sources and the specific characteristics of the source available and this makes it possible to search and retrieve information about the potential availability of sources of data in any Member State. However, to assess the quality of the data, nuanced knowledge of the data collected in terms of category constructions and population is necessary before comparisons are made, or used, across the EU.

5.4 Discussion: Criminal Justice System Costs

In the two studies that employed the workload model, other methodologies were also employed. The workload model was only used for police service. It is a suitable model for discrete services such as the police as

([6]) (EIGE 2014c). Available at: http://eige.europa.eu/gender-based-violence/administrative-data-sources/european-union

([7]) Number of Member States' police services that collect data on IPV(EIGE 2014c). Available at: http://eige.europa.eu/gender-based-violence/administrative-data-sources?type%5B%5D=eige_administrative_data_source&vt%5B%5D=950&st%5B%5D=1023

administrative data becomes more sophisticated. Such a model would not be feasible for the complexity of all the criminal justice system costs that need to be taken into account. That said, the workload model is a promising practice that provides police service costs based on real time, time-task data for intimate partner violence. The dataset to support this would, at a minimum, be required to include: gender of the victim, victim-offender relationship, violent incident type, crime code, intervention and case outcome/disposition.

The Canadian study demonstrated the most sophisticated set of data which integrated administrative data, government reports and service reports. From this data it was possible to calculate nuanced and weighted low-level unit costs multiplied by data from robust administrative sources. Such a method is likely to produce a best possible estimate in terms of local accuracy. Still, similarly to the workload model, replication in another territory would necessitate a vast range of administrative, government and service data. From EIGE's (2014b) report we know that although the criminal justice systems record the highest level of administrative data as compared to other sectors, namely health and social services, due to the data coverage and comparability inconsistency, it remains inadequate for it to be feasible to imput EU Member State data into this model.

The model employed by Walby (2004) in England and Wales has significant advantages. First, the violent crimes are weighted by severity, meaning that the model produces weighted assessments of the economic impact of gender-based and intimate partner violence. Second, the cost per weighted crime type is embedded in the model, meaning that financial unit costs per the crime and no-crime categories are easily adjusted to account and weight for population differences across Member States. Third, the only unit cost multiplier required is National Police Recorded Data supplemented by either a local survey reporting the proportions of crimes that were intimate partner violence or an assumption that the proportions are likely to be similar to the UK. No further criminal justice data is needed. Fourth, because all Member States collect victim gender, it would be possible to transpose this purpose-built model as deployed by Walby (2004) for use across Member States. The combination of these factors means that this model is simple to apply, requires minimal data and produces highly accurate, low-level and weighted assessments of the impact of intimate partner violence for the criminal justice system. The eclectic models are valuable in providing methodological innovations for local situations when data is inadequate or incomplete. However it is their localness, of data and supplemental research that precludes the possibility of their use as a model of choice for extrapolation or to attempt to apply across individual Member States.

EIGE's (2014b) research report on the status of administrative data across the EU indicates that police service data is the type of data most widely available. However, little is known about the **quality** of the data collected. Until such time as administrative data of intimate partner violence is routinely collected and available in the majority of Member States in a conceptually coherent and consistent manner across the component parts of the criminal justice system, the purpose-built economic model employed by Walby (2004) is proposed as the recommended methodology to undertake economic analysis of intimate partner violence in the EU. It is proposed as the model of choice for this study because it can accommodate the current context and provide the most coverage of impacts in a robust manner with the least data requirement. These qualities mean that it is the method most easily replicable and feasible for estimating economic impacts for the criminal justice system in the European Union.

The model employed by Walby (2004) was updated in 2005 in the Home Office Online Report (HO OR) 30/05 (Dubourg et al) in 2011 (HO). To estimate the cost of gender-based and intimate partner violence crime to the criminal justice system using this methodology the updated Home Office methodology (Dubourg et al 2005) is recommended. This is because the minor 2011 update had not provided sufficient detail of the amended criminal justice systems cost components for it to be followed and therefore it was not possible to employ this minor change. There is also more recent data about the extent of police activity responding to no-crime domestic incidents. A recent study (HMIC 2012) found that 40 % of police time in England and Wales was spent on crime-related activities concerned with 'Public Safety and Welfare', 11 % of which was for police responding to no-crime 'domestic incidents'. Following Walby's (2004) method the cost of police services responding to no-crime would be calculated by multiplying Total Police Expenditure in the UK for 2012 by the amount of police time spent on Public Safety and Welfare (40 %) multiplied by the proportion of Public Safety and Welfare activity spent on Domestic Incidents (11 %).

5.5 Recommended Model: Criminal Justice System

The recommend model for estimating the economic impact of gender-based and intimate partner violence for the criminal justice system is derived principally from the purposefully developed economic model (Dubourg et al 2005), employed successfully by Walby (2004) and supplemented with Walby's model (updated for this study) of estimating the cost of no-crimes and of gender-based and intimate partner violence proportional cost estimates. This unit cost methodology provides cost coverage from

police services to post-conviction sentencing and probation services, and includes: police services, prosecution costs, costs of magistrate and crown courts, cost of jury service, legal aid, non-legal aid defence, probation services, prison services and overheads; and includes the cost of no-crime incidents. This method has two stages: first to estimate the criminal justice system costs (unit cost per incident) and second, the no-crime costs which are also gender distributed according to the women:men ratio found in crime/victimisation surveys. The information needed to produce this cost estimate was the number of homicides from homicide statistics, the number of incidents crime/victimisation surveys and for no-crime incidents: Total Police Budget.

Table 5.5.1: Recommended economic model to estimate criminal justice system impacts

Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
Cost of lost CJS in EUR per incident of homicide; serious wounding, less serious wounding, common assault, rape and sexual assault.	HO OR 30/05, UK Government (Dubourg et al 2005)	Number of IPV Homicides. Survey-based estimates of the extent of intimate partner violence per category of crime.	Crime Statistics. Victimisation survey.
Total Police Budget	Administrative Data: Annual Financial Reports (DCLG 2014b)	x 0.40 (police time spent on Public Safety and Welfare: 40 %. x 0.11 (proportion of Public Safety and Welfare activity spent on Domestic Incidents: 11 %.	HMIC 2012.

5.6 Civil Justice System

Four of the ten studies produced estimates of the cost of impacts for civil justice systems. A further two studies addressed civil legal sector costs (Denmark: Helweg-Larson et al 2010; Andalusia, Spain: Villagómez 2010) but these were not itemised separately from criminal justice system costs. In the study from Denmark, the costs of police injunction are included in the overall judicial estimate and thus it is unclear if these are in fact civil legal remedies or injunctions as part of criminal proceedings. Similarly, in the study from Andalusia it is unclear if civil legal remedy has been estimated, although it is highly likely given that the source of information for impacts was a survey of women accessing a specialist service shelter. Because civil legal sector costs were not itemised separately to criminal justice system costs these two studies were not included in this section of the review.

5.6.1 Range of Impacts Included: Civil Justice System

The range of impacts for which economic analyses was undertaken were: costs of injunctions (protection orders), legal aid, legal costs of divorce or separation, child custody and child protection.

Table 5.6.1.1 indicates the range of Civil Justice System impacts included across the studies. The two studies with the most comprehensive coverage of impacts were those undertaken for England and Wales (Walby 2004) and Canada (Zhang et al 2012).

Table 5.6.1.1: Range of civil justice system impacts included

Study	Civil Justice Impacts Included						
	Injunctions	Legal aid	Divorce/ Separation	Victim Comp.	Child Custody	Child Protection	Unclear
Switzerland (Stern et al 2013)	Civil legal costs are not included.						
Canada (Zhang et al 2012)	x	x	x		x	x	
Denmark (Helweg-Larson et al 2010)	Civil legal costs were not itemised separately in the report.						
France (Nectoux et al 2010)			x				
Andalusia, Spain (Villagómez 2010)	Civil legal costs were not itemised separately in the report.						

Study	Civil Justice Impacts Included						
	Injunctions	Legal aid	Divorce/ Separation	Victim Comp.	Child Custody	Child Protection	Unclear
Australia (Access Economics 2004)	x			x	x		
Sweden (Envall et al 2006)	Civil legal costs are not included.						
USA (NCIP&C 2003)	Civil legal costs are not included.						
Finland (Piispa et al 2001)	Civil legal costs are not included.						

5.6.2 Methods of Estimates: Civil Justice

For the impact to civil justice systems, three methodological approaches had been employed:

1. Workload model;
2. Event model;
3. Eclectic model.

Workload Model

The workload model refers to economic analyses that base their estimations directly on time-based units of work, such as the average cost of a month's work per divorce case or personnel utilisation per hour. In the workload model the focus is on the cost in monetary terms per average unit of time spent. The monetary value per timed unit of work is multiplied by the number of units of work. An example of this methodology is summarised in Table 5.6.2.1 below.

Table 5.6.2.1: Workload model methodologies: civil justice system

Study	Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
France (Nectoux et al 2010)	Average cost per month of divorce case work per case (EUR 65.15).	Administrative data: Ministry of Justice.	Estimated number of divorce proceedings because of IPV (15 %). Average length in months of divorce proceedings (20.5 months).	Expert consensus (5 lawyers and 5 judges). Ministry of Justice administrative data.

In this study from France a workload model is employed to estimate the costs of divorces that were due to intimate partner violence and this was based on the average unit cost per month of divorce proceedings. The estimated number of divorces was multiplied by the average length of proceedings in months multiplied by the average cost per month of proceedings. The costs in monetary terms were established from administrative data. The proportion of divorces assumed to be because of intimate partner violence was estimated based on the expert opinions of ten legal professionals. This study from France is limited to only covering the costs of divorce and the costs were not presented in terms of who bears these costs. This is important because civil legal remedies are more often borne by women. For example, the study from Andalucía indicated that a significant proportion (27 %) of the judicial costs was borne by women and these were most probably for the costs of civil legal recourse not funded by the state.

Event Model

The Event Model includes methodologies of cost estimates that are event or task orientated. Monetary costs are expressed per injunction, per defended divorce, per uncontested divorce, per type of family justice proceeding, per court case, per day of formal childcare, per day of informal childcare, per hour of ongoing child protection support. In the event model unit cost and multipliers are sourced principally from administrative data. However, as with criminal justice system economic analysis administrative data was supplemented with findings from victimisation survey, government reports, and in the case of Canada, survey research from another country. The methods employed by this group are summarised in Table 5.6.2.2. The striking thing about the data presented in this table is the range of data sources necessary.

Table 5.6.2.2: Event model methodologies: civil justice system

Study	Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
England & Wales (Walby 2004)	Average cost in GBP per injunction.	Legal Services Commission Annual Report.	Numbers of injunctions Number of injunctions funded by the state.	Judicial Statistics. Legal Services Commission. Distributions of Family Justice Legal Aid Expenditure.
	Average cost in GBP per defended and undefended divorce for all divorce proceedings of which 29 % are likely to be IPV.	Distributions of Family Justice Legal Aid Expenditure (Legal Aid Board Research Unit).	Number of divorces. Proportion of separations because of IPV (15 %) in the general population. Proportion of cohabiting relationships in which partners are married (82 %). 29 % of divorces due to IPV of which it assumed that 95 % are undefended.	Judicial Statistics. British Crime Survey. Office of National Statistics.
	Average cost in GBP per type of civil action for all family proceedings of which 29 % are likely to be IPV.	Total cost of legally aided family proceedings (Legal Services Commission Annual Report).	Number of applications for legal remedies involving children or finance. The above calculation that 29 % of divorces are because of IPV was used to assume that 29 % of family civil proceedings were also because of IPV.	Judicial Statistics. British Crime Survey. Office of National Statistics.
Canada (Zhang et al 2012)	Average unit cost per order. Cost of failed application assumed to be half that of successful one.	Averaged from provinces' administration data.	Number of restraining orders. Ratio of number of successful to failed applications	General Social Survey. Provincial administrative data.
	Proportion of total family court legal aid expenditure for divorces and separation.	Total Legal aid expenditure: Statistics Canada.	Number of divorces and separations in Canada of which 19.7 % are primarily attributable to IPV.	Amalgamation of the findings of UK research indicating the rates of divorce attributable to IPV.
	Average unit cost per civil court case.	Statistics Canada.	Number of contested divorces that went to trial.	Statistics Canada.

Because of the lack of available data a number of assumptions were made. The data of injunction multiplier sources available to the study undertaken for England and Wales (Walby 2004) was not gender disaggregated; an assumption was made that the majority was male intimate partner violence against a woman. The cost per injunction was established from dividing the percentage estimate of the proportion of legal aid funded cases that were IPV (16 %) by the number of legal aided injunctions. The costs in GBP per defended and undefended divorce in this study (ibid) were established from specialist research undertaken for the Legal Aid Board Research Unit and from which the cost of all legal aid-funded divorces was calculated. The multiplier, as a percentage proportion, was established by first identifying the total number of divorces in the general population; the proportion of these (29 %) attributed to intimate partner violence was calculated from women's reports to the representative British Crime Survey (that intimate partner violence was the cause of 15 %

of separations in the general population), data from the Office for National Statics (that 82 % of cohabiting relationships are married) and findings from research of solicitors' records. From this data it was then possible to distinguish between state-funded civil remedy and individually borne civil legal costs.

The study undertaken in Canada (Zhang et al 2012) also covered the cost of **unsuccessful** injunction applications. The costs of unsuccessful applications were established by multiplying the number of restraining orders by 1.28, which takes into account the proportion of failed applications. For the public sector cost of divorce and separation it was not possible to disaggregate the legal aid bill. Instead the total distribution of family law legal aid for divorces and separations was established from Statistics Canada and this was then multiplied by the percentage proportion (19.7 %) that was likely to be attributable to intimate partner violence.

Both these studies provide a unit cost per injunction and for defended and undefended divorces. The added value of the Canadian study is that the costs of unsuccessful injunction applications were also included. However, this study draws arbitrarily on survey research from the UK to establish a rate of divorce for Canada attributable to intimate partner violence. The figure chosen on which to base the rate of divorces was the mean of the victimisation survey that illustrated 29 % of divorces in England and Wales were because of intimate partner violence and a survey of solicitors in England which found that physical or emotional abuse was cited as grounds for 10.3 % of divorces; this latter figure is more likely to be a larger underestimate than the findings of the BCS CASI (Computer-Assisted Self-Interview) victimisation survey.

Eclectic Model

The economic analysis undertaken in Australia (Access Economics 2004) for civil justice system impacts has been categorised as an eclectic model because one of its impact calculations relied on regional data from one territory to extrapolate national estimates.

Table 5.6.2.3: Eclectic model: civil justice system

Study	Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
Australia (Access Economics 2004)	Average unit cost per Apprehended Violence Order.	Henderson (2000)	National number of IPV Apprehended Violence Orders scaled from NSW recorded police data.	One territory's administrative data. Bureau of Crime Statistics.
	IPV proportion of family court (divorce and child custody).	Australian Institute of Family Studies.	Total number of divorces and child orders.	Court data.

For this model, national data for the number of injunctions (Apprehended Violence Orders) was unavailable. The most robust data from one territory (New South Wales) identifying the number of Apprehended Violence Orders (AVOs) issued for intimate partner violence was obtained and a weighted extrapolation produced a national figure. Monetary costs were established with reference to research that reported unit cost per order/injunction and the proportion of divorces and child custody proceedings likely to be attributable to intimate partner violence.

5.6.3 Overview of Types of Data Employed to Estimate Civil Justice System Impacts

The sources of information employed by the studies in this review for estimating the scale (M) and costs (C) of civil justice system impacts are summarised in Table 5.6.3.1.

Table 5.6.3.1: Overview of the data sources employed to estimate civil justice system impacts

Study	Methods employed					
	Expert judgement	Victim recall	Survey	Admin data	Correlation/ Research	Parallel study
Switzerland (Stern et al 2013)	Civil legal costs were not included due to lack of data available.					
Canada (Zhang et al 2012)			**M**	**M** **C**		
Denmark (Helweg-Larson et al 2010)	Civil legal costs were not itemised separately in the report.					
France (Nectoux et al 2010)	**M**			**M** **C**		
Andalusia, Spain (Villagómez 2010)	Civil legal costs were not itemised separately in the report.					
England & Wales (Walby 2004)			**M**	**M** **C**		
Australia (Access Economics 2004)				**M**	**C**	
Sweden (Envall et al 2006)	Civil legal costs were not included.					
USA (NCIP&C 2003)	Civil legal costs were not included.					
Finland (Piispa et al 2001)	Civil legal costs were not included due to lack of data on divorces and because restraining orders were not an available remedy in the reference year.					

Key: M denotes the multiplier source (size of the impact) and C denotes the source of monetary impact (cost)

5.7 Civil Justice System Administrative Data in the EU

The only civil justice system intervention reported in EIGE's (2014b) research report on the current status of administrative data was on protection orders. Just sixteen Member States collect administrative data on protection orders, as EIGE (2014b) reports:

> 'Overall, data on protection orders is not broadly available across the EU-28, making it difficult to collect comparable data at EU-level on this issue.' (2014b:40).

Difficulty in determining the extent and coverage of sources of administrative data on protection orders may arise from differences between Member States on whether the protection order can be identified as specifically for gender-based and intimate partner violence or whether they may be used for other (non-partner) victim-perpetrator relationships, as EIGE (2014b) notes:

> 'With respect to **protection orders** [authors' stress], some sort of legal provisions of protection order exists in all Member States for intimate partner violence (considered as domestic or family violence in some Member States), but the existence of protection or restraining orders varies among Member States for cases of sexual violence, and stalking. Only 63 out of 144 sources have provided information on whether they collect information on protection orders, making it difficult to draw strong conclusions.' *(2014b:39)*

Protection orders for gender-based and intimate partner violence are not available as a distinct means of recourse in some Member States and consequently in these states a cost cannot be incurred and nor can data be collected. EIGE's (2014b) report says that just eight Member States had protection order information available from the whole justice system at a national level. The information regarding to what extent this comes from civil or criminal justice systems was not reported.

5.8 Discussion: Civil Justice System Costs

The numbers of studies in the review undertaking economic analysis of civil justice system impact are significantly fewer than the number undertaking analysis of criminal justice system costs. Additionally, the extent of items covered is also much less. Only three studies (Canada: Zhang et al 2012; Australia: Access Economics 2004; and England & Wales: Walby 2004) produced an estimate for injunctions, divorce, child custody and child protection). Child protection in this sector covers the protection costs associated with child custody arrangements (formal child protection costs were addressed in the section on Social Welfare).

Those that did not undertake economic analysis of civil justice system costs recognised the impacts for the system in terms of violence preventative measures, adult and child protection, breakdown of intimate partnerships and residency rights (Stern et al 2013) but were unable to do so because of a lack of available data. Furthermore, even in studies that had undertaken an analysis, the estimates involved intricate multi-stage models using multiple sources of government data, administration data, research, population surveys and special reports, and on assumptions of what is likely. In the absence of a single methodological approach that can cover the impacts of intimate partner violence for the civil legal sector, a judgement for the recommended model is made based on:

- the most comprehensive;
- the most simple;
- the most robust;
- the most easily replicable across Member States.

To establish the cost of injunctions, data of the numbers issued and the average cost per issue is needed. EIGE's (2014b) research reporting on the current status of administrative data indicates that sixteen Member States have administrative data on protection orders. Thus most Member States should be able to undertake this cost calculation. In the absence of local unit cost information, the figure from Walby (2004) could be adjusted for inflation and population size.

To establish the costs of divorces, data is needed on the number of divorces and separations attributable to intimate partner violence. The proportion of divorces and separations attributable to intimate partner violence is probably best estimated using information from representative surveys because women may not always disclose intimate partner violence in divorce/separation proceedings or to their legal counsel. Thus the proportion multiplier of 29 % (Walby 2004) is recommended. Unit costs of divorce and separations may be available to Member States. In the event that unit cost information is not available, there are two alternatives.

- The cost from Walby (2004) is recommended for Member States that have data differentiated by whether the divorce is defended or undefended.
- The cost from Nectoux et al (2010) is recommended for Member States that do not have information about the numbers of defended or undefended cases because this provides an average cost of a divorce.

To undertake an analysis of the cost of additional civil justice system impacts in relation to relationship disentanglements because of intimate partner violence, the recommended approach for economic analysis across the EU is based on Walby's (2004) method. This involves using the above estimate that 29 % of family proceedings in civil justice systems were attributable to intimate partner violence. Administrative data providing Member State information for the total public sector expenditure for civil justice system family proceedings is required. In the absence of this data it is recommended that the figure from Walby (2004) is used adjusted for inflation, economic difference and population size.

The data demands of unit cost approaches is likely to limit methodological transferability across Member States and therefore in the absence of data rather than an event-based model an alternative model encompassing Total Expenditure or Proportional (attributable fraction) Expenditure would also work well. To estimate the costs to the Civil Justice System from intimate partner violence the total service expenditure could be multiplied by the proportion spent on private and public family civil legal proceedings, multiplied by the proportion of which was incurred because of intimate partner violence. There is recent data from England to accommodate this approach. Therefore because of this method lesser data requirements, simplicity and a greater likelihood of transferability it is the recommended model for this study.

5.8.1 Proportional Total Expenditure Model: Civil Justice System

In England Civil Justice System costs are incurred from Civil Legal Representation and Legal Help. Civil Legal Representation covers the costs of legal practitioners to represent an individual and Legal Help covers systems that provide initial advice. In 2012/2013 the net Community Legal Service expenditure for England and Wales was GBP 937 611 000 for Civil Representation and GBP 184 026 000 for Legal Help (LSC 2013:65). Adjusted for the UK, these costs were estimated to be GBP 1 055 468 703 and GBP 207 158 068 respectively. Costs may be incurred in Private Family Proceedings and/or Public Family Proceedings.

Private Family Proceedings

Private family proceedings deal with peoples' relationships such as divorce, contact with children and domestic violence. In total 48 % of the legal aid civil justice caseload was for private family-related proceedings (45 % was for civil representation and 3 % was for mediation of disputes involving children). In addition, family disputes constituted 26 % of Legal Help assistance (LSC 2013:17). Drawing on Walby (2004:86-7) 29 % of private civil legal family proceedings was due to intimate partner violence.

Public Family Proceedings

Public family proceedings represent 38 % of the costs of civil representation. Intimate partner violence-related public family proceedings are most often initiated by local authorities for child protection, supervision, care and contact orders. The exact proportion of public family proceedings attributable to intimate partner violence is uncertain, however research has found an overlap of domestic violence and child abuse of 40 % (Walby 2004); that 44 % of women subject to domestic violence had social services contact for their children (Humphries and Thiari 2002); and that domestic violence was recorded in 50 % of child contact proceeding documents (Hunt and Macleod 2008). For this method, the conservative estimate that at least 40 % of family public (child protection) proceedings were due to overlapping child abuse and domestic violence could be applied.

Gendered Distribution of Civil Justice System Costs

The Legal Service Commission (2013) did not report the gendered make-up of service users and therefore it would not be possible to precisely estimate the gendered distribution of civil justice system service costs. Private family legal support for divorce and protection order proceedings are more likely to be initiated by women (ONS 2014d), and women are more likely to be impacted by public family proceedings for child protection. While it is probable that much of the civil justice service legal sector costs arise because of intimate partner violence from a man to a woman a number of legal proceedings may involve two disputing parties. For this methodology, it is recommended that the gendered distribution of civil justice system costs be estimated based on the gendered distribution found in incident-level data reported to the crime/victimisation surveys.

5.8.2 Recommended Model: Civil Justice System

The recommend model for estimating the economic impact for the civil justice system takes a Proportional Expenditure approach. The recommended constituent components are proposed because of their qualities of robustness, replicability, simplicity, feasibility in relation to likely available data and best possible coverage. This model and its component parts are summarised in the table below.

Table 5.8.2.1: Recommended model to estimate civil justice system impacts

Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
Total Expenditure: **Private family Civil Representation.**	Administrative Data: Annual Financial Return (LSC 2013).	x 0.48 (proportion of legal aid civil justice caseload that was for private family-related proceedings: 48 %) x 0.29 (proportion of private family proceedings that was due to intimate partner violence: 29 %).	LSC (2013). Walby (2004).
Total Expenditure: **Private family Legal Help.**	Administrative Data: Annual Financial Return (LSC 2013).	x 0.26 (proportion of Legal Help assistance that was for family disputes: 26 %) x 0.29 (proportion of private family proceedings that was due to intimate partner violence: 29 %).	LSC (2013). Walby (2004).
Total Expenditure: **Public family proceedings.**	Administrative Data: Annual Financial Return (LSC 2013).	x 0.38 (proportion of costs of civil representation that was for Public family proceedings: 38 %) x 0.40 (proportion of family public proceedings attributable to overlap of domestic violence and child protection).	LSC (2013). Walby (2004).

6. Social Welfare

6.1 Introduction

The concept of Social Welfare encompasses wider social protection in the form of social welfare which includes: subsidised housing, employment aids, and welfare benefits. Child abuse co-exists in a large proportion of situations in which women are subjected to intimate partner violence, and child protection is increasingly annexed with victim interventions. Therefore in this section estimating the costs of social welfare the following costs are addressed:

- Housing Aid;
- Financial Assistance;
- Child Protection and Family Support.

6.2 Social Welfare

Eight of the ten studies in the review had produced estimates of the impacts and costs of social welfare. The study undertaken for the USA (NCIP&C 2003) was framed solely by health impacts and did not include social sector costs. Helweg-Larson et al (2010) reporting on the costs of violence against women in Denmark chose not to include a category of social sector costs because social welfare payments in terms of financial provision for women subjected to intimate partner violence were 'transfers' of sums between groups and 'do not constitute spending' (2010:14). Social welfare impacts are included as a cost category in this review because they carry important cost expenditures and which could, in the absence of intimate partner violence, be saved and/or utilised and expended on other social programmes.

6.2.1 Range of Social Welfare Costs

An overview of the range of costs included for analysis in the studies under review is presented in Table 6.2.1.1. Social welfare items that had an economic impact assessment were: housing aid; sickness, disability, unemployment and income support payments; child protection; and, child/family support. These impacts can be grouped in terms of:

- Housing Aid;
- Financial Assistance;
- Child Protection and Family Support.

Housing Aid and Financial Assistance payments were addressed in four studies and Child Protection and Family Support was estimated by three. One study (Australia: Access Economics 2004) had addressed costs in all category groups and five studies addressed costs in two. The depth of the coverage of each item addressed varied, and variations were linked to the level of information available to calculate estimates. None of the studies stood out as having a significantly greater range of items included.

Table 6.2.1.1: Range of social welfare impacts included

Study	Housing	Financial Income Assistance				Child protection		
	Housing aid	Sickness	Disability	Unemployment	Income	Child protection	Child support	Family Support
Switzerland (Stern et al 2013)		x	x					
Canada (Zhang et al 2012)						x	x	x
Denmark (Helweg-Larson et al 2010)	Social Sector not Included							
France (Nectoux et al 2010)	x			x	x			
Andalusia, Spain (Villagómez 2010)	Unclear							
England & Wales (Walby 2004)	x					x	x	
Australia (Access Economics 2004)	x	x	x	x	x			x

Sweden (Envall et al 2006)		x						
USA (NCIP&C 2003)	Social Sector not Included							
Finland (Piispa et al 2001)	x					x	x	x

The methods to estimate the economic impact of each of the social welfare categories (Housing; Financial Assistance; Child Protection) have been examined separately because services are often configured through these distinctions.

6.2.2 Housing Aid

Housing aid for women escaping violence had been calculated by the studies in this review in relation to: municipal emergency shelter, housing aid transfers and payments, and temporary accommodation. The methods employed by the studies to estimate the economic impact of intimate partner violence in terms of housing are summarised in Table 6.2.2.1.

Table 6.2.2.1: Methods employed to estimate housing aid

Study	Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
France (Nectoux et al 2010)	Housing: Average annual cost of housing aid per beneficiary multiplied by length of average stay (5 years).	Total expenditure on housing aid divided by the number of beneficiaries.	Estimate that 55 % (those with children) of 30 % of women whose divorces were attributable to IPV eligible for housing aid.	Housing Report. Estimated proportion of divorces because of IPV (15 %) based on the expert opinions of 10 law practitioners.
	Operating budget of emergency accommodation.	Administrative data.	Estimate that 6 % of the emergency housing budget is attributable to IPV.	Report on housing and resettlement.
England & Wales (Walby 2004)	Housing: Total housing expenditure by local authorities for people made homeless fleeing violence.	Administrative data.	Total expenditure multiplied by proportion (15 %) of those accepted as homeless due to intimate partner violence by local authority.	National Housing Statistics.
	Housing Benefit: Total funds for housing through payment transfers.	Administrative data.	Total expenditure multiplied by proportion (15 %) of those accepted as homeless due to intimate partner violence by local authority.	National Housing Statistics.
	Housing Benefit: Average cost per week paid to households with private sector landlords.	Administrative data. Research and expert opinion.	12 % of proportion (15 %) of those accepted as homeless due to IPV by local authority in private sector temporary accommodation. Average length of stay in temporary accommodation (28 weeks).	Research. National Housing Statistics.
	Average amount per award (for furnishing new home).	Administrative data.	Number of women accepted as homeless because of intimate partner violence by local authority.	National Housing Statistics.
Australia (Access Economics 2004)	Proportion of temporary housing budget for support due to IPV.	Administrative data. Aboriginal Hostels Limited. Crisis Accommodation Programme.	IPV proportion based on victim reports of IPV to agency and that were not living with partner during housing support period.	Administrative data. Aboriginal Hostels Limited. Crisis Accommodation Program.
Finland (Piispa et al 2001)	Cost of a municipal shelter place per day.	Administration data.	Estimated number of shelter places and client days per year.	Administration data.

Piispa and Heiskanen (2001) provided an estimate of the cost of municipal emergency shelter accommodation in Finland. The impact was formulated as the average cost of a shelter place per day based on administrative data from the Espoo shelter, this unit cost was then multiplied by the estimated number of shelter days used per year established from activity reports of municipal shelter utilisation from the Federation of Mother and Child Homes and Shelters. Piispa and Heiskanen (2001) point out in their report that the majority of shelter accommodation was provided by non-government organisations and the cost of municipal shelter reported in this section represents a small proportion of total shelter provision. (The non-government shelter provision is reviewed in the section on specialist services costs.)

Estimating the cost of housing aid to assist women escaping intimate partner violence and disentangling themselves from an abusive relationship is difficult for two reasons. The first is that it may be difficult to estimate the number of people accessing the different types of housing support because of intimate partner violence, and secondly, often short- and long-term means of housing support are funded differently.

For France, Nectoux et al (2010) based the cost of housing aid as a proportion of the number of women (15 %) whose divorces had been estimated (by expert opinion) to be attributable to intimate partner violence. Of those women whose divorces had been estimated to be attributable to intimate partner violence, from housing reports it was estimated that 55 % (those with children) of 30 % (those with low income) would be eligible for housing aid and that this aid would be received for an average of 5 years. The cost per year of housing aid was established by dividing the total expenditure on housing aid by the number of beneficiaries. However, as the authors indicate, based on the number of divorces, this is likely to underestimate the number of women in receipt of housing aid because of intimate partner violence. The estimate for the proportion of emergency housing was sourced from the administrative data from two districts which indicated that between 4 **%** and 8 **%** of emergency housing aid was for women escaping intimate partner violence (Nectoux et al 2010).

The data from England and Wales (Walby 2004), that 15 **%** of all housing aid was attributable to intimate partner violence, is likely a more realistic figure of the number of women seeking housing aid because there is a statutory duty on local authorities in England and Wales to provide assistance to people homeless or threatened with homelessness (DCLG 2013a). Consequently, it is more likely that women will disclose intimate partner violence to local housing authorities. The National Housing Statistics report annually on the proportion of people accepted as homeless due to intimate partner violence by local housing authorities. Within the statutory duty framework 53 160 households in England were accepted as homeless owed statutory assistance in 2013 (DCLG 2014), of these, 6 300 (12 %) cited partner violence as the reason for the loss of their home (DLCG 2014b, Live Table 774. In Wales, 5 210 households were accepted as homeless owed statutory assistance in 2013, 15 % cited violent relationship breakdown as the cause of homelessness (JRF 2014) and 740 (14 %) were given priority need because of domestic violence (Statistics For Wales 2014). Therefore it is reasonable to currently contend that in England and Wales between 12 % and 14 % (mean 13 %) households accepted as homeless owed statutory duty assistance in 2013 were homeless because of domestic violence. This is likely to be an underestimate, firstly, because women with recourse to interim funds or other forms of temporary housing support or who are more financially independent may not need to declare themselves homeless, women may not disclose domestic violence, and secondly, in some regions, 'women fleeing domestic violence' have been de-prioritised and the interpretation of 'vulnerability' has become narrower to only include mental health and/or medical conditions (Fitzpatrick et al 2013). The figure of 13 **%**, can be used in estimates as the proportion of women homeless and seeking housing aid because of domestic violence. Although it is also possible that at least 13 % of all housing aid benefits paid can be connected with intimate partner violence its inclusion in economic analyses would be speculative because there is presently insufficient supporting evidence to make such a claim.

The study undertaken in Australia also reports cost as the intimate partner violence proportions of total budgets, although in this study an overall average percentage of homelessness due to intimate partner violence was not reported. Furthermore this estimate was only for short-term (12 weeks) homelessness. These examples indicate the potential complexity of housing aid calculations across Member States. To permit assessment of the economic cost of housing aid attributable to intimate partner violence, it is recommended that the figure of 13 % is used as the total homeless housing aid expenditure multiplier.

Sanctuary Schemes are a more recent intervention to prevent homelessness. Sanctuary schemes support people subject to domestic violence to stay in their homes by providing security and safety equipment (reinforced doors and windows, fire retardant letter boxes, smoke detectors, alarms, CCTV and intercom systems) to prevent future violence. Of the 94 200 households in England provided with assistance to remain in their existing home, 8 %, or 7 536 households were supported through the sanctuary scheme for domestic violence (DCLG 2013a). The average cost per sanctuary scheme was GBP 750 — GBP 1000 (mean GBP 875) in 2006 (DCLG 2006). This unit cost model for estimating the cost of sanctuary schemes can be included in the housing aid methodology as it is additional homelessness prevention expenditure.

Table 6.2.2.2: Recommended model to estimate the economic impact of housing aid

Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
Sanctuary Schemes: average unit cost per sanctuary scheme.	Local Authority Research	Number of households supported by sanctuary schemes.	National Housing Statistics
Housing aid: Total local authority homeless housing aid expenditures per annum.	Administrative housing aid budget data from MS.	13 % (13 % of women seeking housing aid were homeless because of IPV).	National Housing Statistics.

6.2.3 Financial Assistance

The review identified that there were a range of types of financial assistance available and the economic impact of intimate partner violence had been assessed in relation to payments for sickness and disability, lone parent assistance, low income support and social welfare payments. The methods employed by different studies addressing social welfare (financial assistance) costs are summarised in Table 6.2.3.1 below.

Table 6.2.3.1: Methods employed to estimate the economic impact of financial assistance

Study	Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
Switzerland (Stern et al 2013)	Daily allowance payments for sickness and disability.	Insurance claims for 'violence in leisure time in domestic setting'.	Multiplied by 0.75 to get IPV proportion of 'violence in leisure time in domestic setting'.	Assumptions based on information available.
France (Nectoux et al 2010)	Lone Parent Financial Assistance: Average cost per beneficiary.	Ministry of Finance.	Women divorced because of IPV (n = 6 536 x 0.554 (with child) x 0.30 (very low income) = 1 086 beneficiaries).	Housing Report. IPV attributable divorces.
	Income Financial Assistance: Average annual cost per beneficiary for period of four years.	Administrative data.	Lone parent assistance beneficiaries (see above) eligible for further income assistance (n = 1 086 x 0.21 = 228).	Administrative data. Housing Report. IPV attributable divorces.
Australia (Access Economics 2004)	Additional welfare payments associated with IPV.	Administrative data.	Multi-stage model to estimate additional welfare payments associated with exposure to IPV (see explanation below).	Research: Reliance of general population on forms of income support. WSS: women subjected to IPV in the last three years had a 35.5 % increased chance of receiving welfare payments. Minus the payments that would have normally been received by a population equivalent to the number subjected to IPV from WSS.

Most of the studies that did not provide an estimate or partial estimate report on the lack of available data to support estimates, and in the absence of data, also lack robust research that evidences a causal relationship between intimate partner violence and additional social welfare. For example, Stern et al (2013) discuss the importance of financial support for women subjected to intimate partner violence: only sickness and disability welfare payments were included in their analysis because these were the forms of assistance for which data was available. In this study, insurance data were utilised for information about sickness and disability claims made and which were categorised as 'violence in leisure time in domestic setting'. This 'domestic violence' was then multiplied by 0.75, on the assumption that 75 % of 'domestic violence' was intimate partner violence. This method provides a robust base for the estimate, however as the authors (ibid) report, it is likely to be a significant underestimation because it will not capture those who do not report the incident as violence, and excludes the population who were not insured.

Similarly, for France, no data existed for estimates of social welfare assistance for women subjected to intimate partner violence, and in this study, again the number of assumed divorces attributable to intimate partner violence forms the basis of calculations (Nectoux et al 2010). Percentage proportions of likely eligibility for lone parent assistance and low-income assistance were derived from housing reports and administrative data. These percentage proportions are likely to be robust, however it is the base estimate that only those who were divorced are included, and that base estimate of numbers of intimate partner violence-associated divorce was from expert opinion. The estimate (ibid) is a conservative estimate based on likely numbers eligible to form administrative reports and only as a proportion of the expert opinion of number of divorces attributable to intimate partner violence.

A more accurate model was that formulated for the Australian study (Access Economics 2004). Welfare payments for AUstudy (financial help for Australian students), ABstudy (financial help for Aboriginal and Torres Strait Islander Australian students), sickness allowance, mobility allowance, carer allowance, NewStart, rent assistance, disability support, sole parenting payment and special/crisis benefit were included. Financial Income support was configured by Access Economics (2004) as the estimated **additional utilisation of or reliance on** social welfare payments by women subjected to intimate partner violence, and this was calculated using the following multi-stage model.

The estimation was calculated from information of the normal proportional distribution of each type of welfare payment in the general population (and their respective expenditures) applied to the estimated number of women subjected to intimate partner violence from the Women's Safety Survey (WSS). This was then scaled by 35 % because of the WSS finding that women subjected to intimate partner violence in last three years had a 35.5 **%** increased chance of receiving welfare payments. From this sum the general population distribution of welfare payments that would have normally been received by a population equivalent to the WSS estimated number of women exposed was subtracted producing the additional payments to women subjected to intimate partner violence.

The figure produced by this method identifies the additional utilisation of social welfare by women who had been subjected to intimate partner violence in a robust way, and as such is a recommended model. However, it is data intense and therefore unlikely to be replicable across Member States.

Table 6.2.3.2: Recommended model to estimate the economic impact of financial assistance

Cost	Cost Data Source	Multiplier	Multiplier Data Source
Cost of all types of welfare payment made to women disaggregated by age group for the reference year.	Administrative data.	Multi-stage model to calculate the estimated additional 35 % of welfare payments associated with exposure to IPV	Normal percentage distribution of all types of welfare payment made to women disaggregated by age group for the reference year. Number of women subjected to intimate partner violence in the last year sourced from representative survey.

This model was complex and had four steps:

1. Establish the normal percentage distribution and cost of all types of welfare payment made to women disaggregated by age group for the reference year.

2. Establish the estimated number of women subjected to intimate partner violence in the last year sourced from Member States' representative survey.

3. Calculate the estimated cost of social welfare payments for the population of women subjected to intimate partner violence in the last year based on normal distributions across age groups.

4. Multiply these age disaggregated costs by 35 % to produce an estimate of the additional social welfare payments for women subjected to intimate partner violence in the last year.

6.2.4 Child Protection and Family Support

Three studies calculated an estimate of the economic impact of providing for the protection of children of women subjected to intimate partner violence.

The impacts included in Child Protection and Family Support were: cost per child protection investigation, cost per day of formal and informal care arrangements, cost of ongoing child protection support visits/meetings, and cost of supporting families/family therapy programmes. The study with the most item coverage in this field was Canada (Zhang et al 2012) (Table 6.2.4.1).

Table 6.2.4.1: Methods employed to estimate child protection and family support

Study	Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
Canada (Zhang et al 2012)	Average unit cost per child protection investigation.	Research undertaken in one territory.	Number of substantiated IPV child protection investigations.	Canadian Incidence Study of Reported Child Abuse and Neglect.
	Median cost per day (CAD 60) for formal and informal care arrangements.	Provincial administration data.	6.6 % of IPV substantiated child protection investigations that resulted in a change of residence disaggregated by informal kinship care and formal foster care. Average length of stay (730 days).	The Canadian Incidence Study of Reported Child Abuse and Neglect. Administration information from one territory.
	Average cost of one hours salary for ongoing child protection support.	Range of provincial administration data.	Number of hours per child with care arrangements.	Assumption of the extent and frequency of ongoing child protection support.
	Estimate of provincial and federal budget expenditure on supporting families initiatives.	Administrative finance data.	Estimate that proportion of divorces/separations in Canada (19.7 %) were primarily attributable to IPV.	Average between two pieces of UK Research.
England & Wales (Walby, 2004)	Average cost in GBP per week for formal residential care of a child (GBP 500) and support at home (GBP 120).	Children in Need Census.	(Numbers of children with formal care arrangements and number of children supported at home) x 0.50 x 0.40.	Children in Need Census. Research: Best estimate that there is a co-occurrence of domestic violence and child abuse in 40 % of cases. Assumption that it is reasonable to attribute 50 % of costs of cases for which there is estimated to be a co-occurrence.
Finland (Piispa et al 2001)	Cost in FIM per (child protection) social work meeting (two social workers per hourly meeting).	Social workers salaries.	Estimate that 14.5 % of child protection referrals are attributable to IPV. Estimated number of meetings per referral (6)	Administrative data. Research.
	Couple therapy: cost per therapy visit.	Average therapy visit cost from services.	Estimates of number of couple/family therapy visits directly and indirectly attributable to IPV.	Administrative data. Expert opinion.
Australia (Access Economics 2004	Average unit cost per: Child protection referral and Child in Care.	Administrative data and Child Protection and Out of Home Care budget.	Number of children witnessing. Of children who witness 5 % will be referred to child protection and 0.5 % will be placed in out-of-home care.	WSS. Assumptions on proportion of witnessing population utilising these services.
	Counselling: Estimate of annual government funding scaled from one territory data.	Department of Community Services Grant Information	Assumption estimate that 75 % of services under this funding are attributable to IPV.	Author's estimate based on information and consultations from across the review of data.
	Translating services: Average cost per hour of telephone and face-to-face interpreter services.	Translating & Interpreting Service	Number of incidents requiring interpreter services based on the proportion of population likely to need an interpreter.	WSS Victimisation survey. Census data.

The information in Table 6.2.4.1 summarising the methods employed illustrates that each study approached the economic analysis differently. Still, for each impact estimate there are two types of information required: a unit cost and an impact multiplier.

From the information extracted in the review, there were four main unit cost components and these are:

- Average unit cost of child protection investigation;
- Average cost per week for formal residential care of a child;
- Average costs per week per to support a child at home:
- Average cost of family therapy.

And there were four corresponding key multiplier elements:

- Number of referrals to child protection services because of exposure to intimate partner violence;
- Number of substantiated investigations for which formal (in residence) care orders were made;
- Number of substantiated investigations for which children were supported at home;
- Numbers of families supported with ongoing family therapy.

This unit cost and multiplier information may be available in some Member States' administrative data, however this is unlikely, as this review has found, none of these studies were able to source this information from administrative data and each relied at some point on other research, other government reports, expert opinion and/or assumptions to formulate estimates.

Only one study included a cost for child protection investigation and this as a unit cost appears simple enough to formulate: the total budget expenditure spent on child protection investigation divided by the number of investigations undertaken. The problem for this cost may be in the isolation of investigation expenditure from the rest of the budget. In the absence of an EU-based unit cost per investigation, the basis of the Canadian analysis could be transposed. It is likely that most states will have information about the number of child protection referrals; however, intimate partner violence as the cause at the root of a referral may not always be immediately apparent or recorded. If the number of referrals because of intimate partner violence is not available then the research referred to by Piispa and Heiskanen (2001) that 14.5 % of child protection referrals in Finland were attributable to intimate partner violence is the best available estimate. Piispa and Heiskanen (2001) also report that most child protection referrals were made from police responding to a home emergency call. In this Finnish study (ibid), the cost of social worker child support meetings were estimated, constructed from an interview with a social worker and administrative data. It was not possible to establish an estimate for the costs of formal social care to support children when out of home/residential care is required in Finland because of lack of information.

Walby (2004) provides an average cost per week for both formal residential care of a child and support at home based on a policy research study and Member States may also have this information. It is more difficult to determine by what figure the unit cost of care should be multiplied by to propose its impact. There is a known co-occurrence of intimate partner violence and child abuse. Research from the UK suggests that child abuse is perpetrated in 40 % of cases of intimate partner violence. In this context, Walby (2004) attributed half of the costs of child protection of the at least 40 % of child protection cases for which the occurrence of child abuse was estimated. However there is increasing evidence establishing the impact on children of witnessing domestic violence (Duvvury et al 2013) and in a study of family justice in England, domestic violence was recorded in 50 % of all family legal proceedings (Hunt and Macleod 2008). Children Witnessing Intimate Partner Violence

There will be some additional incurred costs for Member States who have legislated child protection for the witnessing of intimate partner violence. Some of the studies discuss the impact of children witnessing intimate partner violence and children's service provision. However, because of incomplete and unavailable data economic impact assessments were not undertaken (Stern et al 2013). Zhang et al (2012) report that intimate partner violence may not be the reason for referral to child protection services but it is sometimes found later in the background. Consequently the data underpinning the economic analysis is founded on the referral for which intimate partner violence was substantiated and it is unknown whether this was substantiated witnessing or substantiated coexisting child abuse. Therefore, none of the studies had established a methodology to estimate the cost of witnessing as distinct from the costs of child abuse that coexists with intimate partner violence.

Since Walby's (2004) study, administrative data routinely collected about children in need (DfE 2013a&B) in England has improved to some degree. Although it was not possible to identify the numbers of referrals, assessments, type of care service provided for children in need and/or suffering or at risk of suffering significant harm because of intimate partner violence directly, it was possible to identify the proportion of the total expenditure attributable to intimate partner violence.

The number of children in need in England at 31 March 2013 was 378 600, and for 179 090 (47.3 %) the primary need was because of abuse or neglect (DfE CiN

Census 2013b, Table A3). Based on the increasing evidence base, it is reasonable to estimate that at least 40 % of children's child protection social care (Walby 2004, Humphries and Thiari 2002, Hunt and Macleod 2008, Duvuury et al 2013) is attributable to intimate partner violence. With this information it is possible to estimate the cost of child protection attributable to intimate partner violence in England. The total budget expenditures in England in 2012/13 for child protection can be calculated as the sum of the costs of children's social care for 'Children Looked After', 'Family Support Services' and 'Children and Young Peoples' Safety' services (DCLG 2013b Annex A6). If this sum is multiplied by the proportion of children referred because of abuse or neglect (47 %) and then multiplied by the proportion of domestic violence/child abuse overlap (40 %) it produces a cost estimate for children's services for abuse and neglect likely to be connected to domestic violence. This proportional operating cost model in which the total operating cost for children's child protection services is multiplied by the proportion of referrals to children's social services because of abuse or neglect (47 %) and multiplied by the estimated co-existence of child abuse and intimate partner violence (40 %) is the recommended methodology for this study.

The recommended model for estimating the economic impact of child protection services follows a proportional operating cost model, rooted in but advanced from Walby's (2004) methodology.

Table 6.2.4.2: Recommended model for estimating the cost of child protection and family support

Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
Total operating cost for children's child protection services.	Local Authority Annual Report of Expenditures.	X 0.47 (% of referrals to children's social services because of abuse/neglect [47 %]) X 0.40 (estimated % overlap of child abuse and IPV [40 %]).	DfE Children in Need Census. Administrative and Service Research.

Family Therapy

None of the cost estimates for ongoing family therapy were derived from national-level administrative data or research. In the Finland study (Piispa and Heiskanen 2001) estimates on the number of annual couple/family violence therapy sessions were derived from counselling centres activity reports and expert opinion. Therapy services were provided by municipalities and by non-government organisations (Finnish Association for Mental Health and Family Council of the Church). Cost estimates were made for each organisation from their self-reported estimate of the proportion of service utilisation attributable to intimate partner violence and these were 14 %, 37 % and 10 % respectively. Administrative data was also not available to establish the cost of municipal provision of victim and/or family counselling for Australia (Access Economics 2004). In this study (ibid) the estimate was calculated from extrapolation of administrative data from one territory (New South Wales) to formulate a national estimate from which 25 % was subtracted to account for the assumption that 75 % of funding for 'Family and Individual Support/ Family/Domestic Violence' was attributable to intimate partner violence. Family support was estimated by Zhang et al (2012) on the assumption that the number of families suffering intimate partner violence engaged with a 'supporting families programme' was equivalent to the estimated number of intimate partner violence-attributable divorces. The review of methodologies suggests that data availability on family support service in the wake of intimate partner violence is generally weak and dependent on assumptions of use/provision. In the absence of more robust methodology, a model for estimating family therapy is not proposed. Furthermore, it is important to state that joint victim/perpetrator counselling may place a woman at continued risk of, or subjection to, violence and cannot be recommended.

Two further studies (Andalusia, Spain: Villagómez 2010; Sweden: Envall et al 2006 had produced an estimate of the economic impacts for the social sector but the items included were not clearly expressed and nor was the methodology (Table 6.2.4.3). However the importance of the social sector impacts is reiterated; in Andalusia (Villagómez 2010) social sector impacts represented 27 % of the total costs.

The report from Sweden (Envall and Eriksson 2006) indicates that administrative data about the extent of social service provision in response to intimate partner violence was not available. To formulate an estimate of social service cost the authors held discussions with three local authorities and asked them to complete a questionnaire. This report expressly states that it does not include the social services for children of victims. An estimate for social insurance covered both sickness benefit and social financial assistance. The estimate was calculated from information obtained through a range of sources that included

a local authority questionnaire, sickness benefit and social assistance administration data, and a victimisation survey. Envall and Eriksson (2006) stress the considerable uncertainty in the figure because of the lack of robust data and the necessity to formulate estimation from a patchwork of information sources.

Table 6.2.4.3: Methods for estimating social sector costs: Andalusia and Sweden

Study	Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
Andalusia, Spain (Villagómez 2010)	Unclear	Secondary sources	Social costs of IPV exposure	Non-representative survey of impacts. Representative survey of affected population.
Sweden (Envall et al 2006)	Estimated cost of social services for victims of IPV.	Estimate based on consultation with three local authorities.		Annual reports from local governments.
	Estimated cost of social assistance.	Local authority questionnaire. Stockholm County Social Insurance Office (sick leave).	Illness statistics. Financial assistance statistics. Relative risk of IPV exposure and receipt of social assistance.	Swedish Social Insurance Administration. National Board of Health and Welfare. Centre for epidemiology.

6.2.5 Overview of Data Sources of Methods Employed for Social Welfare Costs

All the studies in the review, individually and collectively, indicate a general lack of available social welfare data and which suggests the likelihood of difficulties for Member States to be able to access the required level of administrative data needed to estimate the economic impact of intimate partner violence for the social welfare sector. Table 6.2.5.1 below indicates the range of types of sources of information employed by the studies in the review. Evident in this table is the greater reliance on a greater number of sources and in particular of expert opinions indicating the general lack of quality of information readily available. The authors of Australia's analysis (Access Economics 2004) stress the 'considerable uncertainty' of child protection costs.

Table 6.2.5.1: Overview of the types of data employed to estimate social welfare impacts

Study	Data Sources of Methods employed						
	Expert judgement	Victim recall	Survey	Admin data	Correlation / Research	Parallel study	Unclear
Switzerland (Stern et al 2013)	**M**			**M** **C**	**C**		
Canada (Zhang et al 2012)	**M** **C**		**M**	**M** **C**	**M** **C**		
Denmark (Helweg-Larson et al 2010)							**X**
France (Nectoux et a, 2010)	**M**			**M** **C**			
Andalusia, Spain (Villagómez 2010)	**C**	**M**		**C**			
England & Wales (Walby 2004)	**C**			**M** **C**	**M** **C**		
Australia (Access Economics, 2004)	**M**		**M**	**M** **C**	**M** **C**		
Sweden (Envall et al 2006)	**M** **C**			**M**	**M** **C**		**X**
USA (NCIP&C 2003)	Social Sector impacts not included.						
Finland (Piispa et al 2001)	**M** **C**			**M** **C**			

Key: M: Multiplier Source; C: Financial Cost Source.

6.3 Social Welfare Administrative Data in the EU

EIGE's report: (2014b) Administrative data sources on gender-based violence against women in the EU - Current status and potential for collection of comparable data - technical analysis (Report 2), encompasses administrative 'Social Services' data. From the definition in the report (ibid) 'Social Services' includes social services of protection and social welfare. There is an overlap between services provided by 'social services systems' and those provided by Civil Society Organisations. Civil Society Organisations refer to non-government organisations providing shelter and specialist victim-support services which are discussed in the section on specialist services. Social sector services encompass:

- Social services of protection, support, assistance (victim support centres, shelters, legal and psychological counselling, helplines);
- Social welfare (subsidised housing, employment aids, welfare benefits).

It is worthwhile to note that this does not expressly include child protection systems.

Nineteen Member States had gender-based violence administrative data available at national level — the forms of violence with the most data coverage were intimate partner violence, sexual assault and rape. The following list (extracted from the table, Types of administrative data available for intimate partner violence — Social Services Sector, EIGE 2014b ([8]), identifies the data categories available in social services administrative data for intimate partner violence and the number of Member States for which they are available:

- Victim age
  14 MS: CZ; DK; IE; EL; HR; IT; CY; LV; LT; LU; MT; NL; SI; FI)
- Victim sex
  (14 MS: CZ; DK; IE; EL; HR; IT; CY; LV; LT; LU; MT; NL; PL; FI)
- Offender age
  (11 MS: CZ; DK; IE; EL; HR; CY; LT; LU; MT; SI; FI)
- Offender sex
  (12 MS: CZ; DK; IE; EL; HR; CY; LV; LT; LU; MT; PL; FI)
- Relationship perpetrator/victim
  (14 MS: CZ; DK; IE; EL; HR; IT; CY; LV; LT; LU; MT; PL; SI; FI)
- Gender-based violence revictimisation
  (14 MS: CZ; DK; IE; EL; HR; IT; CY; LV; LT; LU; NL; PL; SI; FI)
- Reoffending on gender-based violence
  (10 MS: DK; IE; EL; HR; CY; LV; LT; LU; PL; FI)
- Further information on victim
  (14 MS: CZ; DK; IE; EL; HR; CY; LV; LT; LU; MT; NL; PL; SI; FI)
- Further information on perpetrator
  (11 MS: CZ; DK; IE; EL; HR; CY; LV; LU; MT; SI; FI)
- Children witnessing IPV
  (7 MS: CZ; IE; EL; HR; LV; LT; MT).

The data provided in EIGE's (2014b) report does not articulate the specifics of the information available, for example which agency it is from, but this too is available in the online mapping tool[9]. For this study, it was not possible to establish which impact cost item had the best coverage. That said, even given the best possible scenario, just sixteen Member States (EIGE 2014b) had some social service data available at national level. EIGE (2014b) found some good practices in social services data collection in relation to quality of data collected, however intra and inter Member State comparability of data was limited because of data collection coverage and lack of common terminology.

([8]) Sources of social protection administrative data can be searched for using the Advanced Search option in the online mapping tool (EIGE 2014c). Available at: http://eige.europa.eu

7. Personal Costs

7.1 Introduction

Few studies had estimated the economic impact of further costs borne directly by the victims of intimate partner violence. The US study included the cost of healthcare in this category, but in an EU context, this is inappropriate, since, even if funded by private insurance, this remains as a pooled public expense. Only three studies had included additional direct costs to the victim.

7.1.1 Range of Personal Cost Impacts

The personal costs included by studies in the review were (see Table 7.1.1):

- the cost of damage to property (Canada: Zhang et al 2012; Australia: Access Economics 2004);
- enhancing phone security (Canada: Zhang et al 2012);
- moving expenses (Canada: Zhang et al 2012);
- home repossession (England & Wales: Walby 2004);
- legal costs (Canada: Zhang et al 2012; England & Wales: Walby 2004; Nectoux 2010).

Table 7.1.1: Range of personal costs included

Study	Personal Cost Impacts Included				
	Damage to Property	Security costs	Moving expenses	Legal costs	Repossession
Switzerland (Stern et al 2013)	Impact not costed				
Canada (Zhang et al 2012)	x	x	x	x	
Denmark (Helweg-Larson et al 2010)	Impact not costed				
France (Nectoux et al 2010)	Impact not costed			x	
Andalusia, Spain (Villagómez 2010)	Impact not costed				
England & Wales (Walby 2004)				x	x
Australia (Access Economics 2004)	x				
Sweden (Envall et al 2006)	Impact not costed				
USA (NCIP&C 2003)	Impact not costed				
Finland (Piispa et al, 2001)	Impact not costed				

7.1.2 Methods of Estimates: Personal Cost

The methods underpinning estimates of the personal costs incurred by women subjected to intimate partner violence were event-based, unit cost models and are summarised in Table 7.1.2.1.

Table 7.1.2.1: Methods to estimate personal costs

Study	Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
Canada (Zhang et al 2012)	Average legal fees for contested and uncontested divorce.	Canadian Lawyer's Legal Fees Survey	Number of divorces and separations attributable to IPV. Proportion of divorces contested/uncontested. Number of legal workers involved in proceedings. Proportion of legal aid expenditure for divorce cases.	Central Registry of Divorce Proceedings. Research: IPV divorce proportion averaged from two UK studies. Statistics Canada.
	Cost of Damage to Property per victim/	Research: Henderson (2000).	Number of women subjected to IPV reporting damage to property.	GSS.
	Average cost per month for phone security.	Phone Service Providers	Number of women subjected to IPV who purchased phone security features.	GSS.
	Moving Expenses Average cost per inter-city removal for 2-bed house.	Moving Company	Number of women subjected to IPV who were forced to move	GSS.
England & Wales (Walby 2004)	Unit cost per: divorce; separation; injunction; family law proceedings.	Administrative data of the unit cost of (legally aided) family proceedings.	Numbers of Injunctions and divorces per year. Proportion of family law self-funded (95 %). Proportion of family law proceedings attributable to IPV (29 %).	Administrative data. Walby (2004).
	Repossession: Average cost for owner-occupiers of mortgage arrears, litigation and selling (does not include residual debt).	Research.	Number of households that went through repossession, 10 % of which suffered intimate partner violence.	Administrative data. Conservative assumption that 10 % of households repossessed had suffered IPV.
Australia (Access Economics 2004)	Cost of damage to property per victim.	Research: Henderson (2000).	Number of women subjected to IPV reporting damage to property.	WSS/PSS.

Personal Costs: Damage to Property, Phone Security and Moving Expenses

The cost of damage to property was estimated in two studies (Canada: Zhang et al 2012; Australia: Access Economics, 2004), however, the unit cost of damage per incident is evidenced by the same research (Henderson 2000). Therefore there is little methodological choice. The feasibility of this method depends on whether it is possible to calculate incidents of intimate partner violence-related property damage from victimisation surveys. Currently this is difficult, since the data on this issue is hard to extract or, more usually, absent. Consequently, this methodology is tentatively proposed as a recommended model. Similarly, the same argument is forwarded in support of the costs to victims of enhancing phone security and moving house. Feasibility of replication depends on the possibility of collecting this data in victimisation surveys. Some of these have not been tested in EU-based data sources and as such the costs of damage to property, phone security and moving expenses may not be feasible. For this study it was possible to estimate the cost of moving house, although the extent of the cost was limited to the number of couples divorcing because of intimate partner violence.

Costs of legal fees incurred by victims

The cost of legal fees during civil legal proceedings, such as to use injunctions or to divorce, is sometimes borne by the individual and sometimes by the public through the provision of legal aid. For some of the studies it was not possible to identify which proportions of legal costs were borne by individuals. In Canada very little legal aid is provided for divorces and thus divorce proceedings costs are largely borne by individuals (Zhang et al 2012). As a personal cost there was also no comprehensive administrative data available. To produce a cost estimate, Zhang et al (2012) developed a multi-step model that involved: establishing the number of divorces in Canada; multiplying by the percentage that were primarily attributable to intimate partner violence; distinguishing how many were contested or uncontested; establishing the legal fees per legal practitioner for contested and uncontested divorce; multiplying the legal fees by the number of legal representatives involved in contested and uncontested divorces; and multiplying this figure by the percentage proportion of divorce cases that received legal aid.

Similarly, for England and Wales it was also acknowledged that most women would bear the cost of legal services

for relationship separations and injunctions (Walby 2004). To calculate civil legal costs borne by individuals for England and Wales, Walby (2004) assumed that the costs of non-legal-aid-funded civil remedies were the same as legal-aid-funded (civil justice legal cost methodology is explained in Section 5.6.2, Table 5.6.2.2). This unit cost of a divorce was then multiplied by the number of divorces per year that were not funded by legal aid (95 %), of which it was estimated that 29 % were attributable to intimate partner violence. The method employed by Walby (2004) is the recommended model for estimating the cost of legal fees incurred by victims, because it included the cost of injunctions as well as divorce and because the underpinning unit cost and multiplier data is likely to be more comparable with Member States than that of Canada. However, because of changes to data reporting methods it was not possible to establish the cost of divorces and injunctions in the UK in 2013. In the absence of this data an alternative is to adjust Walby's (2004) estimate to account for the difference in the number of divorces and to adjust for inflation from 2001 to the cost reference year.

7.1.3 Recommended Model to Estimate Personal Costs

There are many personal, out-of-pocket expenses incurred because of gender-based and intimate partner violence and these include: costs of additional personal security, cost of repairing or replacing property damage; expense of travelling to services, extricating oneself from an abusive relationship, moving expenses and lone parenting. Many expenses remain insufficiently explained in estimates of impact because of the lack of data availability. Included for this study, because of available information, are the personal, out-of-pocket expenses for self-funded civil justice legal proceedings (divorce and related proceedings), moving and setting up a new home; consequently it is a significant underestimation of personal costs.

The component impact elements of the model recommended estimating the out-of-pocket costs incurred by women subjected to intimate partner violence are presented in Table 7.1.3.1.

Table 7.1.3.1: Recommended model to estimate personal costs

Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
Unit cost per divorce. Unit cost per injunction. Or adjust Walby's (2004) total cost estimate.	Administrative data of unit cost of (legally aided) family proceedings. Adjusted for inflation (BoE 2014)	Numbers of Injunctions and divorces per year. Proportion of family law self-funded (95 %). Proportion of family law proceedings attributable to IPV (29 %). Adjusted for difference in the annual number of divorces in 2001 and 2013.	Legal sector administrative data. Walby (2004). ONS (2014d) 'Divorces in England & Wales'.
Cost of property damage/phone security/ moving expenses/setting up new home.	Cost information from research or service providers.	Number of people exposed to IPV reporting damage to property/who bought phone security features/who were forced to move.	Representative population victimisation survey.

7.1.4 Overview of Types of Data Employed to Estimate Personal Costs

Table 7.1.4.1 illustrates the types of data that were used to source estimates of personal costs.

Table 7.1.4.1: Overview of the types of data employed to estimate personal costs

Study	Types of Data Sources					
	Expert judgement	Victim recall	Survey	Admin data	Correlation/ Research	Parallel study
Canada (Zhang et al 2012)	C		M	M C	M	C
France (Nectoux et al, 2010)			M	M		C
England & Wales (Walby 2004)	C		M	M C	M	C
Australia (Access Economics 2004)			M	M C	M	C

Key: M denotes the multiplier source (size of the impact) and C denotes the source of monetary impact (cost)

8. Specialised Services

8.1 Introduction

Specialised Services encompasses direct victim-centred interpersonal intervention (refuge, telephone helplines, victim support centres, and counselling and advocacy) specialist government intervention (coordinating functions).

EIGE (2012), in its report, Review of the Implementation of the Beijing Platform for Action on the EU Member States: Violence against Women — Victim Support, identified a typology of victim support 'to facilitate the implementation of, and measure progress towards achieving, the BPfA [Beijing Platform for Action] goals' (EIGE 2012:9). The measures for Member States' provision for victim support were named as:

- counselling centres;
- emergency services (health; police; social);
- 24-hour telephone hotlines;
- women's crisis centres;
- guide on available support (advocacy);
- special police units/task forces supporting the victims;
- legal advice for victims;
- publicly available official information regarding domestic violence against women;
- support/courses/training in order to help victims re-enter the labour market;
- health protocols that provide standards for screening, assessment, intervention, documentation and evaluation;
- coordination of the public support system;
- special support services for vulnerable groups (i.e. young women and girls, LBT women, women with migrant backgrounds, female refugees and foreigners).

Specialised Services involves services and service providers from a range of governmental and non-governmental sectors. Emergency health and non-emergency general and mental health services are embedded in the health sector. Emergency police, specialist police/task forces and legal advocacy, are embedded in the legal sector's services. The specialist support sector delivers 24-hour telephone helplines; advocacy; counselling; women's crisis response and shelter; women's support centres; and specialist support for vulnerable groups. Recent research (Kelly et al 2014) has evidenced the benefits of specialist services for improving women's, and their children's, safety and empowering women to rebuild their lives post separation. Although often complexly funded, specialist services are an important component of cost benefit analyses.

There is often income support from social welfare systems and occasionally support for victim/survivors to engage in training to better engage with the labour market.

There are forms of strategic coordination at national levels of government and local coordination of service delivery, for example, through multi-agency partnerships and working practices. Government and non-governmental bodies may produce relevant information materials across multiple forms of social media outlets.

Some services may be provided in more than one sector. For example counselling may be provided by specialist rape crisis lines as well as by public health services; legal advice is provided by the legal professionals, specialist intimate partner violence and community advice centres, and is sometimes publicly funded. Public information materials are produced by government and by specialist non-governmental services. For this report, the components of victim support are addressed in the sector which has the principal responsibility for providing it. Generic counselling is included in the health sector but specialist intimate partner violence counselling and advocacy is a central component of specialist services and therefore is included in specialist service costs. Legal advice is embedded in legal sector costs, but specialist intimate partner violence legal advice and advocacy is a constituent of specialist domestic violence worker roles and is therefore included in victim support costs. The production of public information material is the responsibility of government and as a specialist item is incorporated in victim support costs. Direct victim support is concerned with providing support and assistance, victim support centres, shelters, legal and psychological counselling, helplines) (EIGE 2012). In this section the following specialist service costs are addressed:

- Specialist Support Services;
- Specialist Government Costs.

8.1.1 Coverage of Specialist Support Services

Eight of the ten studies in the review had produced estimates of the impacts and costs of specialist support services.

8.1.2 Funding of Specialist Support Services

Historically, woman-centred specialist support services responding to violence against women were developed by feminist non-government organisations (NGOs) and

as such were often independently funded. Increasingly however, specialist intimate partner violence services have been funded through state income streams but because of their historical independent origins and corresponding development of expertise there are often different agencies (government, local authority and non-government) providing services. Nonetheless, they all constitute a cost to the public purse.

8.1.3 Range of Specialist Services Impacts

The items that had been included in analyses of specialist support service economic impact were: Refuges (shelters); telephone helplines; activities of victim support centres; and counselling and advocacy. The range of specialist support service impacts included for each study of the review are presented in Table 8.1.3.1.

Table 8.1.3.1: Range of specialist services impacts included

Study	Specialist Services Impacts Included								
	Refuges	Therapy	Counselling & Advocacy	Crisis/ helplines	Support centres	Children's support	RCC	Perpetrator programmes	Unclear
Switzerland (Stern et al 2013)	x	x	x						
Canada (Zhang et al 2012)	x			x	x				
Denmark (Helweg-Larson et al 2010)	x		x						
France (Nectoux et al 2010)	Specialist services not included.								
Andalusia, Spain (Villagómez 2010)									x
England & Wales (Walby 2004; 2009)	x	x	x	x	x	x			
Australia (Access Economics 2004)			x						
Sweden (Envall et al 2006)	x			x	x				
USA (NCIP&C 2003)	Specialist services not included.								
Finland (Piispa et al 2001)	x				x		x	x	

Key: RCC Rape Crisis Centre

The most comprehensive range of impacts was covered in the studies from England and Wales (Walby 2004) and Finland (Piispa and Heiskanen 2001). Walby (2004) produced estimates for the broadest range of victim services whilst Piispa and Heiskanen (2001) included services for intimate partner violence that form part of Rape Crisis Centre (RCC) workload, and perpetrator intervention support groups.

8.1.4 Methodological Approaches to Estimate the Cost of Specialist Services

For the specialist service sector, the review found that three methodological approaches had been used to estimate costs:

- A unit cost of service multiplied by the number of service users (unit cost model);
- The total operating cost of a service for intimate partner violence (total operating cost model);
- The proportion of an agency's total operating costs attributable to intimate partner violence services (proportional operating cost model).

The particular methods and service for which they were applied for each of these models are presented in turn.

Unit Cost Model

Four studies had employed a unit cost model to estimate the economic impact of crisis helplines and support centre services (Canada: Zhang et al 2012) and refuges (Denmark: Helweg-Larson et al 2010; England & Wales: Walby 2004; Finland: Piispa et al 2001). The methods employed by each of these studies are summarised in Table 8.1.4.1 below.

Table 8.1.4.1: Methods employed for unit cost model (specialist services)

Study	Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
Canada (Zhang et al 2012)	Average hourly cost of crisis line phone call CAD 20.	Job advertisements for crisis line workers.	Number of women that contacted crisis lines. Average length of phone call (24 minutes) and average of 5 calls per victim to a crisis line = 2 hours telephone time).	General Social Survey. Qualitative research with crisis line workers.
	Support Centres: Assumed operating cost per hour: CAD 30.	Authors' constructed unit cost.	Number of victims of partner violence that used support centre services. Assumed that each woman uses the centre a number of times. Averaging 15 hours of use.	General Social Survey. Assumption.
	Victim of Crime services: Average cost of victim services per client. CAD 453.	Victim Services Survey	Number of victims of partner violence that used victim of crime services.	General Social Survey.
Denmark (Helweg-Larson et al 2010)	Shelter rate per night (includes cost of specialist counselling).	Administrative data from shelters/central social services.	Number of shelter night stays per year.	Administrative data from shelters/central social services.
England & Wales (Walby 2004)	Cost of rent per week per refuge place.	Weekly rent data sourced from survey of five refuges.	Number of refuge places.	Administration data. Women's Aid Federation of England.
Finland (Piispa et al 2001)	Cost of a shelter place per day.	Administration data from shelters.	Estimated number of shelter places and client days per year.	Administration data. Federation of Mother & Child Homes and Shelters.

Three studies (Denmark: Helweg-Larson et al 2010; England & Wales: Walby 2004; Finland: Piispa and Heiskanen 2001) estimated the unit cost of refuges by establishing a daily or weekly rate of a refuge place which was then multiplied by the number of respective shelter stays per year. The average unit costs and refuge places were estimated from information from specialist service providers. This model for estimating refuge costs demonstrates reasonable accuracy and is relatively simple, enhancing its replicability; its feasibility is dependent upon administrative data from specialist service refuge provision.

Walby (2004) reports that refuges provide many more services than accommodation and these include legal and emotional advice and counselling, outreach support, telephone helplines and children's support, but data was not available to estimate these separately. Similarly, Zhang et al (2012) undertaking economic analysis in Canada found little administrative data to support an estimate of telephone helplines and specialist victim support centres. The duration of helpline and centre contacts for underpinning impact in this study (ibid) was estimated from qualitative research with crisis line workers and an assumed number of visits per victim to a support centre. In the absence of information, Zhang et al (2012) constructed unit costs with reference to the advertised salaries of crisis line workers and an assumed support centre operating cost per hour, per victim contact. The accuracy of estimates based on constructed costs and assumed impacts hold a significant degree of uncertainty and would not be a preferred model.

Total Operating Cost Model

Three studies in the review (Switzerland: Stern et al 2013; Finland: Piispa et al 2001; Sweden: Envall et al 2006) operationalised Total Operating Cost Model methodologies in their economic analysis and this approach was employed to estimate the impact of refuge and victim support combined, non-residential victim support, and other forms of support groups such as those involving perpetrator programmes. The methods employed in formulating Total Operating Cost Model methodologies are summarised in Table 8.1.4.2 below.

Table 8.1.4.2: Methods employed in the total operating cost model (specialist services)

Study	Total Cost	Data Source
Switzerland (Stern et al 2012)	Total operating costs for shelter, counselling and therapy.	Organisation of Women's Shelters.
Finland (Piispa et al 2001)	Total annual cost of (non-residential) specialist services.	Federation of Mother and Child Homes.
	Total additional budgets awarded for discussion groups for victims and perpetrators.	Finland Slot Machine Association.
Sweden (Envall et al 2006)	Total expenditures for refuge and victim support.	Refuges and Rape Crisis centres. National women's shelters organisations.

Two of the studies (Switzerland: Stern et al 2013; Sweden: Envall et al 2006) presented combined estimates for specialist refuge and victim support services. However, even for this, data was not readily available; these studies (ibid) surveyed specialist services for information about budget expenditures and the extent of services provided. This method would probably warrant considerable additional work; for example, in the Switzerland study (Stern et al 2013) 16/19 agencies provided information about their service activity and budgets. However, if the budget for a particular service is isolated as reported by Piispa and Heiskanen (2001) for non-residential victim support, and other support groups, then this 'total budget per service' information can be easily transposed into an impact assessment.

Proportional Operating Cost Model

Three studies (Canada: Zhang et al 2012; Australia: (Access Economics 2004; Finland: Piispa et al 2001) presented estimates in the form of a proportional operating costs model. This methodology was used to estimate the economic impacts of refuge services (Canada: Zhang et al 2012), counselling services (Australia: Access Economics 2004), victim support services, and rape crisis services for intimate partner violence (Finland: Piispa et al 2001). The methods employed by the studies are summarised in Table 8.1.4.3 below.

Table 8.1.4.3: Methods employed in the proportional operating cost model (specialist services)

Study	Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
Canada (Zhang et al 2012)	71 % of total operating costs of shelters.	Statistics Canada's Transition Home Survey (assumption that all were female places).	Data from 593 shelters that 71 % (3 298) of the 4 645 female residents reported abuse as the main reason for seeking refuge.	Statistics Canada's Transition Home Survey.
Australia (Access Economics 2004)	Counselling: Estimate of Annual NGO funding scaled from NSW data.	NSW, Department of Community Services Family/IPV Grant Information.	Assumption that 75 % of service use was attributable to IPV.	Author's estimate based on information available and consultations.
Finland (Piispa et al 2001)	Proportion of victims of crime budget for women subjected to IPV.	Total budget: Finnish Service for Crime Victims.	Proportion of contacts to victims of crime service (90 %) because of IPV.	Statistical data Finnish Service for Crime Victims.
	Proportion of rape crisis budget attributable to IPV.	Rape crisis centre administration data.	Proportion of contacts to rape crisis centre attributable to IPV (50 %).	Rape crisis centre administration data and research.

Switzerland (Stern et al 2013)	Total estimated budget.	Consultancy study.	Estimated budget for 'domestic violence' victim support multiplied by 0.75 for estimate of intimate partner violence.	Survey of cantonal agencies.
	Total expenditures.	Administrative data (Statistik Schweiz).	Cantonal expenditures for emergency aid and longer term assistance. Estimated budget for 'domestic violence' multiplied by 0.75 for estimate of intimate partner violence.	Administrative data (Cantonal agencies, Statistik Schweiz).

In this model data is provided from specialist services to indicate the proportion of the services' total budget that was expended on intimate partner violence services. This approach is useful, for example, in the case of the victims of crime service in Finland (Piispa and Heiskanen 2001). This service (ibid) provided some services for non-intimate partner violence, however administrative data identified that 90 % of the service expended was attributable to intimate partner violence. Administrative data was used to underpin the proportion that should be attributable to intimate partner violence in four of the five impacts assessed in this way indicating a reasonably replicable and robust methodology. However, in the Australia study (Access Economics 2004) administrative data was not available and the estimate was calculated on an informed assumption.

8.1.5 Overview of Data Sources of Methods Employed for Estimating Specialist Victim Service Impacts

Table 8.1.5.1 presents an overview of the data sources employed to estimate specialist services. These services are more frequently provided by non-government organisations rather than state agencies. It is of note, that administrative data was the most consistent source for this sector and this is probably because of the discreteness and boundaried nature of the sector.

Table 8.1.5.1: Overview of data sources of methods employed in previous studies costing specialist service impacts

Study	Data Sources of Methods Employed						
	Expert judgement	Victim recall	Survey	Admin data	Correlation or Research	Parallel study	Unclear
Switzerland (Stern et al 2013)	**M**			**M** **C**			
Canada (Zhang et al 2012)	**M** **C**			**M** **C**			
Denmark (Helweg-Larson et al 2010)				**M** **C**			
France (Nectoux et al 2010)	Specialist service impacts not included.						
Andalusia, Spain (Villagómez 2010)							**X**
England & Wales (Walby 2004)				**M** **C**			
Australia (Access Economics 2004)	**M**			**M** **C**			
Sweden (Envall et al 2006)				**M** **C**			
USA (NCIP&C 2003)	Specialist service impacts not included.						
Finland (Piispa et al 2001)				**M** **C**			

Key: M: Multiplier Source; C: Financial Cost Source.

8.2 Specialist Services Administrative Data in the EU

EIGE's report: Administrative data sources on gender-based violence against women in the EU - Current status and potential for collection of comparable data-technical analysis reports on other sources of non-government administrative data of which non-government 'civil society organisations' form part. Specialist services for intimate partner violence are commonly provided by civil society organisations historically led from a feminist, woman-centred perspective although some specialist services may be mainstreamed and embedded in Social Services' data. The coverage of Member States having available 'other sources of data' which includes civil society organisations is presented in the table, Type of administrative data available for intimate partner violence — 'other' sector, in EIGE's (2014b) report in which the following data has been extracted. However, it is important to note that in this category the 'other sources', government organisations and bodies that fall outside health, justice and social services sectors are also included. This following list identifies the data categories available in 'other sources of administrative data' and the number of Member States for which they are available:

- Victim age
  (7 MS: EE; EL; FR; CY; MT; PT; SI)
- Victim sex
  (10 MS: EE; EL; FR; HR; CY; HU; MT; PL; PT; SI)
- Perpetrator age
  (5 MS: EL; HR; CY; PT; SI)
- Perpetrator sex
  (6 MS: EL; HR; CY; PL; PT; SI)
- Relationship between victim and perpetrator
  (6 MS: EL; CY; HU; MT; PT; SI)
- Gender-based violence revictimisation
  (6 MS: EE; EL; CY; HU; PT; SI)
- Reoffending on gender-based violence
  (5 MS: HR; CY; HU; PL: SI)
- Further Information on victim
  (8 MS: EE: EL; FR; CY; HU; MT; PT; SI)
- Relationship of witness with victim/perpetrator
  (2 MS: EL; PL)
- Children witnessing IPV incident
  (2 MS: EL; PL)

Across the EU-28 there were twenty-one sources of 'other' administrative data on gender-based violence from Member States, ten were civil society organisations reported from eight Member States (CY, EE, FR, HU, IE, MT, PT, SI) (EIGE 2014). Although the report (EIGE 2014b) does not indicate the data availability of individual sources of civil society organisation data, this information is available by country search of the online, EU map and advanced search and mapping tool (2014c) ([9]).

From this list of numbers of sources of data and data category coverage it seems that the availability at national level of 'other sources' of data is not widespread, yet the findings of this methodology review indicate that civil society, specialist service information was relatively straightforward, albeit requiring some resource expenditure to obtain. Indeed, EIGE's (2014b) research found that 67 % of twelve 'other sources' of data from seven Member States were disseminated to third parties. EIGE's (2014b) research report does not have the level of detail to indicate which agencies have access to such information in the respective Member States, although this too is available by country search of the online, EU map and advanced search and mapping tool under the 'Characteristics' heading (EIGE 2014c).

Although ten Member States had national coordination of data collected, and all but three Member States had plans to improve data collection, one of the important findings of EIGE's report (2014a) was that the study did not identify one Member State that had a **national regulator** for violence against women data. Whilst five Member States (EE, CY, HU, AT, UK) had one institution regulating administrative data collection more often, the regulation and responsibility for data collection lay across a number of institutions (EIGE 2014a, Table 11). It would seem that a position of 'national regulator' for each Member State could effectively support the centralisation and regulation of data to more effectively evidence the extent and impact of gender-based and intimate partner violence.

8.3 Discussion: Specialist Services

Each of the three approaches employed (Unit Cost Model, Total Operating Cost Model and Proportional Operating Cost Model) offer viable alternatives to estimate the economic impact of intimate partner violence for specialist services. If a national specialist service is discrete, i.e. it does not offer any non-intimate partner services, its total operating budget is easily subsumed into the state's overall economic impact estimate. However, as indicated in this review securing the total budget information from specialist services may entail information gathering from a number of agencies.

([9]) Administrative data source on GBV in the EU (EIGE 2014c): http://eige.europa.eu/gender-based-violence/administrative-data-sources/about

The unit cost model has an advantage of providing the most accurate figure, in terms of cost per shelter night multiplied by the number of shelter nights utilised in one year and this is the recommended model for this purpose. However, it is recognised that shelter is a very small proportion of specialist service provision which is increasingly becoming more sophisticated and professional. Specialist service provision also encompasses formal non-residential support, informal support, helplines, web-based advice, outreach programmes, victim programmes and perpetrator programmes. The Total Operating Cost Model would be beneficial to capture the cost of the whole range of specialist services provided. It also may not be possible for specialist services to provide sufficient detail of information for each separate service to be costed individually. Furthermore, there is little advantage to undertake separate item costing because specialist services are frequently discrete entities and independently managed. In light of this possibly unfeasible disentanglement of different impact costs from specialist services administrative data, and the small advantage to be gained by doing so, the Total Operating Cost Model is recommended for the economic analysis of specialist services impacts.

8.3.1 State-Provided Support

Two studies (Switzerland: Stern et al 2013; Canada: Zhang et al 2012) incorporated state-provided victim of crime services, a proportion of which will be victims of intimate partner violence. The items included in state-provided victim support were generic victim counselling services and perpetrator intervention, and joint victim/perpetrator counselling/intervention programmes that were funded by the public purse. To assess the cost of state-funded victim support programmes a range of methods were used. Administrative data formed the basis of Switzerland's (Stern et al, 2013) cost assessment of emergency aid (shelter) and longer-term (medical and/or psychological help, lawyers' fees) victim assistance. This was possible because these expenditures for 'domestic violence' were submitted to the Federal Government. To isolate the cost for 'intimate partner violence', the 'domestic violence' expenditure was multiplied by 0.75 on the assumption that 75 % of 'familial victim-offender relationship' violence was probably attributable to intimate partner violence. A percentage (41 %) was then subtracted from the figure to account for emergency shelter provision from non-government women's services; the percentage was based on information from one canton. So while administrative data was utilised, alone it was insufficient and the calculation relied on assumptions of attributable proportions.

The most simple, robust and most easily replicable method to estimate the cost of non-specialist victim support was found in the study undertaken in Canada (Zhang et al, 2012). In this study a unit cost of victim support per service user was established from a Victim Services Survey and this unit cost was multiplied by the number of victims of intimate partner violence that reported using victim-of-crime services to the General Social Survey. Consequently, it is an advantageous model to estimate state-funded (non-specialist service) victim support. However, the data in the form of victim of crime service use reported to a victimisation survey and costs of services may not be available in all Member States. In the absence of this data, an estimate could be formulated from extrapolation from another study weighted according to population size.

Increasingly, as noted in England and Wales through gender mainstreaming and marketisation, there is a blurring of the overlap of specialist service provision between traditional feminist–inspired, non-government organisation service provision and mainstream, generic victim support services. In England and Wales Specialist Services are funded through central government, local authority, public health and voluntary sector income streams and run in partnership by government (e.g. Home Office, Department of Justice, Department of Work and Pensions, Department of Health, local authority, police services, health services) and non-government organisations (e.g. Women's Aid, Refuge, Imkaan, Nia, Rape Crisis). Because of complex funding arrangements involving multiple funding streams and lack of central reporting of budget expenditures, identifying the total costs of Specialist Services is difficult and thus estimates are likely to be incomplete and significantly underestimated.

In the UK Specialist Service costs cover direct specialist service provision, these include: refuge/shelter, helplines, web-based advice, victim support centres, sexual assault referral centres, rape crisis centres, outreach support, counselling and advocacy, independent domestic violence advocates (IDVA), independent sexual violence advocates (ISVA), victim/survivor programmes, multi-agency risk assessment conference (MARAC) teams, specialist domestic violence courts, forced marriage units and offender programmes. The UK Government has reported annual funding expenditure in England and Wales of GBP 12 962 500 for Specialist Support Services in 2012/13, approximately half of which was for sexual violence services. This funding expenditure constituted:

- GBP 7 000 000 per year (GBP 28 million over four years) towards part-funding of Independent Sexual Violence Advisers (GBP 1.72 m) (ISVAs), Independent Domestic Violence Advisers (IDVAs), and Multi-Agency Risk Assessment Conference (MARAC) coordinator posts (HM Government 2013);

- GBP 3 500 000 million annual funding from Ministry of Justice for existing and new rape crisis centres (HM Government 2011; 2013);
- GBP 1 200 000 for 13 new posts of Young People's Advocates for Sexual Violence (HM Government 2013);
- GBP 900 000 a year towards the running costs of national helplines to support the victims of domestic violence and stalking (HM Government 2013);
- GBP 312 500 (GBP 625 000 over two years) to support services for male victims of rape and sexual violence (HM Government 2013; 2014);
- GBP 100 000 for local service commissioning partnership development (HM Government 2013);
- GBP 62 500 (GBP 125 000 over two years) to develop initiatives to support male victims of domestic and sexual violence (HM Government 2013), increasing to GBP 500 000 in 2014/15 (HM Government 2014);
- GBP 50 000 for frontline Female Genital Mutilation services (HM Government 2013).

Even though this above information is available, disentangling the budget expenditure of particular services is difficult and often requires direct information from service providers. This is further highlighted in the case study in which personal communications with organisations have been utilised in attempting to identify the costs of specialist services.

8.4 Recommended Models: Specialist Services

As previously discussed each of the three approaches (Unit Cost Model, Total Operating Cost Model and Proportional Operating Cost Model) employed offer viable alternatives to estimate the economic impact of intimate partner violence for specialist services. The decision for which method to employ is dependent upon the availability of information. For the purposes of this study a combined total and proportional operating cost model is recommended: Table 8.4.1).

Table 8.4.1: Recommended model to estimate the cost of specialist services

Total Cost	Data Source	Proportional Multiplier	Multiplier Data Source
Total expenditure of specialist services for refuge, helpline, web-based advice, outreach, victim support centres, victim programmes and offender programmes.	Specialist Service Administrative Data.	If the service also provides non-intimate partner violence/other services then the proportion of total expenditure attributable should be underpinned by the service's administrative data.	Specialist Service Administrative Data.

The model to estimate the cost of specialist services (Table 6.5.1) draws on the models employed by Stern et al (2013) for Switzerland, Envall and Eriksson (2006) for Sweden and Piispa and Heiskanen (2001) for Finland. This methodology was selected because it offered the most comprehensive and robust item coverage whilst requiring minimal and most commonly available data which enhances replicability and feasibility for adoption across the European Union.

8.5 Specialist Government Costs

Government costs have been mostly accounted for elsewhere, embedded in the impacts for the legal sector, health sector and social welfare sector. The costs here are different and additionally encompass the coordinating functions of state/federal and provincial/local government. Four studies in the review had undertaken an estimate of the costs to state/federal and provincial government (Switzerland: Stern et al 2013; Canada: Zhang et al (2012); Denmark: Helweg-Larsen et al 2010; Sweden: Envall et al 2006). This is an important cost because of the increased expenditure by governments responding to the Beijing Platform for Action to eradicate violence against women and girls. Zhang et al (2012) estimated the cost of federal and provincial government coordinating functions for Canada to be a conservative and approximate CAD 100 million.

8.5.1 Specialist Government Costs

Specialist Government Costs are the costs of coordinating functions of central government, (prevention, national action plans, data, research, reports, conferences, education, training, and information materials) to tackle intimate partner violence. The range of specialist government impacts named in the studies is illustrated in Table 8.5.1.1.

Table 8.5.1.1: Range of specialist government cost impacts included

Study	Coordinating Function Impacts Included					
	Prevention	Action Plans	Data	Research	Reports/ Dissemina-tion	Education/ Information
Switzerland (Stern et al 2013)	x	x	x	x	x	x
Canada (Zhang et a, 2012)	x	x				
Denmark (Helweg-Larson et a, 2010	x					x
Sweden (Envall et al 2006)					x	

8.5.2 Methods of Estimates: Specialist Government Costs

The studies including economic analysis of these specialist government cost impacts were not able to give precise expenditures, only rough estimates. The methods employed involved identifying specific sources of funding and central and local budgetary expenditures for violence against women/intimate partner violence.

8.6 Specialist Government Costs Administrative Data in the EU

EIGE's (2014a) research reporting on the status of sources of administrative data on violence against women in the EU identifies the lack of centralized administrative data collection stating that:

> 'The situation across Member States in relation to the centralisation of the regulation of administrative data is very diverse. There are only five Member States (EE, CY, HU, AT, UK) for which a unique institution regulating administrative data collection connected to gender-based violence has been identified. In contrast, administrative data collection is very disparate in eight Member States, with five or more bodies responsible for regulating the collection of administrative data (BG, DK, ES, FR, LT, RO, SK). The disparate number of authorities with a role in the process of data collection is problematic when trying to reach agreement on common terms and methodologies to gather a picture of reported incidents on gender-based violence.' (EIGE 2014a:75).

Whilst there are some good practices with national mechanisms in place (ES, FR, LU, AT, IE, PT, MT, SI and SK), and ongoing efforts to coordinate and improve data collection, as part of a National Action Plan or Strategy on gender-based violence nonetheless, the findings of this study (EIGE 2014a) suggest that presently collating state/federal and provincial information about specialised services government costs from centralised sources across the EU may not be possible.

The comprehensive EIGE 2014a report articulates the current challenging context for harmonised data collection within and across the EU-28 arising from lack of common terminology, complex multi-organisation, multi-sector service systems and complex funding arrangements, noting:

> 'In half of the Member States, the governments are in some way organising social services for victims of gender-based violence. Moreover, in most of the Member States in which governments are responsible for organising such services, this is done at local level, showing the decentralisation of the social services system in Member States. This fact will impact on the collection of comparable data at national level, as it will require a common methodology among local authorities and coordinating mechanisms to collect the information. Half of the Member States provide funding to organisations to provide social services to victims of gender-based violence. In the majority of Member States, in addition to government organised social services or instead of government organised social services, CSO's run social services, such as shelters. This form of organising social services will also affect the way data on gender-based violence is collected in this sector, as it will require additional efforts to coordinate and guarantee the quality, reliability and comparability of data.' (2014a:68)

However, to date, eighteen Member States had National Action Plans to tackle violence against women (EIGE 2014a) and therefore state/federal and provincial

administrative data and budget allocations and expenditures are likely to be increasingly reported on.

8.7 Discussion: Specialist Government Costs

The methods employed to estimate the economic impact of specialist government costs involved identifying budget allocations and expenditures for state/federal and provincial coordinating functions to tackle intimate partner violence. It is likely that states record some if not all of this information although some Member States may not have this differentiated for intimate partner violence against women. In this circumstance of undifferentiated violence against women or domestic violence information, the estimated proportionality as used by studies in the report should be employed: that 40 % of all violence against women estimated to be attributable to intimate partner violence (Helweg-Larsen et al 2010) and 75 % of all domestic violence is attributable to intimate partner violence (Stern et al 2013; Villagómez 2010).

8.8 Recommended Model: Specialist Government Costs

The recommended model to estimate the economic impact of specialist government costs is to identify budget allocations and expenditures for state/federal and provincial coordinating functions to tackle intimate partner violence. This model employs a total operating cost model from which intimate partner violence attributable proportions can calculated if necessary (see Table 8.8.1).

Table 8.8.1: Recommended model to estimate the economic impact of specialist government costs

Total Cost	Data Source	Proportional Multiplier	Multiplier Data Source
Total federal/state and provincial government budgets and/or expenditures for coordinating functions (prevention, national action plans, data, research, reports, conferences education, training and information materials) to tackle intimate partner violence.	Federal/state and provincial government budgets and/or expenditures for coordinating functions to tackle intimate partner violence.	If the cost data source also provides non-intimate partner violence services then the proportion of total budgets/ expenditures attributable to intimate partner violence should be estimated. (Proportion of DV that is IPV ~ 75 %; Proportion of all VAW that is IPV ~ 40 %)	Stern et al (2013); Villagómez (2010); Helweg-Larsen (2010).

9. Physical and Emotional Impact

9.1 Introduction

In the UK government the Green Book methodology for cost-benefit it is necessary to include a component on the public's valuation, sometimes termed 'willingness to pay' to avoid the physical and emotional impact on victims involved. In the new Home Office methodology, the calculation is made via the health-led concept of the loss of healthy life years as a consequence of the crime, with a value being placed on this loss. This loss is simultaneously a loss to the individual and a loss to society. In UK cost-benefit analysis, the inclusion of a value for this more intangible aspect of harm is not an optional extra, but compulsory and routine.

Since one of the purposes of costing gender-based and intimate partner violence against women is to secure appropriate resourcing for the policy field, it is necessary to include these costs in order to ensure fair comparisons between policy fields.

9.2 Physical and Emotional Impact: Coverage

Seven of the ten studies in the review had produced estimates for the costs of the physical and emotional impact on victims. Estimating the human cost of intimate partner violence was the principal focus.

9.2.1 Range of Methodological Approaches to Cost Physical and Emotional Impact

Estimating the human cost of intimate partner violence was rarely sub-divided into further categories. The studies incorporating an estimate of physical and emotional impact are indicated in Table 9.2.1.1., categorised by the methodological approach taken (see Section 9.2.2).

Table 9.2.1.1: Range of methodological approaches to cost physical and emotional impact

Study	Methodological Approach Employed				
	Compensation Awards	Willingness to Pay	Quality of Life	VSL	Average from studies
Switzerland (Stern et al 2013)			x	x	
Canada (Zhang et a, 2012)	x			x	
Denmark (Helweg-Larson et al 2010)	Impact not costed				
France (Nectoux et al, 2010)	x				x
Andalusia, Spain (Villagómez 2010)	Methodology for 'well-being losses' unclear in report				
England & Wales (Walby 2004)		x			
Australia (Access Economics 2004)			x	x	
Sweden (Envall et al 2006)	Impact not costed				
USA (NCIP&C 2003)	Impact not costed				
Finland (Piispa et al 2001)		X			

Key: VSL: Value of a Statistical Life

9.2.2 Methods of Estimates: Physical and Emotional Impact

Attention has been paid to the best way to estimate the value placed on physical and emotional impact in several policy fields. These include crime (Brand and Price 2000; Dolan et al 2005), health (Hammitt and Haninger 2010) and transport (Covey et al 2010). There are four main approaches:

- Court Awarded Compensatory Damages;
- Willingness to Pay;
- Quality of Life Losses;
- Value of Statistical Life.

Court-Awarded Compensatory Damages

Zhang et al (2012) costed the physical and emotional impact from injuries sustained from intimate partner violence using adjusted data from jury-awarded damages. In this study, physical and emotional impact was costed using adjusted data from a 1988 study of US jury-awarded damages. This compensation-based model is dependent on juries' interpretation of the extent to which an injury has affected the person's functioning in daily life and enjoyment of life. While this approach has established values on impacts, aside from being based on somewhat old research, there is greater potential for the introduction of subjective and non-expert decisions. Court-awarded damages are likely to have greater subjective influence because of the sympathy that a victim may or may not evoke. In addition, compensation is included in the costs to the criminal justice system.

Willingness to Pay

Two studies in the review employed the 'willingness-to-pay' methodology (Walby 2004; Piispa and Heiskanen 2004). Willingness-to-pay is the name given to the value placed on 'the avoidance of fatalities and injuries by estimating what individuals would be willing to pay for a small decrease in the risk of such an accident' (Walby 2004:93). Walby (2004) drew on the work within the Home Office by Brand and Price (2000), which in turn drew on work in the Department for Transport in costing the value placed on avoiding the injuries sustained in road traffic accidents. The process of reaching estimates is through a complex, chained series of comparisons. The value of human and emotional cost of injuries was based on the public's 'willingness to pay' to avoid the 'upset and inconvenience' of such harmful events (Brand and Price 2000). A limitation of drawing on the Transport research was that the injuries involved in the underpinning research were likely to include less psychological trauma than is the case for some forms of intimate partner violence, such as sexual violence. This is a potential challenge for the application of this approach to intimate partner violence. Walby (2004) adjusted the model to ameliorate this problem by drawing on the body of work detailing the psychological and emotional harms associated with rape and sexual violence to amend the model accordingly. Thus Walby's (2004) deployment of the UK Government willingness-to-pay model better accommodates intimate partner violence than non-adjusted willingness-to-pay formulae.

Quality of Life Losses

There are two main ways in which Quality of Life Losses (QALYs) can be represented: Years of Life Lost (YLL) and Disability Adjusted Life Year (DALY).

Years of Life Lost (YLL) is the more straightforward of the two and refers to the estimated number of years of life lost through premature death. It was most often drawn on to articulate the number of years of life lost, adjusted for age, because of intimate partner violence homicide and victim suicide (Zhang et al 2012; Stern et al 2013; Nectoux et al 2010). Years of Life Lost (YLL) can be understood without the transposition into economic value and thus could stand as a measure of impact that is easily comparable across states and regions. However, in the context of these studies of economic cost, Years of Life Lost (YLL) were configured in monetary terms by multiplying the number of YLLs by an estimated monetary value of a statistical life year (see the section below on Value of Statistical Life).

Disability Adjusted Life Year (DALY) refers to the partial years of (quality) life lost (YLL). QALY is the pinnacle of health and from which an assessment of the impact of a harm incurred can be subtracted. Through such a reconfiguration, Disability Adjusted Life Years (DALYs) surface as a proportional loss of health. DALYs are the measure of harm impact in terms of loss of health. In the Australian costing project, physical and emotional impact was estimated using lost health status indices (DALYs) which were then multiplied by an estimated monetary value of a statistical life year (see the section below on Value of Statistical Life). This methodology, more fully explicated in the original costing project (see Access Economics, 2004), drew on research undertaken in Australia that reported on the health risks associated with intimate partner violence whilst controlling for confounding variables. The proportions of these risks attributable to intimate partner violence ('attributable fractions') were then estimated.

The overall ***health burden*** in 2002–03 in Australia from intimate partner violence combining Years of Life Lost (YLL) from early death and Years of Life Lost due to Disability (YLD) was estimated to be 37 437 years of healthy life lost (DALYs). And here lies the particularity; QALY/DALY are based on ***models of health*** and are thus more

aligned with health impact understood as health loss and thus the **burden of disease.** Burden of Disease health loss models, as originally constructed, have been criticised (Murray et al 2012a) for focusing principally on physical ill-health losses which marginalised psychological ill-health and emotional harm. Health losses arising from mental ill-health have since been better accommodated in health loss models (Murray et al 2012a&b) and consequently, QALYs/DALYs offer an approach in which the human cost of health loss and premature death may be estimated and communicated. Furthermore DALYs from intimate partner violence are comparable with DALYs from other disease states and can be compared across time and place (Morrison and Orlando 2004).

The study undertaken by Access Economics (2004) employs a complex, health economics-based methodology for calculating DALYs because of intimate partner violence, based on longitudinal studies in Australia. Although the exact methodology employed was not published in the reports (ibid 2004; 2004b) and was based on the information that was provided it is not thought possible to employ across EU Member States without a significant amount of resources (time and information), limiting its replicability and feasibility.

The UK Government has changed its approach for estimating the costs of the physical and emotional impact of violent crime to a health loss (QALY loss) methodology (Dubourg et al (2005) developed from the work of Dolan et al (2005). As discussed in the chapter on Health, this new methodology was built around the prevalence of health state outcomes per crime type and Burden of Disease Studies (Dolan et al 2005, Dubourg et al 2005). Based on the Burden of Disease methodology the cost of physical and emotional impact in HO OR 30/05 (Dubourg et al 2005) was formulated from the average loss of healthy life years per crime type multiplied by the value in monetary terms of a healthy life-year. The only data requirements to employ this model are the number of incidents of violent crime type reported to a victimisation survey.

Value of Statistical Life

The Value of a Statistical Life (VSL) is not the value of any particular person; rather it is taken as the value of a young adult with at least forty years of life expectancy ahead. VSL is a measure against which the cost of programmes of intervention to reduce the risk of harm can be assessed against, as Covey et al (2010) suggest:

> 'The 'value of statistical life' (VSL) — or, as it is now more commonly referred to in the UK, the 'value of preventing a statistical fatality' (VPF) — is a generally accepted metric by which the benefits from proposed safety improvements are input into social cost-benefit analysis.' (Covey 2010:86).

VSL is similar to willingness-to-pay, in that it is established from the public's stated preferences. Willingness-to-pay is the public's stated preference for the amount they would willing to pay to partially reduce the risk of harms, whereas VSL is the maximum amount that the public would be willing to pay to reduce fatality risk (Covey et al 2010). From this perspective willingness-to-pay is a more conservative estimate.

Abelson (2008) acknowledges the huge ethical complexity of ascribing human life with monetary value. In introducing the concept of a 'statistical life', Abelson defines this as:

> 'The amount that society is willing to invest ex-ante to save the life of one person whose identity we do not know in advance.' (Abelson 2008:3)

Because VSL is taken as the value of a young adult with at least forty years of life expectancy ahead, VSL is relational. This means that the life of an older person with less than forty years between their age and current life expectancy could be valued by the number of expected life years proportional to the forty-year value of a statistical life.

This relationship with age creates a dilemma in the use of the value of a statistical life. Valuations of 'statistical life' follow an inverted 'U' pattern during adulthood related to income differentials and life expectancy (Viscusi 2010), although the VSL for children is often stated higher. The difference between the adult and child VSL is attributed to parents' altruistic concern for their children meaning that there will be a dip in VSL at age eighteen years as younger adults place less monetary value on their lives at that point than their parents (Viscusi 2010). Heterogeneity of VSL has also been expressed through ideas of 'individual culpability'. Covey et al (2010) and Viscusi and Zeckhauser (2006) found reduced public-stated valuations and reduced support for disaster relief respectively if the public perceived there to be culpability, by means of irresponsible behaviour or people knowingly exposing themselves to a harm-causing hazard.

If the value of a statistical life is variable then so too is the value of one life year (VLY). If VSL is relational to age, then further complexity could be required to adjust the VSL for variances in health status, known in health economics terms as 'quality of life'. A year of perfect health in Quality of Life (QoL) terms is known as a Quality Adjusted Life Year (QALY) and has a value of one whilst death has a value of zero. The value of a life year (VLY) could also be proportional to the quality-adjusted life year as valued between 0 and 1.

Viscusi (2010) contends that heterogeneity cannot be ignored and rather proposes what he calls an 'imperfect

hybrid' model; in this hybrid model a base VSL 'equal to the population average' is established whilst allowing for variations to accommodate very high income populations and age.

The literature exposes variations in VSL across time, place and context, still, the norm in policy approaches has been to use uniform VSL estimates (Viscusi 2010). Yet, the question remains: what value should be placed on human life? Doucouliagos et al (2012) propose that estimates of the value of statistical life are inflated through publication selection bias and argue that, based on their analysis, the corrected VSL for 2009 was USD 5.88 million. Doucouliagos et al (2012) also suggest that VSL may be underestimated and point to VSL estimates in the UK and Australia which were estimated at GBP 1.64 million and AUD 3.5 million respectively in 2007, yet despite being lower, these estimates were still within the confidence interval of Doucouliagos et al's (2012) multi-regression analysis prediction. In the most recent study in this review, Zhang et al (2012) use Viscusi's 2008 (2010) VSL of USD 7 million to estimate the impact of loss of life as a result of spousal violence, Access Economics (2004) employed a VSL of AUD 3.7 million.

The disadvantage for VSL measures is the potential for them being considered inflated estimates. Further this review has identified multiple sites of value contestation. Perhaps more troubling is the ethics of placing greater valuation on some human lives, albeit statistical, than others.

9.2.3 Recommended Model: Physical and Emotional Impact

Based on the studies in this review the recommended model to estimate the cost of human physical and emotional impact is the health loss approach developed and applied by the UK government. Despite its limitations, in particular its likely partial coverage of the extent of health impact of gender-based and intimate partner violence, it is an important methodological development and conceptual change to health loss. The recommended monetary valuation of the produced QALY health loss is the combined 'willingness-to-pay/willingness-to-accept' model employed by Walby (2004), Dolan et al (2005) and Dubourg et al (2005). The advantage of this model is that it is based on a government-approved methodology which is updated regularly, has been adjusted to better estimate the cost of rape and sexual violence, and is mental and physical injury based. The methodological approach is likely to be replicable and feasible because it has minimum data requirements. Furthermore willingness-to-pay is understood as a conservative estimate and as such cannot be critiqued for inflating the cost.

Table 9.2.3.1: Recommended economic model methodology for physical and emotional impact

Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
Cost of QALY health losses in EUR per incident of homicide, serious wounding, less serious wounding, common assault, rape and sexual assault.	HO OR 30/05, UK Government (Dubourg et al 2005).	Number of GBV/IPV homicides. Survey-based estimates of the extent of intimate partner violence per category of crime.	Homicide Statistics. Victimisation survey.

10. Data Sources

10.1 Introduction

Measuring the cost of intimate partner violence requires a substantial amount of data. There are severe limitations to the data available to support these analyses of costs. The studies reviewed here have used many ingenious strategies in their attempts to make the best of limited supplies of quality data. This makes it hard to identify a simple methodology that is easily replicable across EU-28 Member States. In this section, we review the data requirements and the sources of data available. This draws on the review of the studies, and goes beyond it to consider the data needs of a methodology designed for the EU-28.

10.2 Data requirements and Data Quality

Drawing on the review of methods used to estimate the cost of gender-based and intimate partner violence, we conclude that the data requirements include the following:

- The extent of gender-based and intimate partner violence against women:
  The number of victims (prevalence) in the last year
  The number of incidents (frequency, type and severity, in the last year).
- The direct impact of intimate partner violence on the individual women concerned: e.g. the injuries to health; increased family breakdown.
- The extent of the utilisation of services by women affected by the violence, since not all the women affected will use services: victim support, health services and legal services.
- The cost of the services utilised.
- The impact of the violence on employment for the women affected: the measurement of the detriment to employment through lost days of work or lost jobs.
- The value placed on avoiding the physical and emotional impact of intimate partner violence and/or the value placed on the reduced quality-adjusted life years (QALYs) or disability adjusted life years (DALYs).

As discussed in Section 2 on methodology, there have been seven approaches to the production of this data for use in costing studies:

- Expert judgement;
- Victim recall studies;
- Surveys;
- Administrative data;
- Population data sets;
- Studies of similar harms;
- Specialised research projects.

Early exploratory studies drew on expert judgement and victim recall studies, but were replaced by other methods as studies became more sophisticated and it was possible to use more rigorous methods that produced more representative data.

Surveys are potentially the most robust method of determining the extent of the violence; and provide useful data on its direct impacts. But they are rarely of sufficient depth and scale to deliver useable data on the utilisation of specific services, especially beyond the immediate incident. Further there are questions as to the extent to which measurement of the extent of the violence in surveys of the EU-28 is achieved at a sufficiently robust and fine-grained level, as discussed below.

Administrative data has the potential to deliver information on the utilisation of services by women affected by gender-based and intimate partner violence. However, there are questions as to the extent to which this data is currently sufficiently collected across the EU-28, which are more fully discussed below.

Statistical analysis of population data sets is only available in those countries that have invested in large-scale data collection over time and also included appropriate questions on intimate partner violence. This approach has great potential, but is currently available only in a very limited number of EU-28 countries.

Research on similar harms has played a significant role in specific studies of costs. The effective use of these studies depends contingently upon their relevance to specific other settings.

The development of specialised research projects on gender-based and intimate partner violence relevant to costing has made an important contribution to the field of costing this violence.

10.3 Comparability of Data in EU-28

If the figures on the costs are to be comparable between the EU-28, so that differences in the figures represent something real about the extent of the impact of the violence on the economy and society, then the data need to be of comparable accuracy and robustness in each EU-28 Member State. If the data are not comparable, then the figures on the costs cannot be comparable.

Some countries currently have better data than others on aspects of the cost of intimate partner violence. They may have more or less highly developed statistical systems; may expend greater or lesser effort on collecting and recording data. The better the data system, the more likely it is that the costs will appear to be higher. This would be a spurious finding, since it would be a result of differences in data systems not differences in the impact of the violence. This outcome is thus to be avoided if possible. It would not be appropriate to recommend a methodology that leads to countries with better data appearing to have higher costs. We use this consideration as a criterion when assessing the methodology to be recommended for use by the EU-28.

Hence we recommend using data that is harmonised at the EU level. If methodologies use data that are not harmonised at EU level, then differences would appear that are due to differences in data systems not due to differences in real costs.

The consequence of these considerations is that estimating the costs of gender-based and intimate partner violence in the EU-28 requires high quality data from an EU-28-wide survey on the extent, nature and impact of the violence and also comparable administrative data collected by EU-28 Member States on specialised services, health services, social services and legal services. These are the subjects of the next two sections.

10.4 Survey Data on Gender-based and Intimate Partner Violence

There have been significant developments in the methodology of surveys to measure aspects of the extent of gender-based violence (Walby and Myhill 2001). The demands on surveys are two-fold, first to identify the number of women and men subject to these forms of violence in their lifetime and in the last year, and second, to identify the distribution of the violence, i.e. its frequency, type and severity in the last year, disaggregated by gender.

Several EU Member States have conducted relevant surveys, including Austria, Belgium, Czech Republic, Denmark, France, Finland, Germany, Hungary, Ireland, Italy, Netherlands, Poland, Spain (Andalusia), Sweden and the UK (separate surveys for England and Wales, Scotland and Northern Ireland). There are series of multi-country-comparable surveys conducted using the International Violence Against Women (IVAW) methodology (Johnson et al 2008) and by the World Health Organization (WHO 2013b). The most important recent development has been the EU Fundamental Rights Agency Violence Against Women Survey in 2012, known as the 'FRA Survey' (FRA 2014a, 2014b).

These surveys produce data on some aspects of the prevalence of gender-based violence. But there are limitations (Walby 2005). The limitations of sample size mean that some surveys are not able to produce estimates of rape, whether by intimate partners or others. Several are limited to prevalence and do not include the number of incidents, even though intimate partner violence is known to be frequently repeated. Data on the severity of violence has also proved difficult to collect; and this matters to the costing of the impacts of violence. Several surveys produce estimates for lifetime, but not for the last year, which is the relevant time period for costing studies. Some ask questions about service use; but this is rarely of much depth. Most of the surveys are ad hoc, one off and not repeated.

There are significant variations in the rate of gender-based and intimate partner violence found in different surveys. The FRA (2014b) reported a last-year prevalence rate of 4 %, on average across the EU-28. In England and Wales, the CSEW found that the last-year prevalence of intimate partner violence against women was 5.9 % in 2001 (Walby and Allen, 2004) falling to 4 % (non-sexual partner abuse) in 2012/3 (CSEW Appendix Table 4.09, ONS 2014). In a review of survey evidence of the rate of intimate partner violence in the last year, drawing on the work of the UN, the FRA found that studies reported prevalence rates ranging from 1 % in Denmark to 14.9 % in Belgium (FRA 2014b: Table A1.2, p. 171). There are many reasons for these differences. While a part of the difference might pertain to real differences in occurrence of the violence, it is likely that a significant amount is the result of the different methods used to conduct the survey and to the different categories used in the collection and analysis of data (CAHRV 2006).

There are several types of differences in methods. An example is that surveys differ in how the interviewer engages with the respondent: some surveys use face-to-face Computer-Assisted Personal Interview (CAPI), which may be also conducted over the telephone (CATI), whilst others employ Computer-Assisted Self-Interview (CASI). Estimates of the prevalence of intimate partner violence

using from CAPI/CATI are significantly lower than when the Computer-Assisted Self-Interview method is used. In the 2001 British Crime Survey, the Computer-Assisted Self-Interview (CASI) section of the survey produced several times higher report rates than the section of the survey that used face-to-face interviews (Walby and Allen 2004). As technology becomes increasingly available, web-based surveys (CAWI) have also been undertaken. Some surveys distribute the questionnaire for self-completion and post return (SCPR). Table 10.4.1 below indicates the method of interviewer-respondent engagement employed in the surveys providing data for the costing studies analysed in this review.

Table 10.4.1: Overview of the prevalence survey interview methods underpinning analyses of economic impact

Study	CASI	CAWI	CAPI	CATI	SCPR	Unclear
Switzerland, SVS 2011		X		X		
Canada, GSS 2009				X		
Denmark, Health & Morbidity Survey 2005			X	X	X	
France, ENVEFF 2000				X		
Andalusia, Spain VAW survey IdelaM1999;2002						X
England and Wales, BCS 2001; 2008	X					
Australia, Access Economics PSS and WSS 1996; 2005.			X PAPI	X (optional)		
Sweden, SLCS 2004				X		
USA, NVAWS 1995/1996				X		
Finland, FHBS 1997					X	
EU FRA (EU-28) VAW survey (2014)			X			

Key: PAPI: Paper Administered Personal Interview.

The Crime Survey for England and Wales (CSEW) has two parts: one in which the questions are asked 'face-to-face' (computer-assisted personal interview — CAPI) and a second in which the respondent answers the questions directly onto a computer, thereby achieving confidentiality (computer-assisted self-interviewing — CASI). Although all surveys are expected to under-report violence, since respondents may not wish to re-tell painful or sensitive memories, the more confidential method in which responses are not spoken to an interviewer but written into a computer generates a higher disclosure rate by victim-survivors. These higher disclosure rates are regarded by the Home Office as the better estimates. A comparison of the findings of the different methods in the same survey population found that 3.8 times as many victims disclosed domestic violence to the self-completion module compared to information disclosed under face-to-face questioning (Walby, Towers and Francis, 2014).

The methodology used in the surveys conducted in EU Member States varies significantly and the rates of intimate partner violence that they report are also very diverse. The conclusion drawn here is that the national surveys do not support comparable data in the EU-28 MS, even though several countries have produced estimates (as discussed above), since the methodology varies so widely.

The FRA survey (FRA 2014a, 2014b), is a ground-breaking innovation in delivering an EU-wide survey of violence against women. But it has limitations. The FRA report on their findings of variations between Member States on the prevalence rates of physical and/or sexual violence

by current and/or previous partners both over the lifetime since age 15 and also for the last year (the twelve months before the interview). They report lifetime prevalence rates ranging from a high of 32 % in Denmark and Latvia to a low of 13 % in Austria, Spain, Croatia, Poland and Slovenia, averaging 22 % across the EU. They report last-year rates ranging from a high of 6 % in Belgium, Bulgaria, Hungary, Italy, Romania and Slovakia, to a low of 2 % in Estonia, Spain, Poland and Slovenia, averaging 4 % across the EU (FRA 2014b). They do not report on differences in the frequency or severity of the violence at Member-State-level, only at EU-level.

The FRA (2014a) suggests that the differences between countries in lifetime rates of intimate partner violence might be explained in variations in five things: cultural acceptability of talking about violence against women; gender equality which leads to higher levels of disclosure to the survey of similar forms of violence; women's exposure to risk factors for violence; levels of urbanisation, which is often correlated with crime; and patterns of drinking alcohol. They produce no analysis to support these hypotheses, though they are ideas that circulate in the academic literature.

The methodology of the FRA VAW survey was scrutinised to investigate whether it provided an adequate basis for confidence in the findings of differences between countries. The scrutiny included sample size, method of approaching respondent and response rate, drawing on the data that the FRA provides in Table A2.1 in Annex 2 of the 'Main results' (FRA 2014b: 174). Assistance was provided in this analysis by colleagues on an adjacent project (Walby, Francis and Towers 2014).

First is the issue of sample size. The survey has a sample size of 42 000 for the EU as a whole and around 1 500 for each Member State. While a sample of 42 000 is robust for the EU as a whole, a sample size of 1 500 for a country is limiting for the investigation of a phenomenon that affects around 4 % of the sampled population in a twelve-month period (on average 60 victims per country). It means that this data source is unreliable for within-country analysis of sub-sets of intimate partner violence within the last year, for example, differentiations by: severity (e.g. physically injured or not); by type of violence (e.g. physical or sexual violence); and by different use of services.

Second, the method of approaching respondents varied; it involved first contact with respondents over the telephone in three Nordic countries— Finland, Sweden and Denmark — but not in the other 23 countries. Analysis using independent sample t-tests found that the mean rate of disclosure of violence (% of the population) in the three Nordic countries was statistically significantly different to that found for the other 23 countries (Walby, Francis and Towers 2014). This suggests that the method of initial contact may have had an effect on the disclosure rate of violence against women. The analysis shows that the mean disclosure rates of violence in the past year and over the lifetime, as well as intimate partner violence over the lifetime, are significantly higher when the initial contact method is by telephone compared to face-to-face. This finding challenges the conclusion suggested by the FRA that Finland and Denmark are two of the three countries in the highest category for the rate of lifetime intimate partner violence (30 % and over).

Third, there is a low response rate to the survey of 42.1 % overall, and also large variations in the response rate between countries, ranging from lows of 18.5 % in Luxembourg and 19.7 % in Sweden and a high of 84 % for Hungary. Analysis conducted in the SPSS found statistically significant correlations (Pearson correlation: -0.505: sig (two-tail): 0.006) between the response rate and the disclosure rate of violence against women over their lifetime and violence against women in the last year (Walby, Francis, and Towers 2014).

These findings of statistically significant relationships between variations in survey methodology, response rates and survey findings undermine the claims that the differences between countries are robustly established by the survey.

The FRA opted not to put the findings for the 'last-year' rates of intimate partner violence into their summary publication 'results at a glance' (FRA 2014a) that was released to the press, selecting instead to include them in a table in the 'main results' and to place brackets around several of the numbers to indicate that they were considered less reliable (FRA 2014b:34). They state that 'results based on a small number of responses are statistically less reliable, so observations based on fewer than 30 responses are put in brackets and observations based on fewer than five responses are suppressed' (FRA 2014b:34 note a). This might indicate recognition by the FRA that the differences between Member States in the measurement of intimate partner violence in the last year are 'less statistically reliable'; however, they include a statement in the text that suggests that the variations are 'real' as they write 'the experience of physical and/or sexual partner violence in the past 12 months does not show big variations between the Member States, with the only proviso concerning the data on the four countries where the number of respondents was less than 30, which are reported to be 'less reliable' (FRA 2014b:34). Our judgement is that this is insufficiently cautious, since comparisons are being made between EU Member States about the experience of women and violence in the past 12 months based on the experiences of less than 30 women in 14 % of Member States (current and/or ex-partner violence).

Our conclusion is that the methodology of the FRA survey is insufficiently robust to provide data that enables real differences between the 28 Member States of the EU in the rate of intimate partner violence against women to be discovered. This is because variations in the methodology between countries are associated with differences in the rate of violence between countries in a statistically significant way. Hence the claim that there are differences between the countries in the rates of violence is not robustly supported by the data. Further, the sample size is too small for there to be reliable estimates of distinctions between forms of violence (e.g. whether sexual or physical; whether physically injured or not) at the Member State level in the last year.

On this basis, we recommend that since the EU FRA (2014a, 2014b) survey findings do not provide a robust basis for country-specific rates of intimate partner violence against women these FRA findings are not used in the process of producing country specific costs of intimate partner violence against women if the costing methodology is to be comparable between Member States.

Survey data estimating rates of gender-based and intimate partner violence must be sufficiently representative and have sufficient sample sizes in order for best estimates of the numbers of victims in a territory to be established. Secondly, because gender-based and intimate partner violence is frequently repeated, the number and type of incidents a person is subject to is also important so that the extent of victimisation and its impact can be known. Therefore robust estimates of the number of victims (prevalence of gender-based and intimate partner violence) and its frequency, type and severity, in the last year (incidents) that can be disaggregated by gender are critical for analyses of impact and economic costs.

10.5 Administrative Data

Administrative data is needed in costing studies for two purposes: firstly to discover the extent to which victims of violence use the services; secondly, to discover the costs of these services. The most important services are specialised victim services, health services and criminal and civil legal services.

The cost studies analysed above made considerable use of administrative data from the services that victims use in order to uncover the extent of their use. However, there are several ways in which the extent to which victims use services could be discovered, of which administrative data is just one. The other options for collecting this information are surveys and specialised research studies. While it is possible that the survey data could provide some information as to the extent to which victims use services, the context of a survey means that this information is usually very thin, often limited to whether the victim made contact with any of a list of services and very rarely extending beyond this to the extent of use of the service. The other solution is tailor-made research projects, which collect the data through a specific targeted investigation, but this is an additional task and the findings may become out of date if practices and the incidence of the violence change.

The potential advantage of administrative data in providing information about the extent to which victims use services is that it is detailed and robust since it is collected routinely during the course of everyday working life. In addition this information can be of value to the service so that it may be reflexively self-monitoring, self-evaluating and publicly accountable.

However, the extent to which administrative data is relevant, detailed and robust varies. Services are not equally aware of the extent to which their services are used by victims of gender-based and intimate partner violence. In the specialised services the data is most likely to be collected in a way that is relevant to costing studies, since that is the central focus of their activities. By comparison, the legal and health systems have been slowly developing appropriate data collection systems over several decades and there are serious questions as to the extent to which they are able to provide data relevant to the costing of intimate partner violence.

EIGE's research: Administrative data sources on gender-based violence against women in the EU — Current status and potential for collection of comparable data (Report 1) and Administrative data sources on gender-based violence against women in the EU — Current status and potential for collection of comparable data— technical analysis (Report 2) has investigated the availability of this administrative data. This study has already been referred to in the sections of this report on Health, Legal and Specialised Services. The second report, presenting the technical analysis of the administrative data collection finds that the most extensive collection of administrative data on intimate partner violence is undertaken by police systems, followed by civil justice systems (although this is largely in relation to non-IPV specific protection orders), social service systems (victim support and social welfare), criminal justice systems, and lastly health systems. The extent of data collection is generally poor. The police, protection order and criminal justice systems have the best systems of generic data collection, however the categories within which data is collected, such as generic crime codes/protection orders that are not specific to intimate partner violence, means that their data would not be immediately usable for costing studies. The health sector had the poorest collection of data across the European Union, and there has been less development of system-level administrative data collection in this sector.

It was hard to ascertain from the information contained in EIGE (2014b) hard copy report the exact nature of the data that existed, for example, it did not contain hyper-links so that the authors of this report could check as to the existence and quality of potential online data sets. There is much more information about the sources and characteristics of sources of data now available in the study's online mapping tool (EIGE 2014c). This online dataset makes the information about sources of data more complete, still, the information provided about data sources (EIGE 2014a, 2014b, 2014c) was not sufficiently detailed to enable an independent assessment of administrative data collection.

On Specialist Services, EIGE (2012) reporting on the nature of victim support offers the best overview available of the extent of these services and the nature of the administrative data available. The conclusion is that while it is possible to engage in a one-off tailored project to collect this data, this is not routinely collected at Member State or EU levels. It is possible that the coming into force of the Victims' Directive will provide an impetus for data collection on these services; but such a development is not yet visible.

On health data, EIGE's report (2014b) identifies a lack of development of health systems for the collection of administrative data about intimate partner violence in health services. Its recommendation (EIGE 2014b) calls for violence against women to be made visible in administrative health systems whilst respecting women's right not to disclose. There are administrative classification systems available for data collection in the health sector (EIGE 2014b). This issue is further addressed in the section, 'Future'.

Here, the recommended model to estimate health impact employs unit cost information from economic analyses undertaken in other policy fields. There was potential for the costs of wider and longer-term general and mental health impacts to be developed with data from the economic review of costs of brain disorders in Europe (Olesen et al 2012; Andlin-Sobocki et al 2005) and the report on the annual cost of Primary Care in Europe (NIVEL, 2014). An approach using these cost data sources was not selected for the recommended methodology because data underpinning service utilisation was insufficient. The final methodological decision was based upon better coverage, like the accuracy, feasibility and replicability of the selected model offered.

The challenge for data in the criminal justice system is that most intimate partner violence is not prosecuted under laws that name and code the violence in a free-standing category of its own. In many countries, the prosecutions are under more generic laws, for example those that criminalise assault. Even in those countries that have created a specific crime of domestic violence, not all the prosecutions will take place under this law. There is no crime category harmonised at EU level of 'intimate partner violence against women'. Many countries have begun to keep additional records of the extent to which assaults are committed against women by partners; but they are rarely as well kept as the records on 'mainstream' crimes. Unless and until intimate partner violence against women becomes harmonised at EU level, inconsistencies in data are likely to result.

We conclude that, while administrative data has the potential to provide comparable data on the use and cost of services by victims of intimate partner violence, at the moment this does not yet exist. While there is relevant data held by service providers within countries, this requires significant expertise to access and deploy appropriately. EIGE's (2014c) online mapping tool now provides easy access to potential administrative data sources within the full set of EU MS, however, there is presently not enough detail to indicate whether data across Member States is comparable.

10.6 Eurostat Data on Population and Economy

Two further types of data are needed for cost studies: economy and employment, and population.

Harmonised data on the economy for all EU MS is available via Eurostat. This is necessary to support the costing work in relation to lost economic output. Data is available on GDP, GDP per capita and changes in these are on the Eurostat maintained website (Eurostat 2014a).

Harmonised data on the changes in the size of the populations of EU MS is easily available online from Eurostat (2014b).

10.7 Conclusions

The ideal methodology for costing studies in the EU-28 would use data that is comparable across the EU. If data is not comparable, then differences in costs between Member States would be due in part to differences in data and methodology rather than due to differences in the occurrence of intimate partner violence and its treatment in Member States.

Comparable data does not yet exist. There are significant and admirable efforts to produce this data. But they have not yet achieved this goal, although there has been positive movement in this direction. Achieving this goal of comparable data on intimate partner violence against women will take some considerable further developments in data collection.

11. Summary of Methodological Options

11.1 Introduction

There are two overarching strategies towards the methodological options:

1. A common EU-wide costing methodology, which is applied to Member State-specific data that is comparable between Member States in its quality (summarised as Member State-led).

2. A common EU-wide costing methodology, which is applied to EU data proportionate to Member State population and circumstances (summarised as EU-led).

The first section of the chapter summarises the detailed ideal methodology using a Member State-led strategy, which is derived from the preceding review of the literature. This is internally divided into sections concerning costs related to lost economic output, health services, criminal and civil legal sectors, social welfare, specialist services and the value placed on physical and emotional impact. The latter part of this section notes that the unavailability of quality data in Member States challenges the robustness of this strategy.

The second main section discusses an alternative second strategy, which has the advantage of not being dependent upon such a high level of quality data available for each Member State, but which has the disadvantage of losing some of the specificity of Member State circumstances. This is called the EU-led strategy.

The concluding assessment to the choice of methodological options is located in the next section of this report, 'Feasibility'.

11.2 Member State-Led Costing

In this section the methodological options for an economic analysis of the cost of intimate partner violence in the European Union are reiterated and summarised collectively. There are seven clusters of costs:

- **Lost Economic Output**
  (Lost Economic Output)
- **Health**
  (Emergency, General and Mental Health Services)
- **Legal sector**
  (Criminal Justice and Civil Justice Systems)
- **Social Welfare**
  (Housing and Child Protection)
- **Personal Costs**
  (Moving home**)**
- **Specialised Services**
  (Specialist and Specialist Government)
- **Physical and Emotional Impact**
  (The physical and emotional impact on victims)

11.2.1 Lost Economic Output

The recommended model for estimating the cost of lost economic output because of gender-based and intimate partner violence draws on lost economic output in terms of days of lost productivity (paid and unpaid labour) because of injury suffered.

Table 3.2.3.1: Recommended model to estimate the cost of lost economic output

Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
Lost productivity: Lost economic output in monetary terms (EUR per incident of violent crime (homicide; serious wounding, less serious wounding, common assault, rape and sexual assault)	Cost of lost output based on severity of injury from health state outcomes from UK Home Office methodology.	Number of IPV Homicides. Survey-based estimates of the extent of intimate partner violence per category of crime.	Crime Statistics. Population-based victimisation survey.

11.2.2 Health

The recommended model to estimate the cost of gender-based and intimate partner violence to the Health Sector was developed for the UK government and employs a Burden of Disease, Quality of Life Year framework.

This model has limitations as discussed in the chapter on Health; however it is an important methodological bridge, as discussed in the section on Future, towards better explication of health impact and health sector via health loss methodology.

Table 4.4.1.1: Recommended model to estimate health sector impact

Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
Cost of lost health treatment in EUR per incident of homicide; serious wounding, less serious wounding, common assault, rape and sexual assault and based on the severity of injury health state outcomes.	HO OR 30/05, UK Government (Dubourg et al 2005)	Number of IPV Homicides. Survey-based estimates of the extent of intimate partner violence per category of crime.	Crime Statistics. Population-based victimisation survey

11.2.3 Legal sector

There are separate analyses of the criminal justice systems and civil justice systems, generating two proposed models involving unit-cost and proportional budget expenditure methodologies.

The recommended methodological models for estimating the economic impact of intimate partner violence for the legal sector draws on the updated methodology employed by Walby (2004). These models overall offered the most comprehensive coverage, the most robust estimates and required information from the least number of sources. These qualities translate into greater simplicity, replicability and feasibility for economic analysis of the costs of intimate partner violence in the European Union. The recommended models are re-presented below:

Table 5.5.1: Recommended model to estimate criminal justice system impacts

Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
Cost of lost CJS in EUR per incident of homicide; serious wounding, less serious wounding, common assault, rape and sexual assault.	HO OR 30/05, UK Government (Dubourg et al 2005)	Number of IPV Homicides. Survey-based estimates of the extent of intimate partner violence per category of crime.	Crime Statistics. Victimisation survey.
Total Police Budget	Administrative Data: Annual Financial Reports (DCLG 2014b)	x 0.40 (police time spent on Public Safety and Welfare: 40 %. x 0.11 (proportion of Public Safety and Welfare activity spent on Domestic Incidents: 11 %.	HMIC 2012.

Table 5.9.1: Recommended model to estimate civil justice system impacts

Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
Total Expenditure: **Private family Civil Representation.**	Administrative Data: Annual Financial Return (LSC 2013).	x 0.48 (proportion of legal aid civil justice caseload that was for private family-related proceedings: 48 %) x 0.29 (proportion of private family proceedings that was due to intimate partner violence: 29 %).	LSC (2013). Walby (2004).
Total Expenditure: **Private family Legal Help.**	Administrative Data: Annual Financial Return (LSC 2013).	x 0.26 (proportion of Legal Help assistance that was for family disputes: 26 %) x 0.29 (proportion of private family proceedings that was due to intimate partner violence: 29 %).	LSC (2013). Walby (2004).
Total Expenditure: **Public family proceedings.**	Administrative Data: Annual Financial Return (LSC 2013).	x 0.38 (proportion of costs of civil representation that was for public family proceedings: 38 %) x 0.40 (proportion of family public proceedings attributable to overlap of domestic violence and child protection).	LSC (2013). Walby (2004).

11.2.4 Social Welfare

Two dimensions to the cost of social welfare have been incorporated in the recommended methodology: the cost of housing and the cost of child protection. Because of data availability in the UK it was not possible to recommend a model to estimate the costs of further financial assistance. The recommended methodological options for estimating the economic impact of social welfare drew on the methodologies employed by Piipsa and Heiskanen (2001), Access Economics (2004) and Walby (2004). These models overall offered the most comprehensive coverage, the most robust estimates and required information from the least number of sources.

Table 6.2.2.2: Recommended model to estimate the economic impact of housing aid

Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
Sanctuary Schemes: average unit cost per sanctuary scheme	Local Authority Research.	Number of households supported by sanctuary schemes.	National Housing Statistics.
Housing aid: Total local authority homeless housing aid expenditures per annum.	Administrative housing aid budget data from MS.	13 % (13 % of women seeking housing aid were homeless because of IPV).	National Housing Statistics.

Table 6.2.4.2: Recommended model for estimating the cost of child protection and family support

Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
Total operating cost for children's child protection services.	Local Authority Annual Report of Expenditures.	x0.47 (% of referrals to children's social services because of abuse/neglect [47 %]) x0.40 (estimated % overlap of child abuse and IPV [40 %]).	DfE Children in Need Census. Administrative and Service Research.

11.2.5 Personal Costs

The elements of the recommended model to estimate further personal costs incurred by women as a consequence of intimate partner violence are presented in Table 7.1.3.1. This model is based on methods employed by Zhang et al (2012), Walby (2004) and Access Economics (2004). As discussed, personal cost items may not be feasible due to limits of available data.

Table 7.1.3.1: Recommended model to estimate personal costs

Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
Unit cost per divorce. Unit cost per injunction.	Administrative data of unit cost of (legally aided) family proceedings.	Numbers of Inj`unctions and divorces per year. Proportion of family law self-funded (50–95 %). Proportion of family law proceedings attributable to IPV (29 %).	Legal sector administrative data. Walby (2004).
Cost of damage to property per victim.	Adjusted from Australian Model (Henderson 2000).	Number of women exposed to IPV reporting damage to property.	Representative population victimisation survey.
Average cost per year for phone security.	Phone Service Providers.	Number of women subject to IPV who bought phone security features.	Representative population victimisation survey.
Moving Expenses: Average cost per inter-city removal for 2-bed house.	Moving Company	Number of women subject to IPV who were forced to move.	Representative population victimisation survey.

11.2.6 Specialised Services

The recommended models for costing Specialist Services and Specialist Government Costs are represented below. The methodologies underpinning these recommended models have been developed with reference to methods employed in eight of the studies in the review (Zhang et al 2012; Stern et al 2013; Villagómez 2010; Helweg-Larsen et al 2010; Envall and Eriksson 2006; Walby 2004; Access Economics 2004; and Piispa and Heiskanen 2001).

Table 8.4.1: Recommended model to estimate the cost of specialist services

Total Cost	Data Source	Proportional Multiplier	Multiplier Data Source
Total expenditure of specialist services for refuge, helpline, web-based advice, outreach, victim support centres, counselling and advocacy, victim programmes and offender programmes.	Specialist Service Administrative Data.	If the service also provides non-intimate partner violence or other services then the proportion of total expenditure attributable should be underpinned by the services administrative data.	Specialist Service Administrative Data.

Table 8.8.1: Recommended model to estimate the economic impact of specialist government costs

Total Cost	Data Source	Proportional Multiplier	Multiplier Data Source
Total federal/state and provincial government budgets and/or expenditures for coordinating functions (prevention, national action plans, data, research, reports, conferences education, training and information materials) to tackle intimate partner violence.	Federal/state and provincial government budgets and/or expenditures for coordinating functions to tackle intimate partner violence.	If the cost data source also provides non-intimate partner violence services then the proportion of total budgets/ expenditures attributable to intimate partner violence should be estimated (Proportion of DV that is IPV ~ 75 %; Proportion of all VAW that is IPV ~ 40 %)	Stern et al (2013); Villagómez (2010); Helweg-Larsen (2010).

11.2.7 Physical and Emotional Impact

The inclusion of the cost of physical and emotional impacts in economic terms is controversial. Some authors decide to only include 'direct costs' and exclude the cost of physical and emotional impact because no money or transfer payment is expended (Day et al 2005; Chan and Cho 2010) and because of the ethical complexity inherent in placing an economic value on 'a life'. We recommend its inclusion in the economic analysis of gender-based violence, firstly because this report is focused on the impacts of intimate partner violence for all parties who bear the costs and which can be most robustly assessed. Secondly, we recommend the inclusion of the cost of physical and emotional impact because it is a standard component of economic analysis in other policy fields, for example road safety and crime (Brand and Price 2000, Dubourg et al 2005) in which it contributes to cost-benefit analysis of interventions. The cost of physical and emotional impact is thus an important component of the total costs against which the cost of intervention, or non-intervention, to eliminate violence can be assessed against.

The model recommended to estimate the cost of physical and emotional impact is the QALY health loss approach (Dolan et al 2005) followed by the UK Government (Dubourg et al 2005) to which an economic value is placed on the average number of healthy life years lost per incident. The advantage of this model is that it is based on the public's stated preference of willingness to pay to avoid harms and it is a government-approved methodology which is updated regularly and is injury based. This methodological approach to physical and emotional impact is most likely to be replicable and feasible across the EU Member States because of its minimum data requirements. In the absence of EU guidelines for estimating the cost of physical and emotional impact, we consider that 'willingness-to-pay' is an appropriate model for extrapolation across Member States because, firstly, the citizens of the EU are likely to have similar preferences for avoiding harms, and secondly, it would be unethical to apply different values for physical and emotional impact across Member States in an EU-wide study. Lastly, as the public's stated preference for avoidance of harm, this methodology is less open to critique and is located in the middle ground between very high VSLs and more incident-specific criminal compensation awards.

Table 9.2.3.1: Recommended model to cost physical and emotional impact

Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
Cost of QALY health losses in EUR per incident of homicide, serious wounding, less serious wounding, common assault, rape and sexual assault.	HO OR 30/05, UK Government (Dubourg et al 2005).	Number of GBV/IPV homicides. Survey-based estimates of the extent of intimate partner violence per category of crime.	Homicide Statistics. Victimisation survey.

11.2.8 Data Availability to Support the Member State-Led Method of Costing

The recommended methodologies have challenging data requirements. Very few countries have the data necessary to fulfil these data requirements.

There are two prospective locations for some of this data. The first is EU-harmonised data based on a victimisation survey. However, while there are some national surveys, they are not comparable, and are rarely repeated. The FRA Survey, while admirable, does not deliver the necessary data at Member-State level, as a consequence of its sample size and uneven response rate. The second is EU-harmonised data on the utilisation of victim support, health and legal services. However, while there is some data, it is not comparable and there are major omissions.

It is possible to recommend that Member States each collect the necessary data to support these costing models. The alternative is discussed next.

11.3 EU-Led Costing

An alternative strategy is to build one detailed developed comprehensive case study of the cost of gender-based and intimate partner violence in one Member State and extrapolate the findings to the EU-28 from an estimate of the cost of gender-based and intimate partner violence in each Member State based on population proportions.

12. Feasibility

12.1 Comparing the Advantages and Disadvantages of Different Methodological Strategies

The advantages of the first strategy, Member State-led, include:

- Accurate attribution of the diverse costs of intimate partner violence to Member States;
- Developing the data necessary to support the costing model will simultaneously improve the knowledge base that public services require to reflexively improve their services in relation to intimate partner violence.

The disadvantages of the Member State led strategy include:

- The requirement for comparable data across the EU-28 cannot currently be met;
- Using Member State-specific data that is not comparable across the EU-28 would lead to the estimated costs differing on spurious methodological grounds rather than reflecting real differences.

The advantages of the EU-led strategy include:

- It does not require such heavy investment in the development of statistical data as the Member State-led strategy;
- It is faster than the Member State-led strategy, since it requires less developmental work;
- It is less expensive than the Member State-led strategy.

The disadvantages of the EU-led strategy include

- Some of the differences between Member States will not be discovered.

12.2 Conclusions

The best option in the current circumstances is the EU-led strategy. This requires the development of one excellent case study of one Member State; the extrapolation of the findings to the EU as a whole or based on a first extrapolation for each Member State proportionate to population size.

13. Future

13.1 Introduction

While it is possible to produce estimates of the cost of gender-based and intimate partner violence in the EU, these are underestimates. They are underestimates because of the insufficiency of research and data. There are two areas where there is a need for further research and data collection: 1) research on the impacts of gender-based and intimate partner violence, including health and inter-generational impacts on children; and 2) EU-wide data to support comparable costing.

It is sometimes possible to identify a specific impact of intimate partner violence on the economy and society, but it is not possible to measure this in a sufficiently robust way to justify its inclusion in the costs of the violence. This section discusses some of the impacts that were not included in the estimation of the costs, but where there is potential for measurement to be developed in the foreseeable future. The five examples discussed are: lost economic output, health; specialist services, physical and emotional impact, and intergenerational.

In order to support comparable costing of intimate partner violence across the EU, which is sensitive to the variations in EU Member States, it is necessary to have better survey and administrative data.

13.2 Research on Impacts

13.2.1 Lost Economic Output

There is potential to develop the measurement of the lost economic output due to the detrimental effects of intimate partner violence on women's mental health and in consequence on their employment. Although there is robust measurement of the effects of physical injuries on women's employment, the evidence base linking the effects of mental injuries to employment has been slower to develop. The measurement of these effects has been improving and may soon be ready to be included in analyses. It involves two stages: first the identification and measurement of the effects of intimate partner violence on women's mental health and second, the identification and measurement of the effects of women's mental health on their employment.

The detrimental effects of intimate partner violence on women's mental health are now well established. There is a steadily increasing body of evidence from increasing numbers of surveys that have included questions on both intimate partner violence and on women's mental health. This includes for example, the Canadian General Social Survey and the UK Survey on Psychiatric Morbidity, among others. However, the measurement of the exact extent of this impact is challenging since women in these situations may be adversely affected by other matters, such as antecedent mental ill-health or other forms of disability, previous gender-based violence and gendered structural disadvantage. Disentangling the extent to which the mental ill health can be attributed to the intimate partner violence rather than other factors is difficult. The body of work in this area is growing and it is reasonable to expect that shortly there will be work that is sufficiently definitive to enable robust estimates to be made.

The detrimental effect of women's mental ill health on women's employment is likewise now well established. There is a growing body of evidence of the detrimental effect of mental ill health on employment, which is not gender-specific. Similarly, measuring the extent of the impact for women experiencing intimate partner violence accurately and disentangling precisely the extent to which absence from work, lost jobs and lower employment rates are due to women's mental ill-health is also difficult. That said, the entanglement and interconnections of violence against women and gendered productivity is an important complexity that needs to be accounted for in analyses of economic impact and the work of Duvvury et al (2013) is an important step forward in this field. Duvvury et al advance a gender sensitive approach to statistical modelling lost economic output that is grounded in interconnections of violence against women, gender inequality, and gendered productivity, poverty and economic growth. Using a health and human capital approach, Duvvury et al have constructed novel, but still developmental, statistical modelling approaches that incorporate micro (absenteeism, presenteeism, education, physical health, psychological health, income loss, entrepreneurship, intra-household allocation of resources and impact on children) and macro (human capital, productivity, health loss and welfare consumption/household utility) connections between intimate partner violence and economic growth and which are mediated through capabilities, trauma and intra-household relations. The importance of this work is that is has the potentiality to move this field beyond absenteeism and presenteeism (working but unable to work to full potential) to encompass women's

lost productivity across the life course because of direct and structural violence against women. Duvvurry et al's work is evidence of the development of work in this field and which may be sufficiently robust to enable better estimates to be made in the not too distant future.

13.2.2 Health

There is scope for better measurement in the field of health, especially of mental health and wellbeing.

Physical trauma from intimate partner violence may result not only in musculoskeletal, soft tissue and genital injuries, but may also lead to poorer mental health. Psychological trauma and stress from exposure to intimate partner violence has been associated with a greater incidence of mental health problems (post-traumatic stress disorder, anxiety, depression, suicidality) and substance use. Psychological trauma and stress from exposure to intimate partner violence is also proposed as a causal mechanism for asthma, irritable bowel syndrome, diabetes, high blood pressure, frequent headaches, chronic pain, difficulty sleeping, (Campbell 2002; Heise and Garcia-Moreno 2002; Black et al 2011, Sillito 2012) and cardiovascular disease (WHO 2013b). Intimate partner violence impacts well-being and further adverse indirect effects, for example, since women's sexual and reproductive control and access to resources and services may be limited, thus leading to sexual and reproductive health problems (unwanted pregnancy, abortion, sexually transmitted diseases and gynaecological problems) and poorer maternal health outcomes (low birth weight, prematurity and pregnancy loss) (WHO 2013b). Many of these health impacts have not been fully accounted for, especially in relation to long-term chronic health conditions such as cardiovascular diseases, respiratory diseases and diabetes. Given current research evidence, there is a probable psycho-physiological causal relationship between intimate partner violence and poorer health outcomes (Black et al 2011; WHO 2013b), however this evidence is not sufficiently developed to enable robust predictive probabilities of these harms. This is an area where there is sufficient prospect of future relevant research that it may be included in future costing studies. For example, it may be possible to estimate the impact of mental ill health caused by intimate partner violence on lost economic output via a gender-based violence sensitive health loss (Disability Adjusted Life Year) framework. Whilst the methodology applied for this case study employs a health loss approach it is likely to underestimate the health impact of gender-based violence in important ways. The development of a gender and gender-based violence sensitive health loss methodology would advance economic analysis of gender-based violence by providing better nuanced comprehension of the extent of the health impact and which run into analysis of health treatment cost, lost economic output and physical and emotional impact.

One of the challenges in measuring the cost of health services in relation to intimate partner violence has been identification of the ill health that it causes. This stems in part because the system of medical classifications was devised before intimate partner violence was recognised as an important cause of ill health. There have been several attempts to improve the medical classification system so as to better allow for the attribution of the cost of health treatments to their cause in intimate partner violence. But this is a complex field and subject to competing alternatives (Olive 2013). One of EIGE's (2014b) findings suggests that the World Health Organization's (WHO) International Classification of Diseases (ICD), now in its tenth version (ICD-10), could be better used as the standard diagnostic classificatory instrument for health systems in a way that could better recognise intimate partner violence. EIGE (2014a) identify some ICD-10 categories that could be used in health systems: Y05 Sexual assault by bodily force, Y06 Neglect and abandonment, Y07 Other maltreatment and T74 Maltreatment syndromes.

Y06 Neglect and abandonment and Y07 Other maltreatment can be classified by victim/perpetrator relationship: spouse or partner, parent, acquaintance or friend, other specified persons or unspecified person. T74.1 is the classification for physical abuse by spouse or partner but it is important to note that this classification (T74.1) can also be applied to 'battered baby/child syndrome, and as such, although it may be assumed that disaggregation is possible by age, this may not be accurate (Olive 2013). Y05 Sexual assault by bodily force does not have victim/perpetrator sub-classification. EIGE's (2014a) research indicates that some Member States are using International Classification of Disease Codes, however it is unclear for which forms of gender-based violence, whether intimate partner violence, sexual assault and/or rape they have been used, and Member States employ different coding systems. WAVE (2013) advises that the International Classification of Disease could be useful and its applicability should be further examined. However, the report (ibid) also acknowledges the potential challenge for introducing the ICD because of its complexity: the ICD has more than 14 000 classifications (WHO 2010). An alternative to this system would be the use of another UN/WHO classification for health systems: WHO's Injury Surveillance (Holder et al 2001) in which victim/perpetrator relationship constitutes part of the dataset. While this administrative classificatory system is for injuries from physical contact and as such does not capture psychological violence or harm, it nonetheless could be a useful future administrative data instrument for outpatient, ambulatory and emergency centres and warrants further investigation.

13.2.3 Specialist Services

The growth of specialised expertise on gender-based violence, rooted in institutions, is acknowledged as an important development in preventing this violence and supporting victim/survivors. This is recognised by EIGE's report on violence against women - victim support services (2012) as an important part of the provision of victim support. However it is less well documented so rarely enters the costing models. With further research and data collection these innovative developments could be better captured and included in future cost-benefit analyses. These services include:

- Specialised support to vulnerable groups of women suffering intimate partner violence is recognised by EIGE (2012) as an important part of the provision of victim support.
- Specialist police units staffed by police officers specifically trained to deal with victims of intimate partner violence.
- Domestic Violence Disclosure Schemes: An intervention for women to request and receive information about their partner's abusive past.
- Immediate Protection Orders: Providing protection orders with immediate effect in the immediate aftermath of an incident of intimate partner violence.
- Specialist Domestic Violence Courts: Courts staffed by specially trained magistrates and prosecutors, with separate victim and perpetrator entrance and waiting areas.
- Specialist Domestic Violence Court Advocates: Specially trained domestic violence and sexual violence advocates supporting victims of intimate partner violence during legal processes.

13.2.4 Physical and Emotional Impact

There are developments in the measurement of the human impact of gender-based and intimate partner violence, which may make alternative measures viable at some point in the near future. While the current availability of data means that the measures of harm are more robust than measures of subjective well-being, this may change if measurements for the latter develop.

One of the most robust measures of the human impact is that of 'willingness to pay' to avoid a harmful event. This methodology is used in the UK government; it was developed by the Department of Transport to provide estimates of the willingness to pay to avoid injuries in road traffic accidents, and is utilised by the Home Office to provide estimates of the willingness to pay to avoid the injuries incurred as a victim of violent crime. This draws down on the concept of the 'value of a statistical life'.

In the field of health, there are two further types of measures. The first, including years of life lost (YLL), Quality of Life Years (QALYs) and Disability Adjusted Life Years (DALYs), measure losses incurred from harms done. The second attempt to measure the importance of positive health, i.e. subjective well-being rather than the pathological and/or absence of ill-health (Huppert and So 2011).

Measures of subjective well-being have attempted to conceptualise human happiness and flourishing (OECD 2013; Huppert and So 2011). Huppert and So (2011) identify ten features of positive well-being: competence, emotional stability, engagement, meaning, optimism, positive emotion, positive relationships, resilience and self-esteem. Information of population 'happiness', is currently collected across the European Union (European Social Survey 2014) in the form of a ten-point Likert scale. However, Huppert and So (2011) stress the importance of multi-dimensional questionnaire items that capture both positive feeling (hedonic) and positive functioning (eudaimonic), and that some of the questionnaire items in the European Social Survey are adequate proxies for the ten dimensions of flourishing they propose. There is potentially a future role for indicators of well-being and flourishing to be incorporated into analysis of the impact of intimate partner violence. However, conceptual contestations abound and measures of positive health are still in relative infancy (Huppert and So 2011). Nonetheless, a growing body of knowledge and measures are available for use (OECD 2013). To establish associations and relationships with indicators of human well-being and flourishing and intimate partner violence, corresponding measures would need to be incorporated into victimisation surveys, from which comparative impacts could be calculated. Without this step these measures are not useable to measure the impact of intimate partner violence. It is possible that some hedonic and eudaimonic well-being measures may be of benefit for evaluations of specialist victim support intervention because of their potential capacity to measure impact and change over time for populations who have altered feeling and functioning but which may not reach clinical, medically oriented, diagnoses thresholds. These are measures for potential future development.

13.2.5 Intergenerational Impacts

Several of the studies reviewed attempted to include the impact of intimate partner violence on people other than the immediate victim, including children, family and friends. There are major challenges in identifying these impacts, especially in how to separately identify the impacts due to intimate partner violence from those due to other causes.

Children of Victims

The violence of men to their intimate partners is widely understood to have detrimental effects on any children living in the household, though measuring this is a challenge. Three main areas are identified:

- Child protection;
- Inter-generational effects on health;
- Inter-generational effects on criminal delinquency.

Child Protection

Four studies had included an estimate of the cost of child protection. There are two aspects to child protection: first, preventing the direct abuse of the child, which often co-occurs in households where the mother is abused and second, preventing the negative effects on the child of witnessing their father (or stepfather) abuse their mother. Some studies separate these impacts on the child; some run them together as if they were one. In all countries direct child abuse is illegal; in some countries, and increasingly so, the prevention of children witnessing intimate partner violence is written into legislation as well as policy.

Child protection items included the cost of investigating referrals to child protection services, the cost of 'at home' child support, and the cost of 'in care', residential child protection.

One study (Walby 2004), expressly limited economic analysis to situations of concomitant child abuse and intimate partner violence. Consequently, this limited but robust method is recommended until reliable information is available that specifies the impact of children witnessing intimate partner violence as distinct from the impact for children who witness intimate partner violence and experience child abuse.

An example of the conflation of children witnessing (seeing or hearing) intimate partner violence with direct child abuse (exposure to violence) can be found in Zhang et al (2012) which calculates the cost of child protection based on data from the General Safety Survey (GSS):

> 'The GSS asks, 'Did any of your children see or hear this incident or any of these incidents?' Tallying the 'yes' answers shows that there were 94 631 households in which children were exposed to spousal violence, but there is no follow-up question asking respondents to specify the number of children in the household exposed to the violence. To estimate this, the average number of children per couple family with children (1.83), derived from Statistics Canada data, is applied to the number of respondents who answered 'yes' to the above question. With this method, it is estimated that 173 591 children were exposed to spousal violence in 2009.' (Zhang 2012:68, our stress)

There is a danger in conflating the impacts of witnessing intimate partner violence with that of co-existing child abuse and intimate partner violence. This is not to minimise the impact on children of witnessing intimate partner violence, but rather to indicate the need for i) clear distinctions between these two different phenomena and ii) further research to establish the separate impacts of children witnessing intimate partner violence and of direct child abuse.

Intergenerational Health Impacts

There is evidence that intimate partner violence has an impact on the long-term health of children in affected households, but the measurement of such long-term effects is challenging. Such measurement requires robust data about violence and the children of victims over a very long period of time; but very few longitudinal studies have asked any questions about this violence.

Evidence of associated second generation impacts that may impact children's health and well-being is recognised by Stern et al (2013). This includes: sleep and eating disorders, bed-wetting, frequent illnesses, speech problems, withdrawal, developmental disorders, abnormal behaviour, problems at school, suicidal thoughts and attempted suicide. However, these impacts were excluded from the final analysis because of the limits of available, reliable data of estimates of the number of children affected and of the additional health costs that were incurred. Zhang et al (2012) included estimates for the impact on children of associated hyperactivity and additional mental health service contacts. Controlling for age, gender, parental educational attainment, family structure, and/or household income, Dauvergne and Johnson (2001) found that children who witnessed intimate partner violence fights were more likely to exhibit hyperactivity (OR 1.325), emotional disorder (OR 1.241) and physical aggression (OR 2.968), and that there was an 8 % greater mental health service contact as reported by parent respondents to the National Longitudinal Survey of Children and Youth (NLCSY). This translated into an estimated 3.06 %, 1.86 %, and 22.24 % of children exposed to spousal violence that would develop hyperactivity, mental health issues and physical aggression. Zhang et al's (2012) estimates of the economic impact of these items are largely developed based on assumptions of consequential health and health service utilisation, transposition of cost of medical treatment of hyperactivity in the USA, and the assumption that mental health service contact is equivalent to the development of mental health issues for which treatment costs were available. Similarly, lost school days were formulated on assumption of loss of focus due to missed medicine and from the normal distribution rates of suspension and

expulsion from school for physically aggressive children. These cause-and-effect assumptions, cost assumptions and calculations formulated from a patchwork of multiple sources of data lead us to the conclusion that presently there is insufficient reliable and robust data from which to calculate second-generation (children's) health impacts from children witnessing intimate partner violence and from co-existing witnessing of intimate partner violence and child abuse.

The inter-generational health impacts of intimate partner violence on children is an area in need of further research before the evidence is sufficiently robust to be included in the cost of this violence.

Crime and Delinquency

Two of the ten studies (Australia: Access Economics, 2004; Canada: Zhang et al, 2012) provided an estimate of the cost of crime perpetrated by children/adults because of parental exposure to intimate partner violence. The study from Australia includes costs due to crimes attributed to children witnessing intimate partner violence. An estimate was included for an increased risk of juvenile delinquency and adult criminality. The rationale for inclusion was underpinned with reference to a body of literature reporting 'strong associations' with, principally, **childhood victimisation**. The authors state:

> 'We assume (somewhat arbitrarily) that children witnessing DV are 5 % more likely to commit juvenile crime and 3 % more likely to commit adult crime. Further research is required to establish these proportions more accurately.' (Access Economics 2004:49)

Table 13.2.5.1: Methods employed for estimating second-generation crime and delinquency costs

Study	Unit Cost	Unit Cost Data Source	Multiplier	Multiplier Data Source
Australia (Access Economics 2004)	Unit cost per crime category (includes property damage, medical costs, lost productivity and intangible costs).	Research, Australian Institute of Criminology.	Proportion of alleged offences by crime category committed by juveniles. 5 % of juvenile crimes are attributable to domestic violence. 3 % of adult crimes are attributable to domestic violence.	Australian Institute of Criminology. Author's assumption of proportion because of IPV.
Canada (Zhang et al 2012)	Average cost per property crime.	General Safety Survey.	12 % of children exposed to IPV committed delinquent acts against property.	National Longitudinal Survey of Children and Youth (NLSCY).

The estimations of the proportion of crimes attributable to a child witnessing intimate partner violence were based on many assumptions of attributable proportions. The authors (Access Economics) stress the 'considerable uncertainty' of second-generation costs and extreme caution in interpreting the estimates. The literature is weak in disentangling witnessing from direct victimisation and for accounting for co-existing confounding variables.

The study undertaken in Canada (Zhang et al, 2012) estimated the cost of juvenile delinquency in terms of acts of damage to property as a result of witnessing intimate partner violence. This study drew on the National Longitudinal Survey of Children and Youth (NLSCY) (Dauvergne and Johnson 2001) from which it was estimated that 12 % of children exposed to parental intimate partner violence 'committed delinquent acts against property as a result of the exposure' (2012:74). The child/youth respondents were not asked for number of events so it was assumed that one act per child/young person reporting was carried out.

The average value of property crimes reported to the General Safety Survey was used to ascribe value in monetary terms per occurrence of damage to property, and this total sum was divided by seven, to account for seven years of exposure, to provide the estimate for the reference year. However it is unclear who bears the burden of these costs; it is possible that they were ameliorated through insurance claims and as such would count as a public cost. This is probably a more robust estimation of child exposure/delinquency association, nevertheless, although some confounding variables (age, gender, parental educational attainment, family structure and/or household income) were accounted for, the strength of the causal relationship remains open to question. Therefore until any new research becomes available robustly establishing a causal association between witnessing

parental intimate partner violence and juvenile and/or adult criminality/delinquency the associations are too tenuous to be presently recommended for economic impact analysis.

13.3 EU-wide data

13.3.1 Survey to Measure the Extent of Intimate Partner Violence in the EU-28

In order to support the estimation of the cost of intimate partner violence, it is necessary to have quality information as to the extent, frequency and severity of this violence. While the FRA Survey is a step towards the collection of such data, its sample size and methodology mean that the necessary data do not yet exist. There is currently insufficient data to robustly cost the impact of intimate partner violence separately for each EU-28 Member State.

There is a need for a larger, more methodologically robust survey of gender-based violence in the EU-28.

13.3.2 Administrative Data on the Use of Specialist, Health and Legal Services

In order to support the estimation of the cost of intimate partner violence, it is necessary to have good quality information as to the use of specialist, health and legal services. While there have been important developments in this field, there is still a need for much further provision of quality administrative data on the extent to which these services are utilised as a consequence of intimate partner violence, if there is to be routine effective costing of the impact of this violence.

14. Conclusions

The impact of gender-based and intimate partner violence on the economy and society is high. These costs are borne not only by individuals but also the whole society. This violence is detrimental to the economy in lost working time due to injuries. It drains resources from services for which the costs are borne publicly or collectively.

The study provides a review and analysis of the methodologies that have been used to estimate the economic cost of gender-based and intimate partner violence, in order to identify the state of the art methodology. The study reviewed studies that had been conducted in the EU and comparable countries in the OECD, with additional consideration of comparative studies. They were evaluated using the criteria of comprehensiveness of coverage; robustness, replicability and simplicity; and the methods and feasibility of finding the relevant data. The methods of obtaining data included expert judgement, victim recall, surveys, administrative data, population data sets, studies of similar harms and specialised research projects.

The review identified three main types of costs: lost economic output, services, and the physical and emotional impact on the victim. The category of services was sub-divided into: health services, criminal justice system, civil legal sector, social welfare and specialised services. In all cases the identification of relevant data is a challenge.

Following the identification of the recommended methodology, this was applied to a case study country. The UK was chosen on the grounds that it has one of the most developed statistical systems and sources of quantitative data on gender-based and intimate partner violence in the EU.

This detailed case study will not be easy to replicate in other countries. This is largely because the data requirements are high and the field of gender-based and intimate partner violence has insufficient data collected to meet these requirements in most countries. It is not sensible to offer a simple spread-sheet into which people in other countries can plug in their data, because this data is rarely easily available, requiring primary research for its collection.

We therefore propose that, in the absence of this research, the best way to identify the costs of gender-based and intimate partner violence against women and men in other EU-28 Member States is to extrapolate from the UK costs, proportionate to the size of the population in that country as compared with the UK.

The study is focused on providing an estimate of the cost of intimate partner violence against women, but includes additional estimates of the cost of gender-based violence against women and also of intimate-partner and gender-based violence against both men and women. While the focus is on the intimate partner violence against women, the others are included because they are relevant to the configuration of policy fields in some countries and to follow the practice of providing gender disaggregation of significant statistics.

The findings from this UK case study are that the cost of: intimate partner violence against women is EUR 13 732 068 214; of intimate partner violence against women and men is EUR 15 374 525 253; the cost of gender-based violence against women is EUR 28 418 772 278; and the cost of gender-based violence against women and men is EUR 32 557 739 819. Extrapolated for each Member State the cost of intimate partner violence to the EU was EUR 122 177 800 785, of which EUR 109 125 574 091 was because of intimate partner violence against women. The cost to the EU of gender-based violence against women was EUR 225 837 418 768, and this represented 87 % of the total cost of gender-based violence to the EU which was estimated to be EUR 258 728 837 747.

The spending on specialised services to mitigate the harms and prevent the repetition of the violence is 3 % of the cost of intimate partner violence against women. Specialist services, as discussed in Section 8.1, are immensely beneficial to women. The cost of specialised services is very small relative to the cost to economy and society. The loss to the economy, through lost output as a result of injuries, is around 12 %. Services, especially criminal justice, make up around 30 % of the cost of the violence. Just under half the cost is a result of the public estimation of the value placed on the physical and emotional impact that the violence causes. The proportion of the expenditure on this violence that is linked to focused attempts at mitigation and prevention is currently small.

The conclusion drawn here is that gender-based and intimate partner violence place large costs on economy and society. It is likely that an increase in the currently small amount spent on prevention and mitigation of harms, by increasing spending on specialised services, would lead to a decrease in the extent and impact of the violence.

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Case Study Annex

Introduction

Analysis of the economic costs of violence enables its wider impact on economy and society to become more visible. This case study applies the analysis developed in the main report, following critical review of the options, to the case of the UK, centred on 2012.

The costs are divided into three types: lost economic output; use of public services; and the public valuation placed on the physical and emotional impact on victims.

The study calculates costs for intimate partner violence (physical and sexual violence perpetrated by a current or former partner) against women and additionally offers calculations of the broader category of gender-based violence (physical and sexual violence perpetrated by either an intimate partner or other family member ([1]) together with sexual violence by any perpetrator) and extends the analysis to men as well.

In addition to the estimate for the UK, we offer estimates for other Member States of the EU, which are based on extrapolation from the UK proportionate to population size ([2]).

The case study contains the following sections:

1. UK statistical data and cost-benefit methodology;
2. Measuring the extent of gender-based and intimate partner violence;
3. Adjustments for valuations over time and space;
4. Measuring the costs:
   - 4.1 lost economic output;
   - 4.2 public services (health; criminal justice system; civil legal sector; social welfare (housing and child protection); specialised victim services;
   - 4.3 value placed by the public on the physical and emotional impact on victims;
5. Summarising the costs;
6. Extrapolation of UK costs to other EU Member States;
7. Conclusion.

1. UK Statistical Data and Cost-Benefit Methodology

The UK has one of the most developed statistical systems in general and on issues of gender-based violence, in particular in the EU if not the world. This means that more relevant data is available than is the case in many other countries; however, there are still some data gaps (see below). The UK has also a well-developed methodology for the cost-benefit analysis of government policy initiatives, which aligns the methodology of cost-benefit analysis between government departments. The purpose of cost-benefit analysis is to compare costs and benefits for different policy options so as to deliver the best value for money spent on policy initiatives for citizens. Hence, consistency of methodology across government departments is important if this fundamental aim of cost-benefit analysis is to be achieved. The UK methodology is outlined in the Treasury Green Book ([3]) and is developed in more detail by relevant Departments. In the UK, the most relevant Department for gender-based violence is currently the Home Office, since it holds the lead for developing policy on violence against women and girls ([4]).

This study follows the Home Office methodology to measure the cost of crime. The Home Office published its first methodology to cost crime in 2000 ([5]). This drew on the methodology used by the Department for Transport, which had conducted research projects to estimate the impact and cost of injuries sustained in road

([1]) Where data to support the distinction within 'domestic violence' between intimate partners and other family members is missing, data for 'domestic violence' is treated as data concerning intimate partners.

([2]) Eurostat (2014), *Population estimates*. Available at: http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tps00001

([3]) HM Treasury (2014), *The Green Book: Appraisal and Evaluation in Central Government*. Available at: https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-governent

([4]) Home Office (2014), *Ending violence against women and girls in the UK*. Available at: https://www.gov.uk/government/policies/ending-violence-against-women-and-girls-in-the-uk

([5]) Brand, S., Price, R. (2000), *The Economic and Social Costs of Crime*, London: Home Office, Home Office Research Study 217.

traffic accidents ([6]). The Women and Equality Unit, then part of the Department of Trade and Industry, commissioned a report on the cost of domestic violence in 2004 ([7]), which drew on the Home Office methodology (and thus on that of the Department for Transport). In 2005 the Home Office revised its methodology ([8]), replacing estimates centred on injuries sustained in road traffic accidents with estimates developed in the health field. Since this case study is focused on the UK, and the Home Office has the policy lead on violence against women, we have adopted the new Home Office methodology for this report. One difference between the estimates in this report from those in Walby (2004), carried out for the Women and Equality Unit of the Department of Trade and Industry, is the shift from estimates based on the number of victims to that of the number of violent incidents in some parts of the analysis, in order to align the methodology with the new Home Office methodology. Since intimate partner violence is often a repeat crime, this change has had the consequence of increasing some of the costs relative to Walby (2004, 2009). However, another change, to health-orientated estimates of the value of the public value of physical and emotional impact on victims, has decreased this latter cost relative to Walby (2004, 2009).

([6]) Department for Transport, Local Government and the Regions (2001), *Highway Economics Note No 1: 2000 Valuation of the Benefits of Prevention of Road Accidents and Casualties*, London: Department for Transport, Local Government and the Regions; Galasko, C. S. B., Murray, P., Hodson, M., Tunbridge, R. J., Everest, J. T. (1986), *Long-term disability following road traffic accidents*, Project report 59, Crowthorne: Transport and Road Research Laboratory; Hopkin, J. M., Murray, P. A., Pitcher, M., Galasko, C. S. B. (1993) *Police and hospital recording of non-fatal road accident casualties: a study in Greater Manchester.* Available at: http://www.trl.co.uk/reports-publications/trl-reports/road-safety/report/?reportid=5962; O'Reilly, D., McMahon, K. (1993), *Valuation of the reduction in risk of road accidents, 1992 revision,* in Road Accidents Great Britain 1992, London, Department of Transport; Murray P. A., M. Pitcher and C. S. B. Galasko (1993), *The Cost of Long-Term Disability from Road Traffic Accidents Four Year Study — Final Report,* Project Report 106, Crowthorne: Transport and Road Research Laboratory; McMahon, K. (1995), Valuation of Road Accidents 1994, London, HMSO.

([7]) Walby, S. (2004), *The Cost of Domestic Violence,* London, Department of Trade and Industry, Women and Equality Unit. Available at: http://www.devon.gov.uk/de/text/cost_of_dv_report_sept04.pdf;

([8]) Dubourg, R., Hamed, J., Thorns, J. (2005), The economic and social costs of crime against individual and households 2003/04, Home Office Online Report 30/05. Available at: http://webarchive.nationalarchives.gov.uk/20100413151441/http:/www.homeoffice.gov.uk/rds/pdfs05/rdsolr3005.pdf; Home Office (2011), *Revisions made to the multipliers and unit costs of crime used in the Integrated Offender Management Value for Money Toolkit*. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/118042/IOM-phase2-costs-multipliers.pdf

2. Measuring the Extent of Gender-Based and Intimate Partner Violence (for consistency reasons)

Information on the extent of gender-based violence is primarily derived from the Crime Survey for England and Wales (CSEW). In addition to this CSEW survey data of living victims, we used data from Homicide Statistics ([9]). The UK is unique in having survey data on the number of incidents, by crime classification, by injury, by the gender of the victim, by relationship with the perpetrator, which is collected annually ([10]). The CSEW is a large (c. 40 000 respondents), nationally representative, 'victim' survey, conducted annually, which asks people what crimes were committed against them in the previous year. The survey has two parts: one in which the questions are asked 'face-to-face' (computer-assisted personal interview — CAPI); and a second in which the respondent answers the questions directly onto a computer, thereby achieving confidentiality (computer-assisted self-interviewing — CASI). Although all surveys are expected to under-report violence, since respondents may not wish to re-tell painful or sensitive memories, the more confidential method in which responses are not spoken to an interviewer but written into a computer generates a higher disclosure rate by victim-survivors. These higher disclosure rates are regarded by the Home Office and by ourselves as the better estimates. We therefore use the face-to-face CAPI to generate our estimate of the number of victim-survivors; and the self-completion CASI to generate our estimates of the frequency and severity of the incidents of violence by gender. The comparison of the findings of the different methods in the same survey population found that 3.8 times as many victims disclosed domestic violence to the self-completion module as compared to those disclosed under face-to-face questioning ([11]). In order to ascertain the profile of the incidents, by frequency, severity, gender of victim and relationship with perpetrator we applied the findings from the face-to-face method. We take an average over six years in order to increase the sample

([9]) ONS (2014a), Section 2: Homicide, in Focus on: Violent Crime and Sexual Offences, 2012/13, *Appendix table 2.06: Offences currently recorded as homicide for victims aged 16 and over by relationship of victim to principal suspect and sex of victim, 2002/03 to 2012/13.* Available at: http://www.ons.gov.uk/ons/dcp171776_352260.pdf

([10]) The sample size of the FRA survey was too small to collect data on incidents accurately, nor is it annual.

([11]) 702 000 victims of domestic violence in England and Wales in 2012/3: see Walby, S., Towers, J., Francis, B. (2014), 'Mainstreaming domestic and gender-based violence into sociology and the criminology of violence' *Sociological Review* (accepted for publication).

size to ensure that these disaggregations are robust. To produce the best estimates of the frequency and distributions of forms of violence for this report we have drawn on a special analysis performed on the CSEW to our specification ([12]) in order to follow the Home Office methodology more closely than is possible using published data alone ([13]). Through this special analysis we were able to disaggregate by injury, gender and by relationship to the perpetrator for incidents, providing more detail than is available in routine government statistical publications ([14]). Following Home Office methodology the number of incidents per victim coded as crimes was capped at five. This will underestimate impacts and costs, particularly of gender-based and intimate partner violence which commonly has higher levels of repeated victimisation.

The violent incidents are sub-divided by crime classification: homicide, wounding (serious and other) and common assault (no physical injury) jointly constitute 'violence against the person (VAP)'; sexual violence (both rape and other sexual assault, but excluding sexual threats and exposure) ([15]). Data limitations mean it is necessary to aggregate some crime categories: serious and other wounding into wounding; rape and sexual assault into sexual violence, in order to avoid small numbers.

The violent incidents are disaggregated by whether they are 'gender-based' (either physical violence committed by a domestic partner or sexual violence by any perpetrator), by whether the perpetrator was a (current or former) intimate partner, and by gender.

([12]) Towers, J., Walby, S., Francis, B. (2014), *Estimates of the amount of intimate partner violence and gender-based violence, disaggregated by gender, reported to the Crime Survey for England and Wales, 2011/2*. Working Paper from ESRC Project, Is the rate of domestic violence decreasing or increasing? A re-analysis of the Crime Survey for England and Wales, Lancaster University, UK. See also: Walby, S., Towers, J., Francis, B. (2014), Mainstreaming domestic and gender-based violence into sociology and the criminology of violence, *Sociological Review* (accepted for publication).

([13]) The data are drawn from the main questionnaire, not from the specialised self-completion module on intimate violence despite its better estimate of the number of victims, since the latter does not have robust data on incidents (which is the unit of measurement used by the Home Office to cost crime).

([14]) ONS (2013b) Section 4: Intimate Violence in *Focus on: Violent Crime and Sexual Offences, 2011/12.* Available at: http://www.ons.gov.uk/ons/dcp171778_298904.pdf.

([15]) The Home Office methodology (Dubourg et al (2005) op cit [footnote 8]), drawing on Dolan et al (2005), aggregates the categories 'serious wounding' and 'other wounding' into a single category of 'wounding'. The Home Office aggregates rape and sexual assault into a single category of 'sexual offences' based on the relative frequency of rape and sexual assault. Dolan, P., Loomes, G., Peasgood, T., Tsuchiya, A. (2005), Estimating the intangible victim costs of violent crime, *British Journal of Criminology,* 45(6): 958–976. Available at: http://pauldolan.co.uk/wp-content/uploads/2011/07/estimating-the-intangible.pdf

England and Wales account for most but not all of the population of the UK, which additionally includes Scotland and Northern Ireland. Hence we made a proportionate adjustment based on population size to offer estimates extrapolated to the UK level ([16]).

The data is provided in the Table below. There were an estimated 1 909 259 incidents of gender-based violence per annum, of which 1 125 248 (59 %) were intimate partner violence. The average number of incidents per annum was calculated from a six-year analysis, to 2012/13, of the CSEW (Towers, Walby and Francis (2014) op cit [footnote 12]). Intimate partner violence represents 62 % of gender-based violence against women and 47 % of gender-based violence against men.

([16]) ONS (2014) *Annual Mid-year Estimates, 2013.* Available at: http://www.ons.gov.uk/ons/dcp171778_367167.pdf; ONS (2014b) *User Guide to Crime Statistics for England and Wales*, ONS; ONS (2013c), Annual Mid-year Population Estimates, 2011 and 2012. Available at: http://www.ons.gov.uk/ons/rel/pop-estimate/population-estimates-for-uk--england-and-wales--scotland-and-northern-ireland/mid-2011-and-mid-2012/stb---mid-2011---mid-2012-uk-population-estimates.html

Table 2.1: Estimated incidents of gender-based and intimate partner violence, by gender and by crime category, UK[1]

Category of Crime	Gender-based Violence[2]		Intimate Partner Violence[2]	
	women	men	women	men
Homicide[3]	**125**	**52**	**101**	**25**
Gender distribution: homicide	71 %	29 %	80 %	20 %
Wounding	**424 118**	**104 040**	**344 462**	**56 080**
Gender distribution: wounding	80 %	20 %	86 %	14 %
Common assault	**761 300**	**272 627**	**508 265**	**133 467**
Gender distribution: common assault	74 %	26 %	79 %	21 %
Total VAP[4]	**1 185 543**	**376 719**	**852 828**	**189 572**
Gender distribution: VAP	76 %	24 %	82 %	18 %
Sexual Violence[5]	**322 654**	**24 343**	**82 848**	**0**
Gender distribution: sexual violence	93 %	7 %	100 %	0 %
Total wounding and sexual violence	746 772	128 383	427 310	56 080
	85 %	15 %	88 %	12 %
All incidents[6]	**1 508 197**	**401 062**	**935 676**	**189 572**
Gender distribution: all incidents	79 %	21 %	83 %	17 %

[1] Number of estimated UK incidents extrapolated from England and Wales to UK, based on population estimates (Source: Towers, Walby and Francis (2014) op cit [footnote 12]) and multiplied by the ratio (3.8) of the number of victims disclosing domestic violence between the face-to-face and self-completion surveys.

[2] The estimated number of incidents in the UK, from the face-to-face survey, of gender-based violence against women were: 1 11 610 wounding, 200 342 common assault, and 84 909 sexual violence; and against men were: 27 379 wounding; 71 744 common assault males and 6 406 sexual violence. The estimated numbers of incidents in the UK, from the face-to-face survey, of intimate partner violence against women were: 90 648 wounding, 133 754 common assault and 21 802 sexual violence; and against men were: 14 758 wounding; 35 123 common assault males and 0 sexual violence. (Source: Towers, Walby and Francis (2014) op cit [footnote 12]). The numbers of incidents were multiplied by the ratio (3.8) of number of victims disclosing domestic violence between the face-to-face and self-completion surveys.

[3] The six-year average of the number of domestic homicides against women were 125 and against men were 52; and of intimate partner homicide were 101 against women and 25 against men. Domestic homicides represented 28 % of all homicides (n = 630) and intimate partner homicide represented 20 % of all homicides. 71 % of domestic homicides were intimate partner homicide (Source: (ONS 2014a), Appendix Table 2.06, op cit [footnote 9]).

[4] Violence against the Person (VAP) is the sum of homicide, wounding, and common assault.

[5] Sexual Violence includes both rape and sexual assault but excludes threats and exposure.

[6] In total there were an estimated 1 909 259 incidents of gender-based violence, of which 1 125 248 (59 %) were intimate partner violence.

3. Adjustments for Valuations over Time and Place

The case study costs were centred on 2012 ([17]).

The UK Treasury ([18]) specifies how costs should be adjusted to account for a change in values over time; costs are normally adjusted to account for inflation and sometimes adjusted for changes in income per head (GDP). Previous estimates of costs adjustments for changes in GDP were only applied for estimates involving the public's stated preferences of willingness-to-pay estimates for physical and emotional impact on victims. This case study has not adjusted previous valuations for changes GDP so that a consistent method for updating costs was applied across cost items and also because in the intervening period (2003–12) economies have both grown and decreased. Monetary valuations established for years previous to 2012 were adjusted to present day prices via the Bank of England Inflation Calculator (BoE 2014 ([19]). For example, unit costs for the CJS were first estimated in 2003/04 prices and, following UK government practice, are adjusted to take account of the rate of inflation as provided by the Bank of England Inflation Calculator ([20]); in our case, from 2003 to 2012 when it averaged 3.2 %. We have not made adjustments in relation to 'discount rates', following the practice in the 'global burden of disease' methodology ([21]).

The UK costs are initially calculated in GBP. These are translated into EUR using the European Commission's calculator ([22]).

The UK is the preferred geographic category in which to present data. Since much of our data is for either 'England and Wales' (e.g. CSEW) or for England, we make adjustments to our data sources based on population proportions, as shown in the table below ([23]). At mid-point 2012 the UK was approximately 19.09 % larger than England and 12.62 % larger than England and Wales. To extrapolate 'England 2012' data to the UK, figures were multiplied by 1.190 888; to extrapolate from 'England and Wales 2012' to the UK, figures were multiplied by 1.126 171.

Table 3.1: Population of countries of the UK mid-2012[1]

Total UK population	England and Wales	England	Scotland	Wales	Northern Ireland
63 705 000	56 567 800	53 493 700	5 313 600	3 074 100	1 823 600
% of UK population	88.8 %	83.97 %	8.34 %	4.83 %	2.86 %

[1] Source: Population Statistics, ONS (2013c) op cit [footnote 16].

([17]) Data from the Crime Survey for England and Wales and Police Recorded Crime Statistics straddle years. Many organisations, following the UK tax/business cycle year, publish materials and annual reports that also straddle calendar years. The reference year for the CSEW is complex because it is a rolling research study that asks about experiences of crime in the preceding twelve months, for example the reference year of the 2011/12 CSEW includes incidents that took place between April 2010 and June 2012 (TNS BRMB (2012), The 2011/12 *Crime Survey for England and Wales, Technical Report, Volume One,* TNS BRMB and ONS. Available at: http://www.ons.gov.uk/ons/taxonomy/index.html?nscl=Crime+and+Justice
Furthermore we have produced a six-year average of numbers of incidents. For ease of comprehension across data sources, the reference year of the extent of violence for this UK case study cost estimate is tied to 2012. Similarly, many annual financial accounts straddle calendar years reporting on expenditures for the period 2011/12 and 2012/13. A number of costing methodologies employ complexly modelled unit costs. On occasion it is necessary to adjust unit costs of services to reflect present day prices; the price reference year for this UK case study was tied to 2012.

([18]) HM Treasury (2014) The Green Book: Appraisal and Evaluation in Central Government. Available at: https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-governent

([19]) Bank of England (2014), *Inflation calculator.* Available at: http://www.bankofengland.co.uk/education/Pages/resources/inflationtools/calculator/index1.aspx

([20]) Bank of England (2014), op cit (footnote 19).

([21]) The HOOR 30/05 (Dubourg et al 2005:S3) applied a discount rate (3.5 %) for lost output extending over several months and years. The Green Book (HM Treasury 2014) recommends applying discount rates because of 'social time preference' — a conceptual premise that 'society as a whole, prefers to receive goods and services sooner rather than later, and to defer costs to future generations' (HM Treasury 2014:24). Discounting future losses for social time preference assumes that the relative value of goods/services will be less over time and the discount rate converts future costs and benefits to present values (HM Treasury 2014). However, estimating the costs of health losses and related lost economic output is not concerned with goods/services but the economic value of days of lost productivity through health losses resulting from intimate partner and gender-based violence. Following the methodology of the global burden of disease we have not applied discount rates in acknowledgement that the value of future losses should not be assessed to have a lesser value and we present future losses in today's (2012/13) 'real terms'. Thus this is an underestimate as the value of economic output most probably will increase. We have not adjusted future losses for future inflation or future discounting.

([22]) Europa (2014), *European Commission Conversion Rates* http://ec.europa.eu/budget/contracts_grants/info_contracts/inforeuro/inforeuro_en.cfm

([23]) The UK population was estimated to be 6 ,705 000 mid-2012 (ONS 2013c); England represented 83.97 %, Scotland 8.34 %, Wales 4.83 % and Northern Ireland 2.86 % of the UK population. Collectively 'England and Wales' represented 88.8 % (of the UK population, (ONS (2013c) op cit [footnote 16]).

4. Measuring lost economic output, public service use and the value placed on the physical and emotional impact on victims

Following the Home Office methodology, the study uses a 'unit cost' approach, estimating the cost of each incident by adding together, for each crime type, the estimated unit costs for lost economic output, utilisation of the health system and criminal justice system, together with an estimate of the value that the public places on avoiding such injury.

In addition to these standard Home Office costs, we include some costs that are specific to victims of domestic violence: specialised civil legal services (for example, protection orders) and specialised victim services (for example, refuges/shelters), following the methodology devised by Walby (2004) for the UK Women and Equality Unit, Department of Trade and Industry, which is widely paralleled in other studies ([24]).

There are further costs that are not included at all or not included sufficiently due to the absence of robust quantitative data. These include: long-term health ([25]); mental health ([26]); long-term effects on children ([27]); and the increased likelihood to use social welfare ([28]). Some studies elsewhere have managed to include some of these cost items; but because the UK does not have data to support them, they are not included here.

4.1 Lost economic output

Violence has a detrimental impact on the economy as a consequence of victim/survivors taking time off work because of their injuries. The more severe the incident, the more time is taken off from work and the greater the lost economic output. There are probably further losses associated with reduced productivity while at work, but there is not sufficiently robust data on this in the UK to justify including this in these estimates.

We utilise established Home Office (HO) estimates ([29]) of the lost economic output for incidents of each type of violent crime. These HO estimates are calculated from data on the extent of injuries to physical and psychological health (called health state outcomes) for each crime type (drawn from the CSEW) and the amount of working time that is usually lost when people have these poor health states (drawn from the CSEW and the health literature). To apply this methodology to gender-based and intimate partner violence, it is necessary to multiply the unit cost by the num-

([24]) Access Economics (2004), *The Cost of Domestic Violence to the Australian Economy: Part 1,* Australia, Australian Government's Office of the Status of Women. Available at: http://www.fahcsia.gov.au/sites/default/files/documents/05_2012/cost_of_dv_to_australian_economy_i_1.pdf; Envall, E., Eriksson, A. (2006), *Costs of violence against women (English Summary). A*vailable at: http://www.gender-budgets.org/index.php?option=com_joomdoc&view=documents&path=resources/by-theme-issue/sectoral-application-of-grb/costs-of-violence-against-women&Itemid=822; Helweg-Larsen, K., Kruse, M., Sørensen, J., Brønnum-Hansen, H. (2010), *The cost of violence — Economic and personal dimensions of violence against women in Denmark,* Denmark, National Institute of Public Health, University of Southern Denmark & Rockwool Fund Research Unit. Available at: http://www.si-folkesundhed.dk/Udgivelser/B%C3%B8ger%20og%20rapporter/2010/Voldens_pris.aspx; Nectoux, M., Mugnier, C., Baffert, S., Albagly, M., Thélot, B. (2010), Évaluation économique des violences conjugales en France (An Economic Evaluation of Intimate Partner Violence in France), *Santé Publique* 22(4): 405–416; Piispa, M., Heiskanen. M. (2001), *The Price of Violence: The Costs of Men's Violence against Women in Finland*, Finland, Statistics Finland and Council for Equality; Stern, S., Fliedner, J., Schwab, S., Iten, R. (2013), *Costs of Intimate Partner Violence: Summary*, Federal Office for Gender Equality (FOGE), Berne. Available at: http://www.ebg.admin.ch/dokumentation/00012/00196/index.html?lang=en; Zhang, T., Hoddenbagh, J., McDonald, S., Scrim, K. (2012), *An Estimation of the Economic Impact of Spousal Violence in Canada 2009,* Department of Justice Canada, Ottawa. Available at: http://www.statcan.gc.ca/pub/85-002-x/2013001/article/11766/11766-3-eng.htm#r16.

([25]) World Health Organization (WHO) (2013), *Global and regional estimates of violence against women: prevalence and health effects of intimate partner violence and non-partner sexual violence,* Geneva. Available at: http://apps.who.int/iris/bitstream/10665/85239/1/9789241564625_eng.pdf; Sillito, C. (2012) Physical health effects of intimate partner abuse, *Journal of Family Issues* 33(11): 1520–1539. Available at: http://jfi.sagepub.com/content/33/11/1520.short; Black, M. C., Basile, K. C., Breiding, M. J., Smith, S. G., Walters, M. L., Merrick, M. T., Chen, J., Stevens, M. R. (2011), *The National Intimate Partner and Sexual Violence Survey (NISVS): 2010 Summary Report.* Atlanta, Georgia: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention. Available at: http://www.cdc.gov/ViolencePrevention/pdf/NISVS_Report2010-a.pdf;

([26]) Mental Health impacts are included in health sector costs and the cost of pain and suffering, although only partially.

([27]) Zhang et al (2012) attempt to cover the impact on children, however, the estimation of second-generation costs are not yet sufficiently robustly developed to include here.

([28]) This requires data on prior history of domestic violence alongside welfare payment information, which is not available in the UK but has been used elsewhere e.g. Access Economics (2004).

([29]) HOOR 30/05 (Dubourg et al (2005) op cit [footnote 8]). This methodology applies an estimated value, based on average UK daily output per head, of lost economic output from incapacity to work for each type of violent crime. The emotional and physical impact of each type of crime was formulated from simulated statistical probability modelling of the prevalence of physical health injuries reported to the CSEW and prevalence of psychological health injuries identified in the research literature. In the absence of available data judgements were made about the likely duration (in days) of incapacity to work for each health state.

ber of incidents of each type of violence. This is drawn for living victims from the CSEW (our customised analysis by Towers, Walby and Francis (2014) op cit (footnote 12) and for homicide victims from the police recorded crime statistics on domestic and intimate partner homicides (ONS 2013a op cit, footnote 9). The cost to the UK economy in lost economic output in 2012 because of gender-based violence was estimated to be EUR 4 213 841 519 (Table 4.1.1), 87 % of which was the impact of gender-based violence against women (EUR 3 666 919 341); the cost of this lost economic output attributable to intimate partner violence was EUR 1 784 655 464 of which 89 % or EUR 1 595 784 962 was the impact of intimate partner violence against women.

Table 4.1.1: Cost of lost economic output of gender-based and intimate partner violence, UK.

		GENDER-BASED VIOLENCE (GBV)				
Crime category	**2012 unit cost[1] in EUR**	**Incidents Women**	**Incidents Men**	**GBVAW Cost in EUR**	**GBVAM Cost in EUR**	**GBV Total Cost in EUR**
Homicide	757 133	125	52	94 641 625	39 370 916	134 012 541
Wounding	1 957	424 118	104 040	829 998 926	203 606 280	1 033 605 206
Common assault	451	761 300	272 627	343 346 300	122 954 777	466 301 077
Sexual Violence	7 435	322 654	24 343	2 398 932 490	180 990 205	2 579 922 695
GBV Total		**1 508 197**	**401 062**	**3 666 919 341**	**546 922 178**	**4 213 841 519**
		INTIMATE PARTNER VIOLENCE (IPV)				
Crime category	**2012 unit cost[1] in EUR**	**Incidents Women**	**Incidents Men**	**IPVAW Cost in EUR**	**IPVAM Cost in EUR**	**IPV Total Cost in EUR**
Homicide	757 133	101	25	76 470 433	18 928 325	95 398 758
Wounding	1 957	344 462	56 080	674 112 134	109 748 560	783 860 694
Common assault	451	508 265	133 467	229 227 515	60 193 617	289 421 132
Sexual Violence	7 435	82 848	0	615 974 880	0	615 974 880
IPV Total		**935 676**	**189 572**	**1 595 784 962**	**188 870 502**	**1 784 655 464**

[1] From Table 3.2 HOOR 30/05, Dubourg et al 2005, S3:40 ([30]) and adjusted for inflation averaged at 3.2 % BoE 2014 ([31]) to 2012 and converted from GBP to EUR based on mid-2012 conversion rate ([32]).

4.2.1 Health Services

Victim/survivors of gender-based and intimate partner violence may use health services to treat the physical and mental injuries that result from the violence. The health system has information on the extent and cost of the treatment that is on average provided to address each of the types of health states that typically follow specific injuries. Data on the extent to which victim/survivors are injured can be obtained from the CSEW; however, only a proportion of those injured will seek and receive medical assistance, so the estimates should not be based solely on the level of injury but also include estimates of the proportion seeking assistance. We follow current HO methods ([33]). This method, modelled on the reported prevalence of injuries per category of violent crime reported to the Crime Survey for England and Wales and found in the research literature and health service treatment costs provides an assumed average health treatment cost for each category of crime. The cost of gender-based violence and intimate partner violence to health services in the UK in 2012 was EUR 1 942 807 516 and EUR 1 166 765 238 respectively. Violence against women represented 83 % of the total cost of health services for gender-based violence (EUR 1 613 448 832) and 87 % of the cost for intimate partner violence (EUR 1 012 196 229).

([30]) Dubourg et al (2005) op cit [footnote 8].
([31]) Bank of England (2014), op cit (footnote 19).
([32]) Europa (2014), op cit (footnote 22).

([33]) As noted earlier, since 2005 HO methods are centred on health (Dubourg et al 2005), unlike the 2000 HO methods that were centred on research for the Department of Transport (Brand and Price 2000). While the focus on health is appropriate, the new HO method of data collection from the CSEW tends to limit the utilisation of healthcare to a single episode thereby underestimating the treatment costs of more serious injuries. The extent of injuries for each crime type is discovered from the CSEW. (The extent of injuries could be made more accurate by examining the specific injuries from gender-based and intimate partner violence, which are likely to additionally include injuries to mental health which are not included, except for rape.) The extent to which injuries lead to which health treatments is derived from the health literature and expert assessment.

Table 4.2.1.1: Cost of health treatment of gender-based and intimate partner violence, UK.

		GENDER-BASED VIOLENCE (GBV)				
Crime category	**2012 unit cost[1] in EUR**	**Incidents Women**	**Incidents Men**	**GBVAW Cost in EUR**	**GBVAM Cost in EUR**	**GBV Total Cost in EUR**
Homicide	1 292	125	52	161 500	67 184	228 684
Wounding	2 263	424 118	104 040	959 779 034	235 442 520	1 195 221 554
Common assault	207	761 300	272 627	157 589 100	56 433 789	214 022 889
Sexual violence	1 537	322 654	24 343	495 919 198	37 415 191	533 334 389
GBV Total		**1 508 197**	**401 062**	**1 613 448 832**	**329 358 684**	**1 942 807 516**
		INTIMATE PARTNER VIOLENCE (IPV)				
Crime category	**2013 unit cost[1] in EUR**	**Incidents Women**	**Incidents Men**	**IPVAW Cost in EUR**	**IPVAM Cost in EUR**	**IPV Total Cost in EUR**
Homicide	1 292	101	25	130 492	32 300	162 792
Wounding	2 263	344 462	56 080	779 517 506	126 909 040	906 426 546
Common assault	207	508 265	133 467	105 210 855	27 627 669	132 838 524
Sexual violence	1 537	82 848	0	127 337 376	0	127 337 376
IPV Total		**935 676**	**189 572**	**1 012 196 229**	**154 569 009**	**1 166 765 238**

[1] From HOOR 30/05, Table 2.1 (S1:7; S2:19) and Table 4.4 (S3:43), Dubourg et al 2005 ([34]) and adjusted for inflation averaged at 3.2 % BoE 2014 ([35]) to 2013 and converted from GBP to EUR based on the mid-2012 conversion rate ([36]).

4.2.2 Criminal Justice System

The criminal justice system (CJS) includes: the police (the largest cost), prosecution (Crown Prosecution Service), magistrate and crown courts including the cost of juries, legal aid to fund defence lawyers, probation services and prisons.

In the UK, the Home Office has a developed a methodology (Dubourg et al 2005 ([37]) to cost each of these parts of the CJS so as to estimate the total cost of the CJS typically attached to different types of crime ([38]). The average unit cost to the criminal justice system is formulated per incident of crime reported to the crime survey and thus is weighted according to the probability that an incident would be reported, recorded, investigated and prosecuted. The data from our analysis of the CSEW (Towers, Walby and Francis (2014) op cit [footnote 12]) was used to estimate the costs, however, the services of the criminal justice system are used by a minority of those who have been subject to gender-based or intimate partner violence; nevertheless, they are a significant minority. Data of the number of homicides were obtained Homicide Statistics (ONS (2013a) op cit [footnote 9]).

In addition we add a further sum for the use of police time on domestic conflict that does not appear to cross the crime threshold and is thus not included in home office methodology. This follows the method in Walby (2004) and data from the 43 local police forces reported by HM Inspectorate of Constabulary and Local Authority Expenditures ([39]). This method has two stages: first to estimate the total costs ([40]); second to estimate the costs of no-crime domestic incidents by the proportion estimated to be gender-based violence and intimate partner violence perpetrated against women and men found by our CSEW analysis (Table 2.1). The cost of gender-based violence for the criminal justice system in the UK in 2012 was EUR 4 739 248 003 and the cost of intimate partner violence was EUR 2 428 000 051. The cost of gender-based violence against women represented 84 % (EUR 3 967 839 061) of the costs of gender-based violence and 86 % (EUR 2 098 883 741) of those of intimate partner violence.

([34]) Dubourg et al (2005) op cit (footnote 8).
([35]) Bank of England (2014), op cit (footnote 19).
([36]) Europa (2014), op cit (footnote 22).
([37]) Dubourg et al (2005) op cit (footnote 8).
([38]) Criminal justice systems costs were updated in the 2011 update to HOOR 30/11 (HO 2011), however this update did not provide specific detail of the amended criminal justice systems cost components and therefore it was not possible to include this minor change. So, we applied the HOOR 30/05 CJS costs of crimes.

([39]) Her Majesty's Inspectorate of Constabulary (HMIC) (2012) *Taking time for crime: A study of how police officers prevent crime in the field.* Available at: http://www.hmic.gov.uk/media/taking-time-for-crime.pdf
The HMIC (2012) found that 40 % of police time in England and Wales was spent on crime-related activities concerned with 'Public Safety and Welfare', 11 % of which was for police responding to no-crime 'domestic incidents'.
Department for Communities and Local Government (DCLG) (2013a) *Local Authority Revenue Expenditure and Financing: England 2011–12 Final Outturn, England (Revised).* Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/244478/Revenue_Outturn__RO__2011-12_Final_Statistical_Release__2_.pdf

([40]) To estimate the total cost of police services responding to no-crime domestic incidents an updated version of Walby's 2004 method was employed. This method involves multiplying Total Police Expenditure in the UK for 2012 (GBP 15 157 759 416 adjusted from GBP 12 728 115 000 expenditure in England in 2011/12 [DCLG 2013a Annex A9, op cit (footnote 39)] by multiplying by 1.190 888 and converting to EUR[43] (EUR 19 000 638 566), by the amount of police time spent on Public Safety and Welfare (40 %) multiplied by the proportion of Public Safety and Welfare activity spent on Domestic Incidents (11 %).

Table 4.2.2.1: Cost of criminal justice system, UK.

		GENDER-BASED VIOLENCE (GBV)				
Crime category	**2012 unit cost[1] in EUR**	**Incidents Women[2]**	**Incidents Men[2]**	**GBVAW Cost in EUR**	**GBVAM Cost in EUR**	**GBV Total Cost in EUR**
Homicide	242 087	125	52	30 260 875	12 588 524	42 849 399
Wounding	2 980	424 118	104 040	1 263 871 640	310 039 200	1 573 910 840
Common assault	427	761 300	272 627	325 075 100	116 411 729	441 486 829
Sexual violence	5 536	322 654	24 343	1 786 212 544	134 762 848	1 920 975 392
No-crime costs: EUR 760 025 543		74 %[2]	26 %[2]	562 418 902	197 606 641	760 025 543
GBV Total				**3 967 839 061**	**771 408 942**	**4 739 248 003**
		INTIMATE PARTNER VIOLENCE (IPV)				
Crime category	**2013 unit cost[1] in EUR**	**Incidents Women[2]**	**Incidents Men[2]**	**IPVAW Cost in EUR**	**IPVAM Cost in EUR**	**IPV Total Cost in EUR**
Homicide	242 087	101	25	24 450 787	6 052 175	30 502 962
Wounding	2 980	344 462	56 080	1 026 496 760	167 118 400	1 193 615 160
Common assault	427	508 265	133 467	217 029 155	56 990 409	274 019 564
Sexual violence	5 536	82 848	0	458 646 528	0	458 646 528
No-crime costs: EUR 471 215 837[3]		79 %[2]	21 %[2]	372 260 511	98 955 326	471 215 837
IPV Total				**2 098 883 741**	**329 116 310**	**2 428 000 051**

[1] Based on Table 3.1 (HO OR 30/05, Dubourg et al 2005, S2:22) ([41]) unit costs adjusted for inflation averaged at 3.2 % (BoE 2014 ([42]) to 2012 and converted from GBP to EUR based on the mid-2012 conversion rate ([43]).

[2] Gendered distributions of victim/perpetrator relationships for wounding, common assault and sexual violence presented in Table 2.1 and sourced from Towers, Walby and Francis (2014) op cit (footnote 12), gendered distributions of no-crime domestic incidents assumed to be that of common assault (DV 74 % w/26 % m and IPV 79 % w/21 % m).

[3] 62 % of domestic common assault (n = 1 033 927) was by an intimate partner (n = 641 732), sourced from Towers, Walby and Francis (2014) op cit (footnote 12).

4.2.2.1 Civil Justice System

Victim/survivors of intimate partner violence may use the civil legal sector to assist in disentangling from a violent relationship. This body of law is not criminal law. Relevant civil law includes the use of 'protection orders' that help to keep the perpetrator away from the victim and legal advice about children and property when separating and divorcing. The costs of the civil legal sector are not included in the Home Office methodology, since they are not significant for most crimes. However, they are important for intimate partner violence, and so are included, following the methods used in Walby (2004). Most of the relevant civil legal costs are borne by the state through various legal aid schemes; however, some are borne by the victim/survivor. These are separated in the analysis below.

These civil legal costs concern Civil Legal Representation and Legal Help. Civil Legal Representation covers the costs of legal practitioners to represent an individual and Legal Help covers systems that provide initial advice.

In 2012/13 ([44]) the net Community Legal Service expenditure for England and Wales was GBP 937 611 000 for Civil Representation and GBP 184 026 000 for Legal Help (LSC 2013:65 ([45])). Adjusted for the UK, these costs were estimated to be GBP 1 055 910 317 and GBP 207 244 744 respectively. Costs may be incurred in Private Family Proceedings and/or Public Family Proceedings. This estimate covers the costs of state-funded private family legal costs and public family legal costs of intimate partner violence. To estimate the costs to the Civil Justice System from intimate partner violence the total service expenditure was multiplied by the proportion spent on private and public family civil legal proceedings, multiplied by the proportion of which was incurred because of intimate partner violence.

Private family proceedings deal with peoples' relationships such as divorce, contact with children, and

([41]) Dubourg et al (2005) op cit (footnote 8).
([42]) Bank of England (2014), op cit (footnote 19).
([43]) Europa (2014), op cit (footnote 22).

([44]) The 2011/12 LSC report was not used because information as used here was not available in this disaggregated format. Net total expenditure was slightly larger in 2011/12 than in 2012/13, so using this information does not result in an overestimate.
([45]) Legal Services Commission (LSC) (2013), Legal Services Commission Annual Report and Accounts 2012–13. Available at: http://www.justice.gov.uk/downloads/publications/corporate-reports/lsc/lsc-annual-report-12-13.pdf

domestic violence. In total 48 % of the legal aid civil justice caseload was for private family-related proceedings (45 % was for civil representation and 3 % was for mediation of disputes involving children). In addition, family disputes constituted 26 % of Legal Help assistance (LSC 2013:17). Drawing on Walby (2004:86-7, op cit footnote 7) it was estimated that 29 % of private family proceedings were due to intimate partner violence.

Public family proceedings represent 38 % of the costs of civil representation. Intimate partner violence-related public family proceedings are most often initiated by local authorities for child protection, supervision, care and contact orders. The exact proportion of public family proceedings attributable to intimate partner violence is uncertain, however research has found an overlap of domestic violence and child abuse of 40 % (Walby 2004 ([46]); that 44 % of women subject to domestic violence had social services contact for their children (Humphries and Thiari 2002 ([47]); and that domestic violence was recorded in 50 % of child contact proceeding documents (Hunt and Macleod 2008 ([48]). For this estimate of cost, the conservative estimate that at least 40 % of family public (child protection) proceedings were due to overlapping child abuse and domestic violence was applied.

The Legal Service Commission (2013) does not report on the gender of service users, so we must estimate the gendered distribution by other means. Private family legal support for divorce and protection order proceedings are more likely to be initiated by women (ONS 2014d), and women are more likely to be impacted by public family proceedings for child protection. Whilst it is probable that much of the civil justice service legal sector costs arise because of intimate partner violence from a man to a woman a number of legal proceedings may involve two disputing parties. The gendered distribution of civil justice system costs was estimated based on the CSEW findings that 88 % of incidents of more serious (wounding plus sexual violence) intimate partner violence were against women. The costs of intimate partner violence for civil justice systems services was EUR 405 023 301; EUR 356 420 505 for intimate partner violence against women and EUR 48 602 796 for intimate partner violence against men.

Table 4.2.2.3.1: Civil justice system cost of intimate partner violence, UK

	Expenditure, UK, 2012/13[1] EUR	% Family justice[2]	% IPV [3]	Total cost EUR	Of which, IPVAW[4]	Of which, IPVAM[4]
Private family Civil Representation	1 323 610 551	48 %	29 %	184 246 589	162 136 998	22 109 591
Private family Legal Help	259 786 580	26 %	29 %	19 587 908	17 237 359	2 350 549
Public family proceedings	1 323 610 551	38 %	40 %	201 188 804	177 046 148	24 142 656
Totals				**405 023 301**	**356 420 505**	**48 602 796**

[1] The net Community Legal Service expenditure was estimated to be EUR 1 323 610 551 in the UK in 2012/13 (derived from GBP 937 611 000 for Civil Representation and GBP 184 026 000 for Legal Help in England and Wales (LSC 2013:65 ([49]), op cit [footnote 45]) and adjusted for the UK to be GBP 1 055 910 317 and GBP 207 244 744 respectively).

[2] 48 % of legal aid civil justice expenditure was for private family proceedings, and family disputes constituted 26 % of Legal Help assistance (LSC 2013:17, op cit [footnote 45]).

[3] An estimated 29 % of private family proceedings are attributable to intimate partner violence (Source: Walby (2004), op cit [footnote 7]) and at least 40 % of public family proceedings are attributable to intimate partner violence (Source: Walby (2004), op cit [footnote 7]; Humphries and Thiari (2002) op cit [footnote 46]; Hunt and Macleod (2008), op cit [footnote 47]).

[4] Because these costs are incurred when people are fleeing, disentangling and seeking assistance they are most likely to be tied to more, if not most serious, intimate partner violence, consequently the gender distribution (presented in Table 2.1) of 88 % w/12 % m was applied (Source: Towers, Walby and Francis (2014) op cit [footnote 12]).

([46]) Walby (2004), op cit (footnote 7).

([47]) Humphries, C., Thiara, R. (2002), Routes to safety: Protection issues facing abused women and children and the role of outreach services *(Summary)*. Available at: http://www.womensaid.org.uk/domestic-violence-articles.asp?section=00010001002200390001&itemid=1578

([48]) Hunt, J. Macleod, A. (2008), *Outcomes of applications to court for contact orders after parental separation or divorce*. Available at: http://dera.ioe.ac.uk/9145/1/outcomes-applications-contact-orders.pdf

([49]) The 2011/12 LSC report was not used because information as used here was not available in this disaggregated format. Net total expenditure was slightly larger in 2011/12 than in 2012/13, so using this information does not result in an overestimate.

Self-Funded Civil Legal Costs

Not all the civil legal costs of leaving violent relationships are funded by legal aid. Sometimes the costs are borne by the individual. In England and Wales there were a total of 118 140 divorces in 2012; women were the petitioning party in 65 % of cases and 48 % (n = 57 139) of divorcing couples had at least one child aged under 16 living with the family (ONS 2014a ([50]). Extrapolated to UK there were an estimated 133 046 divorces and 64 348 couples had a child living with one of the parties. This cost estimate draws on Walby's (2004) methodology that at least 29 % couples divorced because of intimate partner violence in the UK in 2012 and that at least half were not legal aid funded. The cost of self-funded civil legal proceedings for England and Wales in 2001 was GBP 72 041 000 for divorce and GBP 63 590 000 for related proceedings (children, finance and property (Walby 2004). In 2012 there were 43 440 (27 %) less divorces than in 2001 (n = 161 580). Adjusting Walby's (ibid) 2001 cost of divorce by 27 % (GBP 19 451 070) to account for the lower number of divorces in 2012 produces a cost of intimate partner violence-related divorce, in 2001 prices, of GBP 52 589 930. Adjusted for inflation the cost of self-funded civil legal proceedings for England and Wales in 2012 was estimated to be GBP 73 658 208 for the cost of divorce and GBP 89 065 064 for the cost of proceedings related to relationship disentanglement other than divorce (total GBP 162 723 272). Extrapolated for the UK population the cost of self-funded civil legal proceedings in 2012 was GBP 183 254 230, and converted to EUR was EUR 229 713 858; EUR 202 148 195 for intimate partner violence against women and EUR 27 565 663 for intimate partner violence against men.

Table 4.2.2.3.2: Self-funded civil legal cost of intimate partner violence, UK 2012.

Total cost of self-funded civil legal proceedings EUR	Of which, 88 % IPVAW[1]	Of which, 12 % IPVAM[1]
229 713 858	**202 148 195**	**27 565 663**

[1] Because these costs are incurred when people are fleeing, disentangling and seeking assistance they are most likely to be tied to more, if not most serious, intimate partner violence, consequently the gender distribution (presented in Table 2.1) of 88 % w/12 % m was applied (Source: Towers, Walby and Francis (2014) op cit [footnote 12]).

4.0.1 Social welfare

A range of government-provided social welfare services are used by victim/survivors, including housing and linked costs of child protection. In addition a small fraction of the out-of pocket expenses, of moving house have been costed. There are probably additional costs of income support for households that descend into poverty as a result of fleeing domestic violence, but the UK does not have sufficient data to include robust estimates for this. A small fraction of the out-of pocket expenses, the personal costs of moving house are included. There are also specialist government costs of coordinating functions of government ([51]), but it was not possible to estimate this sum.

4.0.1.1 Housing

There are two major forms of housing assistance: priority re-housing of people made homeless as a result of domestic violence and sanctuary schemes to protect victim/survivors who stay in their own homes. Refuges/shelters are addressed in the next section on specialised services.

There is a long-standing statutory duty on local councils to provide assistance to people made homeless by domestic violence ([52]). Although the priority attached to this varies ([53]), we estimate that 13 % of those provided with statutory assistance in 2012 were homeless because of domestic violence, based on data from the Department of Local Communities and Government

([50]) Office for National Statistics (ONS) (2014a), Divorces in England and Wales, 2012, Children of Divorced Couples, Table 1. Available at: http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm %3A77-328994

([51]) E.g. prevention, national action plans, data, research, reports, conferences, education, training, and information materials

([52]) Department for Communities and Local Government (DCLG) (2013b), Homelessness prevention and relief: England 2012 to 2013. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/229740/Homelessness_Prevention_and_Relief_England_201213.pdf; UK Parliament (1996) *The Housing Act*. Available at: http://www.legislation.gov.uk/ukpga/1996/52/contents; UK Parliament (2002), The Homelessness Act. Available at: http://www.legislation.gov.uk/ukpga/2002/7/contents.

([53]) In some regions, 'women fleeing domestic violence' has been de-prioritised and the interpretation of 'vulnerability' narrowed to only include mental health and/or medical conditions (Fitzpatrick, S., Pawson, H., Bramley, G., Wilcox, S., Watts, B. (2013), *The homelessness monitor: England 2013*, Crisis. Available at: http://www.crisis.org.uk/data/files/publications/HomelessnessMonitorEngland2013_ExecSummary.pdf

(2014c) ([54]) and Statistics for Wales (2014; JRF 2014) ([55]). The total local authority expenditure on homelessness in England was GBP 837 930 000 in 2011/12 (DLCG 2013a: Annex A7, op cit [footnote 38]), which adjusted to the UK equates to GBP 997 880 782, and which converted to EUR produces a figure of EUR 1 250 869 047, this figure multiplied by 13 % (those made homeless because of domestic violence) establishes the cost of homelessness because of domestic violence at EUR 162 612 976 in the UK in 2012.

In addition, other households were supported through other interventions to prevent homelessness ([56]) but it was not possible to include these costs, other than for sanctuary schemes, because of limited information about the amount attributable to domestic violence. Sanctuary schemes support people subject to domestic violence to stay in their homes by providing security and safety equipment ([57]) to prevent future violence. Of the households in England provided with assistance to remain in their existing home in 2011/12, 7 % or 6 000 households were supported through the sanctuary scheme for domestic violence (DCLG 2012:6) ([58]). The average cost per sanctuary scheme was GBP 750–1 000 (mean GBP 875) in 2006 (DCLG 2006) ([59]). Adjusted for inflation, the average cost of one sanctuary scheme intervention in 2012 was estimated to be GBP 1 072, and adjusted for the UK population, 7 145 (6 000 x 1.190888) households were supported by sanctuary schemes. The estimated cost of sanctuary schemes for domestic violence in 2012 was EUR 9 601 304 (GBP 7 659 440).

The estimated cost of intimate partner violence to housing services was EUR 172 214 280, of which 88 % (EUR 151 548 567) was for intimate partner violence against women.

([54]) Department for Communities and Local Government (DCLG) (2014c), *Live tables on homelessness*, *Table 774*. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/321321/Statutory_Homelessness_1st_Quarter__Jan_-_March__2014_England_FINAL.pdf; Statistics for Wales (2014), Homelessness, October to December 2013. Available at: http://wales.gov.uk/docs/statistics/2014/140326-homelessness-october-december-2013-en.pdf; Joseph Roundtree Foundation (2013), JRF Data: Reasons for Homelessness in Wales. Available at: http://data.jrf.org.uk/data/reason-homeless-wales/

([55]) Within the statutory duty framework 53 160 households in England were accepted as homeless owed statutory assistance in 2013, of these, 6 300 (12 %) cited partner violence as the reason for the loss of their home (DLCG 2014b, Live Table 774, op cit [footnote 52]) and within which 1540 (3 %) households were given priority need because of domestic violence (DLCG 2014c, Live Table 773, op cit [footnote 53]) In Wales, 5 210 households were accepted as homeless owed statutory assistance in 2013, 15 % cited violent relationship breakdown as the cause of homelessness (JRF 2014, op cit [footnote 54]) and 740 (14 %) were given priority need because of domestic violence (Statistics For Wales 2014, op cit [footnote 54]).

([56]) Local authorities in England supported 202 400 households through homelessness prevention (n = 181 500) and homelessness relief (n = 21 000) measures (DCLG 2013b, op cit [footnote 52]). This included assistance to enable people stay in their home (47 %) or assistance to secure other accommodation (53 %). It is likely that domestic violence contributed to women seeking other homelessness prevention measures such as debt advice, resolving housing benefit problems, mortgage rescue, crisis interventions and financial payments but information about the proportion of this non-statutory intervention that supported people subject to domestic violence was not directly available and thus it was not included.

([57]) Reinforced doors and windows, fire-retardant letter boxes, smoke detectors, alarm, CCTV and intercom systems

([58]) Department for Communities and Local Government (DCLG) (2012), *Homelessness Prevention and Relief: England 2011/12 Official Statistics*. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/7599/2199659.pdf

([59]) Department for Communities and Local Government (DCLG) (2006), *Options for Setting up a Sanctuary Scheme*. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/7869/154295.pdf

Table 4.2.4.1.1: Cost of housing aid, intimate partner violence, UK 2012

Housing Aid	Total Cost EUR	Of which, 88 % IPVAW[3]	Of which, 12 % IPVAM[3]
Homeless owed statutory assistance[1]	162 612 976	143 099 419	19 513 557
Sanctuary Schemes[2]	9 601 304	8 449 148	1 152 156
Total	**172 214 280**	**151 548 567**	**20 665 713**

[1] The estimated total expenditure on homelessness in the UK in 2013 was EUR 1 250 869 047 (GBP 837 930 000 in England for 2011/12 (DLCG 2013a: Annex 7) adjusted to the UK (x1.190888) equates to GBP 997 880 782, and converted from GBP to EUR based on mid-2012 conversion rate ([60]). This total expenditure was multiplied by the average percentage (13 %) of households accepted as homeless because of domestic violence in England and Wales (DLCG 2014c, Statistics For Wales (2014) op cit [footnote 54]).

[2] An estimated 7 145 (6 000 x 1.190888) UK households were supported through a domestic violence sanctuary scheme (DCLG 2012, op cit [footnote 58]). The average cost per sanctuary scheme was in GBP 875 in 2006 (DCLG 2006, op cit [footnote 59]). The cost was adjusted for inflation averaged at 3.2 % BoE 2014 ([61]) to 2012 prices (GBP 1 072) and converted from GBP to EUR based on the mid-2012 conversion rate ([62]).

[3] Because these costs are incurred when people are fleeing, disentangling and seeking assistance they are most likely to tied to more, if not most serious, intimate partner violence consequently the gender distribution (presented in Table 2.1) of 88 % w/12 % m was applied (Source: Towers, Walby and Francis (2014) op cit [footnote 12]).

Personal costs: Moving Expenses and Setting up a New Home

Not all the costs of re-housing due to domestic violence are met by the state. Some of these are borne by the individual. There are many personal, out-of-pocket expenses incurred because of gender-based and intimate partner violence and these include: costs of additional personal security, cost of repairing or replacing property damage; expense of travelling to services, extricating oneself from an abusive relationship, moving expenses and lone parenting. Many expenses remain insufficiently explicated in estimates of impact because of unavailability of data. Included in this case study are the personal, out-of-pocket expenses of setting up a new home and self-funded civil legal expenses presented earlier in Table 4.2.2.3.2, consequently it is a significant underestimate of personal costs. A survey undertaken by the Norwich Union ([63]) reported that the average cost of setting up a new home after a divorce was GBP 5 146 in 2006 prices (GBP 6 306 in 2012). An estimated 38 583 couples divorced because of domestic violence in 2012. The cost of moving and setting up a new home after a divorce because of intimate partner violence in 2012 was estimated to be EUR 609 976 554 (GBP 486 608 796 [GBP 6 306 x 77 166 people] converted EUR based on mid-2012 conversion rate (Europa 2014 [op cit footnote 22])) and 88 % (EUR 536 779 368) was because of intimate partner violence against women.

Table 4.2.4.1.2: Summary of personal costs, intimate partner violence, UK 2012

	Total Cost EUR	Cost of IPVAW[1] EUR	Cost of IPVAM EUR
Civil Legal Services	229 713 858	202 148 195	27 565 663
Moving Home	**609 976 554**	536 779 368	73 197 186
Total	**839 690 412**	**738 927 563**	**100 762 849**

[1] Because these costs are incurred when people are fleeing, disentangling and seeking assistance they are most likely to tied to more, if not most serious, intimate partner violence consequently the gender distribution (presented in Table 2.1) of 88 % w/12 % m was applied (Source: Towers, Walby and Francis (2014) op cit [footnote 12]).

([60]) Europa (2014), op cit (footnote 22).
([61]) Bank of England (2014), op cit (footnote 19).
([62]) Europa (2014), op cit (footnote 22).
([63]) Norwich Union (2006) *Cost of Divorce*. Available at: http://www.aviva.co.uk/media-centre/story/2935/brits-spend-over-4-billion-on-divorce/

Child Protection

A number of children are in need as a result of domestic violence that is perpetrated against their mothers and themselves. Social workers rarely intervene to support adult women in the UK, but do intervene to safeguard children. The best estimate of the co-occurrence of domestic violence and direct child abuse in 40 % of cases, based on a review of the literature (Walby 2004, op cit [footnote 7]). The number of children in need is available from a Children in Need Census carried out for the Department for Education (DfE 2013a&b ([64]). In England, at year end 2012/13, there were 378 600 children in need, and for 179 090 (47.3 %) children in need, abuse or neglect was the primary source of need (DfE CiN Census 2013b: Table A3, op cit [footnote 64]). The cost of child protection attributable to intimate partner violence was estimated as a proportion of the cost of children's social care for 'Children Looked After', 'Family Support Services' and 'Children and Young Peoples' Safety' services. The formula used was: the total cost of children's social care in England in 2011/12 (GBP 4 235 304 000 [DCLG 2013a, op cit, footnote 39, Annex A6]) multiplied by the proportion referred because of abuse or neglect (47 %) multiplied by the proportion of domestic violence/child abuse overlap (40 %). This produces a per annum cost estimate of GBP 796 237 152 for children's services for abuse and neglect likely to be connected to domestic violence in England and Wales. Adjusted to the UK by multiplying by 1.126171 (GBP 896 699 190) and converted to EUR, the cost of children's social care because of domestic violence in 2013 was EUR 1 124 035 337, of which EUR 989 151 097 (88 %) was estimated to be-cause of intimate partner violence perpetrated against women.

Table 4.2.4.1.3: Summary of costs of social welfare, intimate partner violence, UK

	Total Cost EUR	Cost of PVAW[3] EUR	Cost of IPVAM EUR
Housing Aid	172 214 280	151 548 567	20 665 713
Child Protection	1 124 035 337	989 151 097	134 884 240
Total	**1 296 249 617**	**1 140 699 664**	**155 549 953**

[1] Because these costs are incurred when people are fleeing, disentangling and seeking assistance they are most likely to tied to more, if not most serious, intimate partner violence consequently the gender distribution (presented in Table 2.1) of 88 % w/12 % m was applied (Source: Towers, Walby and Francis (2014) op cit [footnote 12]).

4.2.4 Specialist Services[64]

A range of specialised services have developed in order to support victim/survivors of gender-based and intimate partner violence, to mitigate the harms of the violence and to prevent further violence. These services have often been set up by non-state organisations, variously called Third Sector, Civil Society Organisations (CSO) and Non-Governmental Organisations (NGOs) and are often run by local organisations that are members of loose national federations of similar organisations, but derive much of their funding from government through a variety of diverse funding streams ([65]). Specialist Support Services cover direct specialist service provision, these include: refuge/shelter, help-lines, web-based advice, victim support centres, sexual assault referral centres, rape crisis centres, outreach support, counselling and advocacy, independent domestic violence advocates (IDVA), independent sexual violence advocates (ISVA), victim/survivor programmes, multi-agency risk assessment conference (MARAC) teams, forced marriage unit and perpetrator programmes.

([64]) Department for Education (DfE) (2013a), *Characteristics of Children in Need in England, 2012-13*. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/254084/SFR45-2013_Text.pdf; Department for Education (DfE) (2013b), *Characteristics of Children in Need in England, 2012-13, SFR45/2013: Main Tables*. Available at: https://www.gov.uk/government/publications/characteristics-of-children-in-need-in-england-2012-to-2013;

([65]) In England and Wales Specialised Services are funded through central government, local authority, public health and voluntary sector income streams and run in partnership by government (e.g. Home Office, Department of Justice, Department of Work and Pensions, Department of Health, local authority, police services, health services) and non-government organisations (e.g. Women's Aid, Refuge, Imkaan, Nia, Rape Crisis). Because of complex funding arrangements involving multiple funding streams and lack of central reporting of budget expenditures, identifying the total costs of Specialist Support Services is difficult.

The cost of refuge services was estimated at GBP 122 million in England in 2010/11 by Women's Aid Federation England (2014) ([66]). This included: GBP 44 704 061 for accommodation-based service (refuges); GBP 6 151 572 on accommodation-based with floating/resettlement/outreach support; GBP 25 209 for community or social alarm service; GBP 18 501 985 for floating support service; GBP 29 901 for home improvement agency service; GBP 1 352 815 for outreach service; and GBP 492 692 for resettlement service; GBP 50 million of Housing Benefit (from the budget of the Department for Work and Pensions) to support the rent of refuge residents.

The UK Government (2013) reported annual funding expenditure of GBP 12 962 500 for Specialist Support Services in 2012/13 (England and Wales), approximately half of which was for sexual violence services ([67]). The Home Office (2014) reported expenditure on domestic violence services of GBP 4 337 000 in 2013/4 and GBP 6 274 926 in 2012/3 ([68]) (which appears to be a sub-set of the figures from UK Government 2013). These figures do not appear to include refuges, but are focused on specialised advice services. Extrapolated to the UK by multiplying by 1.126171 (GBP 14 597 992) and converting to EUR, the annual government expenditure on specialist support services was EUR 18 298 956 in 2012/13.

Victim Support offers advice to victims of any crime, of which a proportion are gender-based and from intimate partners, costing an estimated EUR 7 014 447 (Victim Support 2013) ([69]) ([70]).

Co-ordinated Action Against Domestic Violence (CAADA) is funded to provide training and tools by various agencies amounting to GBP 2 300 000 ([71]) for the UK (of which GBP 877 000 is included in the Home Office figures for 2013/4). The additional cost of high risk assessment training provided by CAADA for the UK was EUR 1 783 767 (GBP 1 423 000 ([72]) [2 300 000 — GBP 877 000])

([66]) Communication from Women's Aid in response to emailed request for information, which draws on data from the last year of the Supporting People programme 2010/11 provided by the Department of Communities and Local Government concerning 'women at risk of domestic violence' Supporting People Spend England. The figure is in three parts: refuges GBP 44 704 061 plus GBP 6 151 572 = GBP 50 855 633; Housing Benefit for refuge residents GBP 50 million; other support GBP 2 402 602. The estimate of GBP 50 million on Housing Benefit is based on Women's Aid calculations estimating the proportion of Housing Benefit spend in a local authority area with a number of known refuges, grossed up to England.

([67]) HM Government (2013) reported the following expenditure: GBP 7 000 000 per year (GBP 28 million over four years) towards part-funding of Independent Sexual Violence Advisers (GBP 1.72 m) (ISVAs), Independent Domestic Violence Advisers (IDVAs), and Multi-Agency Risk Assessment Conference (MARAC) coordinator posts; GBP 3 500 000 annual funding from Ministry of Justice for existing and new rape crisis centres; GBP 1 200 000 for 13 new posts of Young People's Advocates for Sexual Violence; GBP 900 000 a year towards the running costs of national help lines to support the victims of domestic violence and stalking; GBP 100 000 for local service commissioning partnership development; GBP 50 000 for frontline Female Genital Mutilation services; GBP 312 500 (GBP 625 000 over two years) to support services for male victims of rape and sexual violence (HM Government 2013); GBP 62 500 (GBP 125 000 over two years) to develop initiatives to support male victims of domestic and sexual violence. HM Government (2014) reported support to male victims increasing to GBP 500 000 in 2014/15.
Sources: HM Government (2011), A Call to End Violence against Women and Girls: Action Plan. Available at: https://www.gov.uk/government/publications/call-to-end-violence-against-women-and-girls-action-plan; HM Government (2013), A Call to End Violence against Women and Girls: Action Plan 2013. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/181088/vawg-action-plan-2013.pdf; HM Government (2014), A Call to End Violence against Women and Girls: Action Plan 2014. Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/287758/VAWG_Action_Plan.pdf

([68]) Home Office reply to a Freedom of Information request from Mankind: in 2013/4 this was made up of: funding of help-lines of GBP 910 000 paid to Refuge (DV), Women's Aid (DV), Respect (help to male victims and helpline for perpetrators), Broken Rainbow (Lesbian, Gay, Bisexual, Transgender), Suzy Lamplugh Trust (Stalking); GBP 2 775 000 for IDVA training; and GBP 652 000 to CAADA). This is a fall from funding in previous years of GBP 8 239 633 in 2009/10, GBP 8 367 000 in 2010/11 and GBP 6 125 326 in 2011/12.

([69]) Victim Support (2013), *Victim Support: Impact Report*. Available at: https://www.victimsupport.org.uk/sites/default/files/Impact %20report %202012-13_0.pdf. The cost of Victim Support services in England and Wales for victims of domestic violence was GBP 3 351 000, for sexual violence GBP 415 000, and for relevant cases of homicide GBP 1 202 850. Assuming similar services across the UK, the cost rises to GBP 5 595 775 (from GBP 4 968 850). The total cost of victim support homicide service was GBP 2 673 000. Family member homicide victim support costs were estimated from the proportion of homicides in 2012/13 of people aged sixteen years and older (n = 484) that were domestic (any family member) homicide (n = 128, 26 %) or intimate partner homicide (n = 91, 19 %). (Source: Homicide Statistics, ONS (2013a) op cit [footnote 9]). The estimated cost of victim support for domestic homicide was GBP 694 980 and for intimate partner violence homicide was GBP 507 870.

([70]) Conversion via Europa (2014), op cit (footnote 22).

([71]) CAADA (Co-Ordinated Action Against Domestic Abuse) (2012) Financial Statements: Co-ordinated Action Against Domestic Abuse. Available at: http://www.caada.org.uk/aboutus/Caada_accounts_2011_12_FINAL_document.pdf
The figure from CAADA's financial reports necessarily overlaps with the figure provided by the Home Office (see above) for expenditure on IDVA training (GBP 225 000) and on CAADA (GBP 652 000).

([72]) Europa (2014), op cit (footnote 22).

Respect has a projected annual income of GBP 786 867 for its UK-wide help-lines and programmes for male victims and perpetrators from governmental and other sources (Respect 2014) ([73]) (of which GBP 240 000 is included in the Home Office figures for 2013/4). The additional cost of programmes provided by Respect for the UK was EUR 685 512 (GBP 546 867 ([74]) [GBP 786 867 — GBP 240 000])

In sum the cost of specialised advice and support services for gender-based violence in the UK was EUR 395 451 345. The gender disaggregation of the cost of specialised service provision is difficult since there is a complex mix of services aimed primarily at women (refuges and rape crisis centres), services aimed primarily at men (Respect GBP 786 867 and HO funding of GBP 500 000 for services for men) and those that are mixed (Victim Support, CAADA). In the absence of detailed data we keep our estimates of distribution to those found in the CSEW, as for all other parts of the estimates.

The cost of specialised services in the UK in 2012/13 for gender-based violence was EUR 209 905 322, 88 % (EUR 183 883 203) of which was for gender-based violence against women. The cost of specialised services for intimate partner violence was EUR 198 514 422, 88 % (EUR 174 692 691) of which was because of intimate partner violence against women ([76]).

Table 4.2.4.1: Cost of specialist services, UK 2012/13

	Total Cost in EUR	Cost of GBVAW[2] EUR	Cost of GBVAM[2] EUR	Cost of IPVAW[2] EUR	Cost of IPVAM[2] EUR
Refuge[1]	182 122 640	160 267 923	21 854 717	160 267 923	21 854 717
Specialised Advice[3]	27 782 682	23 615 280	4 167 402	14 424 768	1 967 014
Total	209 905 322	183 883 203	26 022 119	174 692 691	23 821 731
	Totals:	**209 905 322**		**198 514 422**	

[1] Cost of Refuge in UK (GBP 145 288 336 adjusted [x 1.190888] from sum for England GBP 122 000 000, and converted from GBP to EUR based on the mid-2012 conversion rate ([75]). Refuges principally provide services for intimate partner violence therefore IPV gender distribution applied (see note below).

[2] Because these costs are incurred when people are fleeing, disentangling and/or seeking assistance they are most likely to tied to more, if not most serious, violence consequently the gender distribution of 85 % w/15 % m was applied to GBV and 88 % w/12 % m was applied to IPV. Gender distributions presented in Table 2.1 (Source: Towers, Walby and Francis (2014) op cit [footnote 12]).

[3] Sum of cost of Government Specialised Service Costs, Victim Support, CAADA, & Respect.

[4] The total cost of specialised advice was first multiplied by 0.59 (=EUR 16 391 782) prior to IPV gender disaggregation (88/12) to calculate the portion attributable to intimate partner violence services. There were an estimated 1 909 259 incidents of gender-based violence, of which 1 125 248 (59 %) were intimate partner violence (Source: Towers, Walby and Francis (2014) op cit [footnote 12]).

([73]) Communication from Respect in response to e-mailed request for information. Included in the figure provided by Respect is GBP 240 000 from the Home Office to run the helplines for male victims and perpetrators.

([74]) Conversion via Europa (2014), op cit (footnote 22).

([75]) Europa (2014), op cit (footnote 22).

([76]) See notes 2 and 4 Table 4.2.4.1.

4.3 Physical and emotional impact on victims

In the UK government Green Book methodology for cost-benefit it is necessary to include a component on the public's valuation, sometimes termed 'willingness to pay' to avoid, the physical and emotional impact on victims involved. In the new Home Office methodology, the calculation is made via the health-led concept of the loss of healthy life years as a consequence of the crime, with a value being placed on this loss. This loss is simultaneously a loss to the individual and a loss to society. In UK cost-benefit analysis, the inclusion of a value for this more intangible aspect of harm is not an optional extra, but compulsory and routine.

For this case study the health-loss grounded approach as recommended by the UK Home Office was employed. Built around the prevalence of health state outcomes per crime type and Global Burden of Disease Studies (Dolan et al 2005 ([77])) this methodology produces a cost of the physical and emotional impact on victims for each type of crime. Based on Burden of Disease methodology the cost of the physical and emotional impact on victims in HOOR 30/05 (Dubourg et al 2005 ([78])) was formulated from the average loss of healthy life years through injury per crime type multiplied by the value in monetary terms of a healthy life-year. The data requirements are the number of incidents of violent crime type reported to the victimisation survey.

The cost of the physical and emotional impact of gender-based violence was EUR 18 910 974 129, of which 89 % (EUR 16 750 634 109) was for gender-based violence against women. The cost of the physical and emotional impact of intimate partner violence was EUR 7 255 626 748, of which 91 % (EUR 6 614 462 859) was for intimate partner violence against women.

Table 4.3: Cost of physical and emotional impact of gender-based and intimate partner violence, UK

		GENDER-BASED VIOLENCE (GBV)				
Crime category	**2012 unit cost[1] EUR**	**Incidents Women**	**Incidents Men**	**GBVAW Cost EUR**	**GBVAM Cost EUR**	**GBV Total Cost EUR**
Homicide	1 444 043	125	52	180 505 375	75 090 236	255 595 611
Wounding	7 643	424 118	104 040	3 241 533 874	795 177 720	4 036 711 594
Common assault	1 322	761 300	272 627	1 006 438 600	360 412 894	1 366 851 494
Sexual violence	38 190	322 654	24 343	12 322 156 260	929 659 170	13 251 815 430
GBV Total		**1 508 197**	**401 062**	**16 750 634 109**	**2 160 340 020**	**18 910 974 129**
		INTIMATE PARTNER VIOLENCE (IPV)				
Crime category	**2012 unit cost[1] EUR**	**Incidents Women**	**Incidents Men**	**IPVAW Cost EUR**	**IPVAM Cost EUR**	**IPV Total Cost EUR**
Homicide	1 444 043	101	25	145 848 343	36 101 075	181 949 418
Wounding	7 643	344 462	56 080	2 632 723 066	428 619 440	3 061 342 506
Common assault	1 322	508 265	133 467	671 926 330	176 443 374	848 369 704
Sexual violence	38 190	82 848	0	3 163 965 120	0	3 163 965 120
IPV Total		**935 676**	**189 572**	**6 614 462 859**	**641 163 889**	**7 255 626 748**

[1] From HOOR 30/05, Table 2.1, S1:7 and Table 2.2, S3:36, Dubourg et al 2005 ([79])) and adjusted for inflation averaged at 3.2 % (BoE 2014 ([80])) to 2012 and converted from GBP to EUR based on mid-2012 conversion rate ([81]).

([77]) Dolan et al (2005) op cit (footnote 15).

([78]) Dubourg et al (2005) op cit (footnote 8).
([79]) Dubourg et al (2005) op cit (footnote 8).
([80]) Bank of England (2014), op cit (footnote 19).
([81]) Europa (2014), op cit (footnote 22).

5. Summarising the Costs

Table 5.1: Total costs, gender-based and intimate partner violence, UK

	GENDER-BASED VIOLENCE (GBV)				
Sector	**GBVAW Cost in EUR**	**% of cost[1]**	**GBVAM Cost in EUR**	**GBV Total Cost in EUR**	**% of cost[1]**
Lost Economic Output	3 666 919 341	13 %	546 922 178	4 213 841 519	13 %
Health Services	1 613 448 832	6 %	329 358 684	1 942 807 516	6 %
Criminal Justice System	3 967 839 061	14 %	771 408 942	4 739 248 003	15 %
Civil Justice System	356 420 505	1 %	48 602 796	405 023 301	1 %
Social Welfare	1 140 699 664	4 %	155 549 953	1 296 249 617	4 %
Personal Costs	738 927 563	3 %	100 762 849	839 690 412	3 %
Specialised Services	183 883 203	<1 %	26 022 119	209 905 322	<1 %
Physical/Emotional Imp.	16 750 634 109	59 %	2 160 340 020	18 910 974 129	58 %
Total	28 418 772 278		4 138 967 541	32 557 739 819	
	INTIMATE PARTNER VIOLENCE (IPV)				
Sector	**IPVAW Cost in EUR**	**% of cost[1]**	**IPVAM Cost in EUR**	**IPV Total Cost in EUR**	**% of cost[1]**
Lost Economic Output	1 595 784 962	12 %	188 870 502	1 784 655 464	12 %
Health Services	1 012 196 229	7 %	154 569 009	1 166 765 238	8 %
Criminal Justice System	2 098 883 741	15 %	329 116 310	2 428 000 051	16 %
Civil Justice System	356 420 505	3 %	48 602 796	405 023 301	3 %
Social Welfare	1 140 699 664	8 %	155 549 953	1 296 249 617	8 %
Personal Costs	738 927 563	5 %	100 762 849	839 690 412	5 %
Specialised Services	174 692 691	1 %	23 821 731	198 514 422	1 %
Physical/Emotional Imp.	6 614 462 859	48 %	641 163 889	7 255 626 748	47 %
Total	13 732 068 214		1 642 457 039	15 374 525 253	

[1] Rounded may not add exactly to 100 %

The costs of intimate partner violence against women, against men and against women and men as well as the costs of gender-based violence against women, against men and against women and men are shown in Table 5.1.

The large scale of the detrimental impact on physical and emotional well-being as measured through the concept of the number of years of quality life lost is demonstrated in these figures. The smallest costs are those associated with specialised services (1 %) and civil legal services (3 %) to support victim/survivors as they endeavour to extricate themselves from violent relationships. Significant costs are associated with lost economic output (12/13 %), which is damaging to the economy. Other large costs are associated with the criminal justice system, followed by social welfare.

In Table 5.2 the costs are disaggregated by crime category and by gender.

Table 5.2: Total costs, by form and severity of GBV and IPV disaggregated by gender[1], UK

	GENDER-BASED VIOLENCE (GBV)		
Sector	**GBVAW Cost in EUR**	**GBVAM Cost in EUR**	**GBV Total Cost in EUR**
Homicide[2]	306 774 987	127 609 293	434 384 280
Wounding[3]	7 504 427 273	1 709 607 227	9 214 034 500
Common assault	2 394 868 002	853 819 830	3 248 687 832
Sexual violence[3]	18 212 464 291	1 448 168 921	19 660 633 212
	INTIMATE PARTNER VIOLENCE (IPV)		
Sector	**IPVAW Cost in EUR**	**IPVAM Cost in EUR**	**IPV Total Cost in EUR**
Homicide	247 864 545	61 354 997	309 219 542
Wounding[3]	6 317 778 866	1 161 012 550	7 478 791 416
Common assault[4]	1 595 654 366	420 210 395	2 015 864 761
Sexual violence[3,5]	5 570 853 304	0	5 570 853 304

[1] Total cost may differ slightly from Table 5.1 due to rounding in the distribution of costs.

[2] The total cost of victim support for the family members of domestic homicide was EUR 1 698 045 (GBP 1 202 850 x 1.126171 = GBP 1 354 615 converted to EUR), and this was EUR 1 205 612 for GBVAW (71 %) and EUR 492 433 for GBVAM. Intimate partner homicide represented 71 % of domestic homicide. The cost of victim support for intimate partner homicide was EUR 1 205 612; EUR 964 490 (80 %) for women victims and EUR 241 122 for male victims.

[3] To estimate the costs of each form of violence by gender, the costs of civil legal services; social welfare (housing aid and child protection), moving home; and specialist services in the absence of data were distributed equally among the crime categories of wounding and sexual violence once gender distribution according to the CSEW analysis accounted for (GBV: 85 w/15 m; IPV 88 w/12 m). The costs of civil justice were EUR 634 737 159 (EUR 405 023 301 [state funded]+ EUR 229 713 858 [self-funded]). The distribution between IPVAW and IPVAM was 88 %:12 %; EUR 558 568 700 and EUR 76 168 459 respectively. EUR 279 284 350 was equally distributed across the serious crimes (wounding and sexual violence) of IPVAW and EUR 38 084 230 distributed across the crimes of IPVAM. The total costs of social welfare were EUR 1 296 249 617. The distribution between IPVAW and IPVAM was 88 %;12 %; 1 140 699 664 and 155 549 953 respectively; EUR 570 349 832 was equally distributed across the serious crimes (wounding and sexual violence) of IPVAW and EUR 77 774 977 distributed across the crimes of IPVAM. The additional personal cost of moving house was EUR 609 976 554. The distribution between IPVAW and IPVAM was 88 %:12 %; EUR 536 779 368 and EUR 73 197 186 respectively; EUR 268 389 684 was equally distributed across the serious crimes (wounding and sexual violence) of IPVAW and EUR 36 598 593 distributed across the serious crimes of IPVAM. The total cost of refuge was 182 122 640. The distribution between IPVAW and IPVAM was 88 %:12 %; EUR 160 267 923 and EUR 21 854 717 respectively. EUR 80 133 962 was equally distributed across the serious crimes (wounding and sexual violence) of IPVAW and EUR 10 927 359 distributed across the serious crimes of IPVAM. The total costs of specialist advice services were EUR 26 084 637 (EUR 27 782 682 minus domestic homicide victim support EUR 1 698 045). The distribution between GBVAW and GBVAM was 85 %;15 %; EUR 22 171 941 and EUR 3 912 696 respectively. EUR 11 085 971 was equally distributed across the serious crimes (wounding and sexual violence) of GBVAW and EUR 1 956 348 distributed across the crimes of GBVAM. IPV represented 59 % of GBV (see Table 2.1) thus the amount of specialised advice service for IPV was EUR 15 389 936 (26 084 637 x 0.59). The distribution between IPVAW and IPVAM was 88 %:12 %; EUR 13 543 144 and EUR 1 846 792 respectively. EUR 6 771 572 was equally distributed across the serious crimes (wounding and sexual violence) of IPVAW and EUR 923 396 distributed across the crimes of IPVAM. Because there were no reported incidents of intimate partner sexual violence against men, the residual service cost EUR 164 308 555 were included in the costs of intimate partner wounding violence against men.

6. Extrapolation of UK Costs to other EU Member States

Centred on 2012, the estimated annual cost of gender-based violence against women in the UK is EUR 28 418 772 278, extrapolated by population size for each Member State the estimated cost of gender-based violence against women in the EU is EUR 225 837 418 768. Intimate partner violence against women cost the UK EUR 13 732 068 214, and similarly extrapolated, the cost of intimate partner violence against women in the EU was EUR 109 125 574 091 (Table 6.1).

Table 6.1: Cost of gender-based and intimate partner violence against men and women in EU Member States, by extrapolation from UK case to Member States

MS	Member State	Population[1]	Cost of IPVAW EUR	Cost of IPV EUR	Cost of GBVAW EUR	Cost of GBV EUR
AT	Austria	8 408 121	1 818 416 256	2 035 912 304	3 763 246 487	4 311 333 326
BE	Belgium	11 094 850	2 399 472 557	2 686 467 242	4 965 753 382	5 688 975 760
BG	Bulgaria	7 327 224	1 584 651 699	1 774 187 776	3 279 466 361	3 757 094 483
HR	Croatia	4 275 984	924 762 954	1 035 371 451	1 913 814 248	2 192 546 030
CY	Cyprus	862 011	186 426 291	208 724 256	385 812 700	442 003 243
CZ	Czech Republic	10 505 445	2 272 002 503	2 543 750 826	4 701 951 720	5 386 753 489
DK	Denmark	5 580 516	1 206 892 837	1 351 246 157	2 497 687 323	2 861 455 563
EE	Estonia	1 325 217	286 603 408	320 883 298	593 131 119	679 515 937
FI	Finland	5 401 267	1 168 126 828	1 307 843 446	2 417 460 342	2 769 544 161
FR	France	65 287 861	14 119 743 012	15 808 568 827	29 221 072 530	33 476 888 704
DE	Germany	80 327 900	17 372 437 805	19 450 310 003	35 952 585 307	41 188 792 633
EL	Greece	11 123 034	2 405 567 883	2 693 291 614	4 978 367 774	5 703 427 338
HU	Hungary	9 931 925	2 147 967 883	2 404 880 747	4 445 259 752	5 092 676 384
IE	Ireland	4 582 707	991 097 643	1 109 640 260	2 051 095 128	2 349 820 776
IT	Italy	59 394 207	12 845 128 120	14 381 500 556	26 583 233 147	30 454 869 052
LV	Latvia	2 044 813	442 229 744	495 123 696	915 202 736	1 048 494 715
LT	Lithuania	3 003 641	649 594 555	727 290 874	1 344 348 094	1 540 141 673
LU	Luxembourg	524 853	113 509 454	127 086 026	234 909 941	269 122 701
MT	Malta	417 546	90 302 273	101 103 093	186 882 244	214 100 152
NL	Netherlands	16 730 348	3 618 256 298	4 051 026 543	7 488 049 154	8 578 623 796
PL	Poland	38 538 447	8 334 672 930	9 331 561 527	17 248 761 680	19 760 906 259
PT	Portugal	10 542 398	2 279 994 293	2 552 698 493	4 718 490 878	5 405 701 445
RO	Romania	20 095 996	4 346 141 759	4 865 972 495	8 994 421 745	10 304 387 541
SK	Slovakia	5 404 322	1 168 787 530	1 308 583 173	2 418 827 677	2 771 110 637
SI	Slovenia	2 055 496	444 540 146	497 710 439	919 984 156	1 053 972 511
ES	Spain	46 818 219	10 125 331 270	11 336 395 864	20 954 562 643	24 006 427 578
SE	Sweden	9 482 855	2 050 847 946	2 296 144 546	4 244 268 222	4 862 412 041
UK	United Kingdom	63 495 303	13 732 068 214	15 374 525 253	28 418 772 278	32 557 739 819
	EU-28		**109 125 574 091**	**122 177 800 785**	**225 837 418 768**	**258 728 837 747**

[1] Population estimates 2012 (Source Eurostat (2014), op cit [footnote 2]). Population adjustment multipliers: **AT** 0.1324211493250139; **BE** 0.1747349721285683; **BG** 0.1153978901399998; **HR** 0.0673433119926997; **CY** 0.0135759805729252; **CZ** 0.1654523170005189; **DK** 0.0878886427236988; **EE** 0.0208711028593721; **FI** 0.0850656150109245; **FR** 1.028231348073101; **DE** 1.265099876757813; **EL** 0.1751788474810491; **HU** 0.1564198378579279; **IE** 0.0721739527725382; **IT** 0.9354110334743973; **LV** 0.0322041616212147; **LT** 0.0473049321459258; **LU** 0.0082660129994182; **MT** 0.0065760139769709; **NL** 0.2634895371709621; **PL** 0.6069495723171838; **PT** 0.166034297056587; **RO** 0.3164957886727464; **SK** 0.0851137288060504; **SI** 0.0323724102867892; **ES** 0.737349328028248; **SE** 0.1493473462123647; **UK** 1.

7. Conclusions

The case study applies the state-of-the-art methodology discovered through the review of the literature to the instance of the UK. The UK was chosen because it has one of the most highly developed systems of statistics and of cost-benefit methodologies. The UK has an annual survey of the extent of crime, disaggregated by severity, by gender and by relationship with perpetrator. The UK has a governmental cost-benefit methodology which includes benchmarks for some costs and identified practices for adjustments over time and space.

Despite these advantages, the case study demonstrates the complexity of the exercise to estimate the cost of gender-based and intimate partner violence against women and men. The main challenges are: to measure the extent of violence (severity and frequency), disaggregated by gender and by relationship with perpetrator; to identify the extent of employment losses; to measure the extent of service use; and to measure the public valuation of the physical and emotional impact of the violence.

Although the UK has a highly developed statistical system and engages in more data collection on gendered violence than many countries, there were nonetheless challenges. The UK has a world-leading survey on crime that includes intimate partner violence against women, however, it does not routinely publish findings from the survey that provide data at the level of disaggregation required by severity, frequency, gender and relationship with perpetrator. For the purposes of our case study we used a customised investigation of the raw survey data in order to generate the required data. Data on the extent of the violence is not available in most countries at the required level of disaggregation.

Although the UK has established governmental calculations of some aspects of lost employment and of service used, these were not sufficient for our purposes. Gender and intimate partner violence uses services beyond those for other crimes, so required additional estimates for civil legal services, social welfare and specialised services (e.g. refuges). Even in the UK, many major services either cannot, or have great difficulty in, measuring the extent of use of their services by survivors of gender-based and intimate partner violence. The estimates we provide thus require time-consuming hunts for data and complex calculations, using a level of resource that is demanding.

The inclusion of a component that measures the public valuation of the physical and emotional impact of violent crime is a necessary part of the UK Green Book cost-benefit analysis, not an optional extra. The Home Office methodology measures this value through the health-based concept of how many years of quality life have been lost as a result of the violence. Such things matter even if they are 'intangible' and the government methodology rightly includes them.

The findings from this UK case study are that the cost of intimate partner violence against women is EUR 13 732 068 214 and of intimate partner violence against women and men is EUR 15 374 525 253; the cost of gender-based violence against women is EUR 28 418 772 278 and the cost of gender-based violence against women and men is EUR 32 557 739 819.

Whether the focus is on intimate partner violence against women or gender-based violence against men and women, over half of the cost is a result of the public estimation of the value placed on the physical and emotional impact that the violence causes. Around 13 % of the cost is found in lost economic output. The cost of services makes up the remaining. Of these services, the most resources are spent on criminal justice, followed by health services and social welfare. Less than 3 % is spent on specialised services to victim/survivors in order to help mitigate the harms of the violence and to prevent its recurrence. The proportion of the expenditure on this violence that is linked to prevention is currently small.

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