Domestic violence-related use of services and the resulting costs in health, social and legal services

Heli Siltala, Tomomi Hisasue, Johanna Hietamäki, Juhani Saari,
Taina Laajasalo, Martta October, Hanna-Leena Laitinen, Jani Raitanen

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Abstract

The research project examined the impacts of domestic violence on the use of health, social and legal services and the resulting costs.

In the study, data was collected from the registers of primary health care and specialist medical care, shelters, the police and the Kela, and from the Gender-Based Violence population survey. For the period 2015–2020, a total of 33,000 victims of domestic violence were identified in the registers and a control group was formed, which was five times larger. More than 7,700 people responded to the population survey.

The additional cost in healthcare services as a result of domestic violence was EUR 1,024 per person annually compared to the rest of the population. Over a period of five years, the direct additional healthcare costs caused by physical intimate partner violence (IPV) experienced by women totalled EUR 150 million per year (146,000 women).

According to the population survey, 44% of Finns aged 16–74 had experienced IPV, and 65% had experienced domestic violence in their childhood. IPV had been experienced by 48% of women and 39% of men. Among those who had experienced IPV, the costs in social services were 60–90% higher and in legal services (incl. the police), 70% higher than among those who had not experienced IPV. Domestic violence experienced in childhood was visible in adulthood as social and legal services costs that were 50% higher.

This publication has undergone an external scientific review.

Provision This publication is part of the implementation of the Government Plan for Analysis, Assessment and Research. (tietokayttoon.fi) The content is the responsibility of the producers of the information and does not necessarily represent the view of the Government.

Keywords research, research activities, domestic violence, violence, health services, social services, legal services, police, costs

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Lähisuhdeväkivallasta aiheutuva palveluiden käyttö ja kustannukset Terveys-, sosiaali- ja oikeuspalveluissa

Valtioneuvoston selvitys- ja tutkimustoiminnan julkaisusarja 2023:4

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Tekijä/t	Heli Siltala, Tomomi Hisasue, Johanna Hietamäki, Juhani Saari, Taina Laajasalo, Martta October, Hanna-Leena Laitinen, Jani Raitanen		
Yhteisötekijä	Terveyden ja hyvinvoinnin laitos, Jyväskylän yliopisto, Tilastokeskus		
Kieli	englanti	**Sivumäärä**	124

Tiivistelmä

Tutkimushankkeessa selvitettiin lähisuhdeväkivallan vaikutuksia terveys-, sosiaali-, ja oikeuspalveluiden käyttöön sekä kustannuksiin.

Tutkimuksessa kerättiin tietoa perus- ja erikoissairaanhoidon, turvakotien, poliisin ja Kelan rekistereistä sekä Gender Based Violence -väestökyselystä. Rekisteritutkimuksessa tunnistettiin vuosina 2015–2020 yhteensä 33 000 lähisuhdeväkivallan uhria ja heille muodostettiin viisi kertaa suurempi vertailuryhmä. Väestötutkimukseen vastasi 2021–2022 yli 7 700 henkilöä.

Lähisuhdeväkivallan aiheuttama terveydenhuoltopalveluiden lisäkustannus oli 1 024 €/hlö vuosittain verrattuna muuhun väestöön. Lisäkustannuksia kertyi 6 vuoden seurannan ajan.

Viiden vuoden aikana naisten kokeman fyysisen parisuhdeväkivallan aiheuttamat suorat terveydenhuollon lisäkustannukset ovat 150 miljoonaa euroa vuodessa (väestötutkimuksen perusteella 146 000 naista fyysisen parisuhdeväkivallan uhrina).

Väestötutkimuksen mukaan 16–74-vuotiaista suomalaisista parisuhdeväkivaltaa oli kokenut 44 % ja lapsuusajan lähisuhdeväkivaltaa 65 %. Naisista 48 % ja miehistä 39 % oli kokenut parisuhdeväkivaltaa. Parisuhdeväkivaltaa kokeneilla kustannukset olivat sosiaalipalveluissa 60–90 % ja oikeuspalveluissa (ml. poliisi) 70 % korkeammat verrattuna ei parisuhdeväkivaltaa kokeneisiin. Lapsuudessa koettu väkivalta näkyi puolestaan 50 % korkeampina sosiaali- ja oikeuspalveluiden kustannuksina aikuisuudessa.

Julkaisu on läpikäynyt ulkopuolisen tieteellisen arvioinnin.

Asiasanat tutkimus, tutkimustoiminta, lähisuhdeväkivalta, väkivalta, terveyspalvelut, sosiaalipalvelut, oikeudelliset palvelut, poliisi, kustannukset

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Användning av tjänster och kostnader till följd av våld i nära relationer
Inom hälso-, social- och rättstjänster

Publikationsserie för statsrådets utrednings- och forskningsverksamhet 2023:4

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Författare	Heli Siltala, Tomomi Hisasue, Johanna Hietamäki, Juhani Saari, Taina Laajasalo, Martta October, Hanna-Leena Laitinen, Jani Raitanen		
Utarbetad av	Institutet for hälsa och välfärd, Jyväskylä universitet, Statistikcentralen		
Språk	engelska	**Sidantal**	124

Referat

I forskningsprojektet utreddes hur våld i nära relationer påverkar användningen av hälso-, social- och rättstjänster samt kostnaderna.

I undersökningen samlades uppgifter från register inom primärvården, den specialiserade sjukvården, skyddshem, polisen och Gender Based Violence befolkningsenkäten. I registerundersökningen identifierades sammanlagt 33 000 offer för våld i nära relationer under åren 2015–2020 och för dessa bildades en fem gånger större kontrollgrupp. Över 7 700 personer svarade på befolkningsundersökningen 2021–2022.

Tilläggskostnaden för hälso- och sjukvårdstjänster till följd av våld i nära relationer var 1 024 €/person per år jämfört med den övriga befolkningen. Under fem år uppgår de direkta tilläggskostnaderna för fysiskt våld i parrelationer som kvinnor upplever till 150 miljoner euro per år (146 000 kvinnor).

Enligt befolkningsundersökningen hade 44 % av finländarna i åldern 16–74 år upplevt våld i parrelationer och 65 % våld i nära relationer under barndomen. 48 % av kvinnorna och 39 % av männen hade upplevt våld i parrelationer. Kostnaderna för personer som upplevt våld i parrelationer var 60–90 % högre inom socialservicen och 70 % högre inom rättstjänsterna (inkl. polisen) jämfört med personer som inte hade upplevt våld i parrelationer. Våld som hade upplevts i barndomen syntes däremot som 50 % högre kostnader för social- och rättstjänster i vuxen ålder.

Publikationen har genomgått en extern vetenskaplig utvärdering.

Nyckelord	forskning, forskningsverksamhet, våld i nära relationer, våld, hälsovårdtjänster, socialtjänster, juridiska tjänster, polisen, kostnader		
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Content

FOREWORD

This study on the use and costs of services as a result of domestic violence has been funded by the Finnish Government's analysis, assessment and research activities. The report is part of the research project on the implementation of the Council of Europe's Convention on preventing and combating violence against women and domestic violence (the Istanbul Convention) in Finland. The results of the project will be used in the implementation of the strategic service package for restructuring social and health services in the Government Programme, by clarifying the orientation of resources in social and health services and the assessment and planning of service development needs.

The Use and costs of services as a result of domestic violence research project (LAKU) involved Johanna Hietamäki, Tomomi Hisasue, Taina Laajasalo, Martta October, Hanna-Leena Lahtinen, Taina Riski and Visa Martikainen from the Finnish Institute for Health and Welfare, Heli Siltala from the University of Jyväskylä, Juhani Saari, Henna Attila and Marjut Pietiläinen from Statistics Finland and Jani Raitanen from the University of Tampere.

Thanks to the seamless cooperation of all those involved in the project, it was possible to implement the research project rapidly. Studying the costs of domestic violence is a fascinating and challenging task. The different data sets made it possible to form an overall picture of the issue. The result is a comprehensive, versatile and competent report for policymakers, experts, researchers and anyone interested in the subject.

The steering group of the research project was composed of the Ministerial Adviser Pirjo Lillsunde (STM), the chairman of the steering group, Ministerial Advisers Ilpo Airio (STM), Päivi Yli-Pietilä (STM) and Minna Piispa (OM), Senior Specialist Minna Viuhko (STM), and Police inspector Kimmo Halme (SM). Warm thanks to the steering group for their excellent cooperation, discussions and comments on the report.

Johanna Hietamäki, Head of the Project
Finnish Institute for Health and Welfare
June 2022

1 Introduction

1.1 Objective

This research project examines the use and costs of services caused by domestic violence in health, social and legal services. The analysis focuses on the costs incurred by both male and female victims. The costs of violence experienced in childhood are also taken into account.

Underpinning the research project is the ongoing national implementation of the Council of Europe's Convention on preventing and combating violence against women and domestic violence (SopS 53/2015, the so-called the Istanbul Convention). To implement the Istanbul Convention, Finland is committed to collecting data and conducting research on, inter alia, the incidence of violence, its causes, consequences and trends, and the effectiveness of measures (Istanbul Convention, Article 11). The committee for the combating of violence against women and domestic violence (NAPE) has drawn up plans for the national implementation of the Istanbul Convention during the periods 2018–2021 (Ministry of Social Affairs and Health, 2017) and 2022–2025 (Ministry of Social Affairs and Health, 2022). The measures in the implementation plan for the period 2018–2021 included estimating the costs of domestic violence (VN TEAS 2021), which this research project aims to respond to.

In addition to the objectives related to implementing the Istanbul Convention, the Government's call for research funding highlighted the need for additional information on the costs of domestic violence (VN TEAS, 2021). Cost information would help especially to estimate the need to develop preventative services and services aimed at helping victims, as well as the size of the funding required for these services. The need for research data is significant also from the point of view of reforming social welfare and healthcare.

1.2 Domestic violence as a social problem

Domestic violence is a major societal problem and causes considerable human suffering as well as serious physical and mental health issues (Miller & McCaw, 2019; Stubbs et al., 2021). For individuals and families, the costs of domestic violence include insecurity, fear, suffering, insomnia, loss of self-esteem and the capacity to act, difficulty trusting others, mental health problems, physical injuries, illness, and inability to work and study (Dheensa et al., 2022; Hing et al., 2021; Krug et al., 2002). Domestic violence affects not only the

person directly affected, but also those close to the victim, such as the children in the family who witness the violence. (Chapter 2.3.)

Domestic violence is known to have diverse harmful and long-term effects on the growth and development of children and young people, which is reflected in different psychiatric symptoms, difficulties in academic achievement, behavioural disorders, crime and problems in personal relationships (Kitzmann et al., 2003; Holt et al., 2008). Since violence between adults and violence against children quite often occur in the same families, the accumulation of different forms of violent experiences in the same children increases the adverse effects of domestic violence (Brown et al., 2021; Chan ym., 2021). The risk of intergenerational transmission of violence is also higher, which contributes to an increase in the long-term costs of domestic violence.

1.3 Use and costs of services related to domestic violence

Domestic violence and its adverse effects result in the use of many social, healthcare and legal services (Ben-Porat, 2020; Dias et al., 2020; Kruse et al., 2011; Notko et al., 2022; Patterson et al., 2019; Ogbe et al., 2020; Rivara et al., 2007; Ulrich et al., 2003). Due to the harm caused by domestic violence, individual persons and families may need a number of different support services for years. Only a small proportion of people experiencing domestic violence seek help. Moreover, domestic violence is disclosed only by some people seeking help for it. A Finnish study indicates that less than a third of those who had experienced domestic violence in their lives had sought help from services (Kääriäinen, 2006). Only one in ten (11%) young people who had experienced domestic violence had reported the violence to a trusted adult (Ikonen et al., 2018). As many as 20–45% of people who have sought help for domestic violence have reported being dissatisfied with the service they received (Kääriäinen, 2006). According to the School Health Promotion Study, 24–26% of young people who had experienced domestic violence felt that they had not received help at school, and 22–25% had not received help from services external to school (Ikonen et al. 2018). Professionals working in social, healthcare and legal services are often unaware of the domestic violence underlying their clients' need for help, and many of those who have sought help have been dissatisfied or felt they received no help (Husso et al., 2021; Ikonen et al., 2018; Kääriäinen, 2006).

On the other hand, domestic violence may also be associated with lower use of services; for example, pregnant women who had experienced domestic violence have been found to use fewer maternity care services compared to women who had not experienced domestic violence (Musa et al., 2019). Other studies have also found that victims of domestic violence may not have access to all the healthcare services they need (Ferranti et al., 2018; McCloskey et al., 2007).

Organising social, health and legal services requires extensive financial resources from the State of Finland. Domestic violence results in a need for services that is higher than average and higher than for those who have not experienced domestic violence. This is also reflected in the social costs of these services. Based on prior research, we know that the costs of domestic violence are significant for both children and adults who experience violence (see Chapters 2.4–2.5). In Finland, the costs of domestic violence have previously been studied using a variety of data sources (Piispa & Heiskanen, 2000) and data collected in a single city (Heiskanen & Piispa, 2002). However, more than 20 years have passed since these studies were conducted, and no nationwide material has been used in previous studies on the costs of domestic violence.

This study aims to map the costs of domestic violence as comprehensively as possible by collecting data using both register data and a population-based survey. In this way, the aim is not only to make use of high-quality register data on the use of services, but also to estimate the costs of unidentified domestic violence.

2 Definitions and prior research

2.1 Definition of domestic violence

The definition of domestic violence used in this study follows the definitions of the Finnish Institute for Health and Welfare (Bildjuchkin et al., 2020) and the World Health Organization (WHO, 2002), which describe domestic violence as the intentional use or threat of power, control or physical force against another person or a group of people that results or may result in physical or mental injury, impaired development, failure to meet basic needs or death. Exposure to violence is defined as a situation in which a person or a group of persons is forced to live in a violent environment or to experience the fear or consequences of violence in their close relationships.

In domestic violence, the perpetrator uses violence towards a person close to them, such as their current or former spouse, a child, a dating partner, a sibling or some other family member. Domestic violence may be physical, psychological (inc. stalking), sexual, economic, digital, instrumental and chemical. It may also be neglect or be linked to culture, such as violence related to religion or honour-based violence (Bildjuchkin et al., 2020; Mullen et al., 2000). However, there is no single unambiguous definition of domestic violence, and different studies have utilized varied definitions for domestic violence.
In this study, the first sub-study focuses on domestic violence identified in healthcare, shelter and police services and recorded in client registers, where violence can take many different forms. The second sub-study examines the prevalence of physical domestic violence and intimidation, sexual domestic violence, psychological domestic violence and harassment by (ex-)partners as well as their link with service use through a population – based survey.

For adults, both Finnish and international studies have mostly focused on the prevalence and impact of physical and sexual domestic violence. Studies on children, on the other hand, have mostly focused on physical violence perpetrated by their parents. However, in recent decades, increasing attention has also been paid to the various forms of psychological abuse and control . It is also important to remember that witnessing violence between parents is very harmful for children, even if the violence is not directly targeted at the child (Kimball, 2016).

2.2 Prevalence of domestic violence in Finland

National population-based studies on experiences of violence, conducted in 1997, 2005 and 2010, indicate that domestic violence is a very common problem in Finland (Heiskanen & Ruuskanen, 2010; Piispa, 2006). These studies indicate that Finnish men and women experience equal levels of physical violence overall. However, men are more likely than women to experience violence and threats perpetrated by strangers, while women are considerably more likely to experience sexual violence and domestic violence. The consequences of domestic violence have been more severe for women than for men, and the domestic violence experienced by women has been more long-lasting and repeated. (Heiskanen & Ruuskanen, 2010). This gender gap in domestic violence is also reflected in homicide statistics, as between 2013 and 2018, 60% of the female victims of homicides but only 8% of the male victims were killed by their spouse or former spouse (Lehti, 2020).

According to a previous EU-wide population study, one in three Finnish women have experienced physical or sexual domestic violence in their lifetime (FRA, 2014). It is the third highest figure in the EU, but this is largely explained by individual and societal factors such as the partner status of the respondent, marital status, sexual orientation, nationality and perceptions of the prevalence of domestic violence (Humbert et al., 2021). Half of Finnish women have experienced psychological abuse by a current or former spouse (FRA, 2014). Stalking have esperienced 24% and 42% have experienced sexual harassment from Finnish women. For Finnish men, information on the prevalence of psychological abuse, stalking or sexual harassment has not been mapped at the population level. However, approximately 16% of both men and women are known to have experienced violence at least once in their current relationship, and 42% of women and 22% of men have experienced violence from an ex-spouse (Heiskanen & Ruuskanen, 2010). In the past year, 5–8% of Finnish women (FRA, 2014; Hisasue et al., 2020; Näsi & Kolttola, 2021) and 2–6% of men (Heiskanen & Ruuskanen, 2010; Näsi & Kolttola, 2021) have been victims of domestic violence.

The experiences of violence among Finnish children have been surveyed in three national child victim surveys in 1988, 2008 and 2013 (Ellonen et al., 2008; Fagerlund et al., 2014; Sariola, 1990) and in a School Health Promotion Study (Ikonen & Helakorpi, 2019). Young people's experiences of violence have been studied in the Juvenile Delinquency Survey (Kaakinen & Näsi, 2021).

Child victim surveys indicate that although domestic violence experienced by children has clearly decreased since the criminalisation of corporal punishment, a significant proportion of Finnish children still experience violence in their families. In 2013, 45% of children in 9th grade reported experiencing at least one instance of psychological violence from a parent, 21% of mild physical violence (e.g., being pulled by the hair, shoved, shaken or beaten) and 3% of severe physical violence (e.g., being hit with a fist or

object, kicked or assaulted with a weapon) (Fagerlund et al., 2014). Violence perpetrated by siblings was reported even more often. Younger children report experiencing less violence, suggesting that in many cases domestic violence begins when the child is closer to adolescence. Children reported violence between parents less often than violence between parents and siblings.

In the 2019 School Health Promotion Study, 17% of girls and boys in grades 4–5 (ages 10-11), 37% of girls in grades 8–9 (ages 13-14) and 19% of boys in grades 8–9 reported experiencing psychological abuse from parents or other guardians in the past year. (Ikonen & Helakorpi 2019). Physical violence was reported by 11% of girls and 15% of boys in grades 4–5, and by 15% of girls and 9% of boys in grades 8–9. According to the Juvenile Delinquency Survey, 20% of girls and 14% of boys had experienced physical violence from a family member in the past year (Kaakinen & Näsi, 2021). Boys (26%) reported experiencing more non-family violence than girls (13%).

According to the Child Victim Survey, 4.9% of children and young people had experienced domestic violence against their mother and 3.5% against their father in 2013 (Hietamäki et al., 2021). The difference between girls and boys was that girls reported experiencing more domestic violence against their mother (7.0%) and father (5.1%) than boys (mother 2.7%, father 1.8%). In the School Health Promotion Study (2019)[1], 16.4% of children and young people estimated that they had seen or heard psychological abuse between other family members in 2019. 10.1% of children and young people said they had witnessed physical violence between other family members in 2019, and their proportion was even higher (14.2%) in 2021.

The prevalence of domestic violence in Finland has been assessed in various population-based studies. Depending on the survey, questions on domestic violence have been asked in different ways, and the scope of the questions varies. The results are not fully comparable, but they provide a general view of domestic violence in Finland. Inevitably, the results of population studies are always influenced by respondents' interpretations of the questions and experiences of violence may thus remain unidentified. It is also up to the respondent to decide what they wish to reveal in the survey. (For example, Piispa, 2004.) However, it is clear that domestic violence is a very common problem in Finland – especially as experienced women, but also among men. A large number of children have also either directly experienced domestic violence or been exposed to violence between their parents. The adverse effects of violence are therefore not limited to certain groups of people, but rather permeate society as a whole. However, more accurate mapping of the quantity and quality of experiences of domestic violence at the population level would be necessary in order to assess and hopefully prevent more effectively the adverse effects and costs of violence.

1 https://sampo.thl.fi/pivot/prod/fi/ktk/ktk4/

2.3 Adverse effects of violence

Research indicates that domestic violence has immediate and long-term effects on physical and mental health, social well-being and the financial situation of the victims (e.g. Hing et al., 2021; Krug et al., 2002). Domestic violence affects a person's life in a holistic way, including insecurity, working life, substance abuse, social relationships, and physical and mental health, and it can also be fatal (Hing et al., 2021; Hinkle, 2015; Meyer, 2014; Pain, 2012; Westwood et al., 2020).

The consequences of domestic violence for the victim and the possible actions of the perpetrator make it more difficult for the victim to participate in working life (Dheensa et al., 2022; MacGregor et al., 2021; MacGregor et al., 2022; Wathen et al., 2018.). For example, domestic violence causes distraction, fatigue and nausea, which can affect work performance. Physical injuries can prevent the victim from going to work, and violence can lead to them becoming redundant. The perpetrator can directly interfere with work by disrupting and making it difficult to get to work, for instance by preventing the victim from going to work, hiding their car keys and disrupting their working day by sending them messages and harassing them. Being a victim of domestic violence has also been found to increase the victim's substance use (Devries et al., 2014; Ogden et al., 2022). On the other hand, wWork also can serves as a resource and allows people experiencing domestic violence to become financially independent. (MacGregor et al., 2022.)

Victims of domestic violence suffer from many health problems, including physical injuries, pain, psychosomatic symptoms, gynaecological problems and sleep problems (Dillon et al., 2013; Ellsberg et al., 2008; FRA, 2014; García-Moreno et al., 2013; Heiskanen & Ruuskanen, 2010; Hisasue et al., 2020; Riedl et al., 2019). Experiencing domestic violence is also known to predispose people to long-term illnesses such as asthma, rheumatoid arthritis and cardiovascular disease (Miller & McCaw, 2019; Wright et al., 2019). Mental health problems such as anxiety, depression, suicidality and post-traumatic stress are also common side effects of domestic violence (Connolly et al., 2021; Dillon et al., 2013; Riedl et al., 2019). These multiple health effects are likely due to the chronic stress experienced by victims (Miller & McCaw, 2019), caused by fear associated with domestic violence, which can be further exacerbated by the recurrence and longevity of violence (FRA, 2014; Krug et al., 2002; Leppäkoski et al., 2011).

The health problems are not caused by physical violence alone. Rather, the experience of psychological domestic abuse is known to be at least equally harmful (Lagdon et al., 2014; Siltala, 2021). Similarly, witnessing violence between parents has a negative impact on children's development and well-being (Kimball, 2016). The adverse health effects of domestic violence have been found to be long-lasting and to continue well after the violence has ended (Dillon et al., 2014; Krug et al., 2002). For example, domestic violence experienced as a child is known to adversely affect the health and well-being of victims even in adulthood (Hillis et al., 2017).

Exposure to domestic violence is one form of psychological abuse towards children that increases the risk of many serious consequences for children (Artz et al., 2014; Lourenço et al., 2013, Ravi et al., 2018; Vu et al., 2016). Effects on the child may already start in the foetal stage, during pregnancy. Self-reported stress levels (Chambliss, 2008) and cortisol levels increase in mothers exposed to domestic violence (Han & Stewart, 2014). Several studies have found that the mother's experience of domestic violence affects early interaction; exposure to violence is a risk factor for developing and maintaining a secure attachment relationship between mother and child (Sims et al., 1996; Zeanah et al., 1999).

People experiencing domestic violence are among heavy users of health services (Kruse et al., 2011; Rivara et al., 2007; Ulrich et al., 2003). Moreover, domestic violence is also a significant burden on social and legal services (Ben-Porat, 2020; EIGE, 2014; Piispa & Heiskanen, 2000; Waters et al., 2005). However, only one in three Finnish victims of domestic violence report having sought help from a service provider, such as the police, healthcare, legal services or therapy (Kääriäinen, 2006). It has been systematically observed both in Finland and abroad that the majority of victims of domestic violence who use services remain unidentified (Hinsliff-Smith & McGarry, 2017; Riedl et al., 2019, Siltala, 2021).

One explanation for underreporting domestic violence is that the feelings of shame and fear associated with experiencing domestic violence make it difficult for victims to report violence on their own initiative (Catallo et al., 2012; Krug et al., 2002). It has also been found that victims of violence either downplay or fail to recognise all the adverse effects of domestic violence (Catallo et al., 2012; Donnelly & Holt, 2020). However, the reluctance of professionals who encounter victims of domestic violence in their work to deal with violence also plays a significant role (Husso et al., 2012). A key priority for services and policymakers should be to understand the wide range of adverse effects of domestic violence.

Victims of domestic violence should be better identified and taken into account in healthcare, social and legal services. The need for this is obvious, as up to 20–45% of people who have sought help for domestic violence have reported being dissatisfied with the service they received (Kääriäinen, 2006). According to the School Health Promotion Study, 24–26% of young people who had experienced domestic violence felt that they had not received help at school, and 22–25% had not received help from services external to school (Ikonen et al. 2018).

2.4 Prior research data on the costs of domestic violence in Finland

The costs of domestic violence in Finland were first mapped in 1998, when they were estimated to be approximately EUR 68 million annually (valued in 2020 money) (Piispa & Heiskanen, 2000). Of these costs, 53% were incurred for legal services, 30% for social services (including shelters and other services for victims) and 7% for healthcare. However, the survey did not cover all those working in the field of domestic violence.

To refine the estimate, the costs of domestic violence were mapped again in the city of Hämeenlinna in November 2001 (Heiskanen & Piispa, 2002). Based on a study conducted at the time, the annual direct cost of domestic violence in Finland was calculated to be EUR 115 million (valued in 2020 money), or approximately EUR 21 per capita. In Hämeenlinna, 53% of the surveyed costs were incurred for social services, 27% for legal services and 20% for healthcare. The study was based on survey data collected from professionals working with victims of domestic violence. Hämeenlinna's size and population structure correspond to the average of Finnish municipalities, and the latter cost estimate can therefore also be considered reliable from this point of view. However, the survey was based only on cases of domestic violence identified in healthcare, social and legal services. This calculation thus also most likely underestimates the total costs of domestic violence in Finland.

Based on calculations by the European Institute for Gender Equality (EIGE) (2014), the annual cost of domestic violence in Finland would be up to EUR 1.4 billion, 22 times higher than Heiskanen and Piispa's (2002) estimate. Higher cost estimates than before have also been presented in a recent study conducted in the Hospital District of Central Finland, which mapped the use of health services for victims of domestic violence, identified in the emergency clinic based on data from the patient information system (Siltala, 2021). According to the data, the average health costs for victims of domestic violence after their identification were twice as high as the estimate made in Hämeenlinna in 2001. In addition, the health costs for victims of domestic violence were up to 80% higher than the average for the population in Central Finland.

2.5 Prior research on the international costs of domestic violence

The European Institute for Gender Equality (EIGE, 2014) estimates that domestic violence costs EU countries a total of EUR 129 billion per year (in 2020 money). The estimate is based on a case study in the United Kingdom, which indicates that the annual cost of domestic violence in EU countries ranges from EUR 106 million in Malta to EUR 21 billion in Germany. The estimate takes into account the direct and indirect costs of violence to the victims and to healthcare, social and legal services. According to the study, 47% of the costs of domestic violence were due to the indirect physical and psychological effects of violence, 19% legal services, 12% absence from work and reduced economic productivity, 8% healthcare services, 8% social services, 5% direct costs to victims (e.g. broken property or costs associated with moving to a new home) and 1% services specialising in violence.

The cost of domestic violence has also been found to be in the billions of dollars in studies conducted in the USA and Canada (Brown et al., 2008; Waters et al., 2005), although there has been considerable variation in the results of these studies. Relative to GDP, the cost of domestic violence has been found to be higher in low-income countries (Waters et al., 2005). In general, the costs of domestic violence have been mapped most in the healthcare context. Due to the numerous adverse health effects associated with violence, domestic violence survivors have been found to use healthcare services 25–100% more than the general population (Kruse et al., 2011; Rivara et al., 2007; Ulrich et al., 2003).

Studies based on self-reported data from different countries have estimated that the cost of non-fatal domestic violence against children and women is higher than that of war, terrorism and homicide combined: up to 85% of the cost of violence is related to violence against women and children (Hoeffler, 2017). In the USA, in a study by Peterson and colleagues (2018), the lifetime costs of experiencing domestic violence for a woman were over $100,000 per victim, with the majority of costs consisting of medical costs and lost productivity. Childhood survivors of violence also have higher healthcare costs into adulthood (Loxton et al., 2019; Bellis et al., 2019).

When assessing the cost impact of domestic violence, it would also be necessary to take into account the additional costs over the lifetime of the children exposed to it compared to the rest of the population. To date, only one peer-reviewed study estimating the costs incurred via children is known to have been published: Holmes and colleagues (2018) estimate the average lifetime excess cost of child exposure to domestic violence to be over $50,000 per victim (in 2016 money). The analysis included increased healthcare costs ($11,000), increased crime-related costs ($14,000) and lost labour productivity due to lower educational attainment ($26,000). As the cost estimates were carried out in the US service system, their generalisability to Finland is limited, and more domestic research is needed.

2.6 The challenges of estimating the costs of violence

There are several challenges and limitations to estimating the costs of domestic violence. Firstly, domestic violence is a very sensitive research topic and underreporting experiences of violence makes it very difficult to estimate the costs of violence. For example, only 10% of physical and sexual violence experienced by Finnish women comes to the attention of the police, and only 48% of these cases lead to a report being filed and thus recorded in crime statistics (Heiskanen & Ruuskanen, 2010). In the case of violence by a current partner, up to 80% of cases reported to the police do not result in filing a criminal report (Heiskanen & Ruuskanen, 2010). Official crime statistics therefore only reveal a small proportion of domestic violence in Finland. No reliable statistics are currently available on the prevalence of honour-related violence or other forms of violence such as forced marriages.

Finnish healthcare register data are of high quality by international standards and have been widely used to estimate various healthcare costs. The ICD-10 disease classification used in Finnish healthcare contains several violence-related codes that should be used for recording cases of violence. However, studies indicate that there are significant gaps in identifying and recording domestic violence in Finnish healthcare (Kivelä, 2020; Siltala, 2021). As a result, studies based on healthcare register data also underestimate the prevalence of domestic violence as a cause of healthcare admissions and give an inaccurate picture of the extent of the health effects and costs of violence. Data on the use of social services are even more difficult to access, as these services are provided by individual municipalities and third sector operators. Incidents of violence are not systematically documented, and the use of client data in a survey is very difficult because register data on social services are not yet available nationally.

Determining the costs of domestic violence is also a challenge. Some costs directly related to violence, such as a police patrol or ambulance call, a visit to the emergency room, days spent in a shelter, child protection services or a court case, are relatively easy to identify and price. However, many of the indirect costs of domestic violence, such as long-term adverse health effects, absences from work, the costs associated with divorce and custody disputes, financial hardship or the need for social benefits, are more difficult to identify and quantify. Surveys have found that victims of domestic violence use a wide range of healthcare, social and legal services (e.g. Kääriäinen, 2006). Despite this, service providers or even the victims themselves may not recognise that the visits are the result of domestic violence, or victims no longer remember all the services they have used after many years. On the other hand, the effects of domestic violence are not limited to the victim of the violence, but the children in the family and the perpetrator of the violence may also suffer from several adverse effects and use various support services without the violence being recognised.

This study aims to address the shortcomings of prior studies by collecting data using both register material and a population-based survey. In this way, the aim is not only to make use of high-quality register data on the use of services, but also to estimate the costs of unidentified domestic violence. The study takes into account the different forms and factors of domestic violence in a comprehensive way, which also increases our understanding of the adverse effects and costs of domestic violence.

3 Social, healthcare and legal services for people experiencing domestic violence

When someone in a family or close relationship uses violence, all family members need help. The types of support measures needed are varied and include, for instance, healthcare and social services. Police interventions and legal services, such as provisions on legal proceedings, also play a role in the recovery of the victim of domestic violence and in holding the perpetrator accountable for their violence. To be successful, work against domestic violence requires regional coordination and extensive cooperation between several administrative sectors.

The organisation of services for survivors of domestic violence is governed by both national legislation and international human rights obligations, most notably the Istanbul Convention (SopS, 53/2015) and the Lanzarote Convention (SopS, 88/2011). EU legislation also steers service guidance for victims of domestic violence and defines the minimum content of services to be provided to victims. Directive 2012/29/EU of the European Parliament and of the Council establishing minimum standards on the rights, support and protection of victims of crime (Victims' Rights Directive) specifically mentions violence against women and domestic violence (Directive 2012/29/EU). The Directive states that people who are victims of, inter alia, repeated domestic violence and gender-based violence, as well as their children, require special support and legal protection.

National legislation contains more detailed regulations on social, healthcare and legal services for victims of domestic violence. In addition, the development of comprehensive services for victims of violence is guided by various national implementation and development programmes, such as the Action plan for the Istanbul Convention[2], the Action plan for the Lanzarote Convention[3], the Action Plan for Combating Violence against Women[4] and the Non-Violent Childhoods action plan[5]. The following sections explain in more detail the content of these recommendations and assess their implementation.

2 Action plan for the Istanbul Convention for 2022–2025 http://urn.fi/URN:ISBN:978-952-00-8659-6

3 Lanzarote Convention: National Action Plan for 2022–2025 http://urn.fi/URN:ISBN:978-952-00-8675-6

4 Action Plan for Combating Violence against Women for 2020–2023 http://urn.fi/URN:ISBN:978-952-259-835-6

5 Non-Violent Childhoods: Action Plan for the Prevention of Violence against Children 2020–2025 http://urn.fi/URN:ISBN:978-952-00-4123-6

3.1 Social and healthcare services for victims of domestic violence

All social and healthcare services must ensure that people who have experienced domestic violence are identified and that they receive rapid assistance and treatment for the crisis caused by the violence. Services for people experiencing domestic violence are regulated in more detail in the Social Welfare Act (1301/2014 vp), the Child Welfare Act (417/2007), the Act on Supporting the Functional Capacity of the Older Population and on Social and Health Services for Older Persons (980/2012) and the Health Care Act (1326/2010). Under legislation, the provision of psychosocial support in cases of domestic violence is the responsibility of the social welfare and healthcare services.

According to Section 11 of the Social Welfare Act, the municipality and, from the beginning of 2023, the welfare region must provide services that meet the need for support in cases of intimate partner violence, domestic violence and other forms of violence and abuse. Section 35 of the Social Welfare Act contains provisions on contacting social welfare services to assess the need for support. If a person's need for social welfare assistance is assessed as obvious, the professionals mentioned in the section concerned must refer the person to social services or, with the person's consent, contact the authority responsible for municipal social welfare in order to assess the need for support. In certain situations, notification of the need for social welfare must be made without delay, without prejudice to confidentiality provisions. The article also applies to the police. Similarly, the Child Welfare Act (417/2007, Section 26) and the Act on Supporting the Functional Capacity of the Older Population and on Social and Health Services for Older Persons (980/2012, Section 15) also provide for the assessment of the situation.

The Health Care Act stipulates that the purpose of the Act is to promote the social security, good health, well-being and working and functional capacity of the population (Section 2). The Act also aims to promote social security on a regional level (Section 36). Preventing and tackling domestic violence is essential to achieving these objectives. In addition, the law requires cooperation between healthcare and social emergency services if a patient is unable to take care of their own safety or if the best interests of a child so require, and to submit the necessary notifications (Section 50a).

According to Section 29 of the Social Welfare Act, social emergency services must be carried out in cooperation with emergency medical services, healthcare emergency services, rescue services, the police, the emergency response centre and other operators as necessary. In addition, the authorities have the possibility to gather multi-professional network meetings around a client with high support needs, as is done in the MARAK or Barnahus operating model to coordinate services (Korkman et al., 2018; Piispa & October, 2017; Robbins et al., 2014).

MARAK is a multiprofessional method for risk assessment and victim support in cases of serious domestic violence (Bishop & October, 2017; Robbins et al., 2014). MARAK brings together the regional authorities and organisations and coordinates the support provided to victims. The aim of the national project developing the Barnahus operating model is to ensure a multiprofessional, child-centred, speedy and uncomplicated investigation process for violent crimes against children and to ensure adequate support and care for the children and their families. (Korkman et al., 2018.)

In Finland, clinical forensic examinations are the responsibility of municipalities and, in the future, welfare regions under Section 31 of the Health Care Act, and forensic examinations of victims of violence are carried out in health centres and hospitals. Victims of violence are examined and treated according to a medical assessment, and all findings suggestive of assault are recorded accurately and systematically in preparation for a statement for potential legal proceedings.

Seri Support Centres provide services for victims of sexual violence in different parts of Finland (in line with the Istanbul Convention). The Seri Support Centre offers support to anyone over the age of 16 who has experienced sexual violence, regardless of gender. The Seri Support Centre offers trauma support, psychological counselling and initial-stage therapy in addition to forensic sampling.

Shelters provide a refuge and assistance for anyone who has experienced violence or the threat of violence (Act on State Compensation to Producers of Shelter Services, 1354/2014). Shelters provide professional support, advice and guidance for acute situations. In addition to crisis support, shelters also provide support and information for arranging practical matters (Hietamäki ym., 2020). Shelters are staffed 24 hours a day, and victims can go there on their own initiative or be referred there. Victims can also go there anonymously where necessary. The duration of a stay in a shelter is always individual, and the stay is free of charge for the client. In addition to services for residents, shelters also provide outpatient services for perpetrators and victims of domestic violence. The number of shelter places in Finland has increased significantly since 2015, when the funding of shelters became the responsibility of the state. However, more shelters and client places are still needed.

A key objective of the ongoing health and social services reform is to increase cooperation of health and social services and the accessibility of services. For the time being, however, it is unclear how the coordination of services related to domestic violence will be organised in wellbeing services counties. Currently, the availability of violence-related support services is geographically very fragmented, and the operating models mentioned earlier, such as MARAK activities, are not available in all wellbeing services counties. Currently, only the shelters and the helpline Nollalinja are directly funded by the state.

Other services for victims and perpetrators of domestic violence are largely organised by third sector operators, which significantly limits the long-term development of services.

Gaps in service structures threaten the right of all victims of domestic violence to get help, and various minority groups are particularly vulnerable, such as people with disabilities or victims of violence from foreign backgrounds.

3.2 Legal services and referral of victims to support services

An overview of legal services is available on the judiciary's website (oikeus.fi), which provides information for victims of crime and also contains comprehensive information on available support services related to the judicial process. Legal services, such as those provided by lawyer's offices or law firms, are usually subject to a fee.

According to Chapter 3, Section 3 of the Criminal Investigation Act (805/2011), the criminal investigation authority must conduct a criminal investigation when there is reason to suspect that a crime has been committed, based on a report submitted to the authority or for other reasons. According to Chapter 3, Section 11 of the Criminal Investigation Act, a criminal investigation must be conducted without undue delay. Prosecutors are governed by Section 9 of the Act on Public Prosecutors, which stipulates that one of the prosecutor's duties is to ensure the expeditious discharge of criminal liability in the cases before them. At least for the time being, there are no specific provisions in national legislation on the registration, transfer or processing of criminal reports in cases of domestic violence.

All assault and sexual offences in intimate relationships are offences subject to formal prosecution under Chapter 20, Section 11 of the Criminal Code. In these offences, the criminal investigation or prosecution is not conditional on the injured party's request for punishment (Chapter 3, Section 4 of the Criminal Investigation Act, Chapter 1, Sections 2 and 6a of the Criminal Procedure Act (689/1997)). In cases of offences subject to formal prosecution, the will of the injured party is also irrelevant for the continuation of the criminal proceedings.

Chapter 10, Section 4 of the Criminal Investigation Act provides for the referral of a victim to a support service if the criminal investigation authority has assessed that the victim is in need of special protection under Chapter 11, Section 9a of the Criminal Investigation Act, or that the nature of the offence or the victim's personal circumstances otherwise require

it. Among other things, sexual offences and offences against life and health are essentially covered by the provision (HE, 14/2013 vp, p. 36 and HE, 66/2015 vp, p. 39).

If a person is a victim of domestic violence or a sexual offence, the court may appoint an assistant or support person for the criminal investigation and trial. If the victim has demands in court, the court will appoint an assistant for them. If the victim does not make demands, a support person may be appointed for them. Assistants and support persons are appointed irrespective of the victim's income, and their fees and expenses are paid from state funds.

On 5 June 2020, the National Police Board issued an instruction (POL-2020-28566) on police action in cases of domestic and intimate partner violence and violence against women. The guidelines state that the injured party must be given information about the help and support services available. At the same time, agreement should be reached on the possible transfer of contact details to these support services, if the person concerned gives their consent. For victims of crime, the police should always actively ensure that they are made aware of the help and support available, such as Victim Support Finland (RIKU). Where necessary, the police should forward the contact details to Victim Support Finland or other helpers with the victim's consent.

In cases of rape, the police refer the victim to support centres for sexual offences (Seri Support Centre). The Finnish Institute for Health and Welfare and the National Bureau of Investigation have published national guidelines for sexual offence investigations in healthcare units (SERI study 2016). Police referrals to MARAK working groups or services other than Victim Support Finland are much less frequent. For example, in 2019, only 15 of the more than 200 cases dealt with by MARAK working groups in Finland were referred to the working group by the police (Domestic Violence 2019).

The Finnish Criminal Code does not currently recognise domestic violence as a separate type of crime. However, treating domestic acts of violence for instance as isolated assaults does not necessarily capture the damaging dynamic of domestic violence, which often includes repeated psychological abuse, controlling behaviour and a climate of fear. Sexual violence in a relationship is also likely to be often hidden and often does not meet the criteria for physical violence in current rape legislation[6]. Insufficient understanding of the harmful nature of domestic violence is also reflected in custody disputes, where even severe and repeated violence is not always seen as an obstacle to imposing custody or visitation rights (Hautanen, 2010). The number of cases of domestic violence reported

6 The reform of sexual criminal law will enter into force on 1 January 2023, and the offence will be defined as lack of consent and will not depend on physical injuries.

to the police increased significantly in 2011, when even minor assaults became offences subject to public prosecution (OSF, 2019). Since then, however, the number of reports of domestic violence has levelled out.

3.3 Current state of service coordination and related guidance

As described above, the acts governing social, healthcare and legal services oblige service providers to intervene in domestic violence and collaborate in organising support services related to violence. Coordination structures play a key role in preventing domestic violence and creating service chains. Strong structures are needed at the levels of municipalities, regions and central government to clarify the responsibilities of each party and to create multidisciplinary cooperation, functional practices and service paths for the different parties to domestic violence.

In 2008, the Ministry of Social Affairs and Health and the Association of Finnish Local and Regional Authorities recommended that each municipality or cooperation area should set up a cross-administrative coordination group for intimate partner and domestic violence to be in charge of planning, coordinating and monitoring the prevention of violence (Ministry of Social Affairs and Health, 2008). The aim was to have representatives from different administrative sectors, organisations and congregations, but the group would work under the auspices of the Committee on Social Affairs and Healthcare.

In 2019, the Ministry of Social Affairs and Health commissioned a survey to map how the recommendations made in 2008 had been implemented in municipalities. The survey found that the development of the prevention of domestic violence had been varied in municipalities (Nipuli, 2019). In some municipalities, the prevention of violence had been developed on a long-term basis and had been at least partly integrated into structures. The survey indicated that a coordination or cooperation group for the prevention of domestic violence was missing at the beginning of 2019 in approximately half of the municipalities or joint municipal authorities that responded to the survey. 22% of the responding municipalities had their own separate coordination or cooperation group for domestic violence, and 23% had a group within another working group, such as a working group for welfare promotion or a working group for the prevention of substance abuse and the promotion of mental health.

According to the survey, guidelines and tools related to the prevention of domestic violence were clearly more frequently used in those municipalities and joint municipal authorities where a multidisciplinary coordination or cooperation group had been set up,

compared to those municipalities and joint municipal authorities which did not have such a group (Nipuli, 2019). Clients were also more likely to have service pathways on domestic violence in areas with a multidisciplinary coordination or cooperation group for the prevention of domestic violence. The differences between the groups were also reflected in the training aimed at professionals. Municipal staff or the staff of joint municipal authorities had been trained to deal with domestic violence over the last five years in 84% of the localities where a coordination or cooperation group had been established. In the other regions, only 38% said that training had been provided.

Based on the current Government Programme, the Action Plan for Combating Violence against Women (2020–2023) aims to prevent violence and improve the structures and coordination of violence prevention. The programme calls for guidelines to be drawn up for municipalities and wellbeing services counties to organise coordination structures for the prevention of and action against domestic violence. The guidelines for wellbeing services counties and municipalities required by the Action Plan were published in June 2022[7]. The guidelines aim to harmonise the coordination structures of municipalities and wellbeing services counties for tackling domestic violence and to support the creation of service chains and the introduction of functional operational models in the regions. The implementation of the guidelines will be monitored by the Finnish Institute for Health and Welfare in the next few years.

7 Guidelines for municipalities and social services counties on organising coordination structures for preventing domestic violence and action against domestic violence. https://urn.fi/URN:ISBN:978-952-343-878-1

4 Implementation of the study

4.1 Objectives of the study

The main objective of the study is to carry out a survey on the costs of domestic violence for healthcare, social and legal services based on a population study on domestic violence experiences and healthcare client register data. The study compares the costs of victims of domestic violence with those of a control group. The analysis focuses on the costs incurred by both male and female victims. An examination of the costs of domestic violence experienced by children and in childhood will be carried out to the extent possible using the selected source data.

The study consists of two sub-studies in which the collected data are mutually complementary and partly answer different research questions. In both sub-studies, the costs of domestic violence are estimated by multiplying the number of service visits caused by domestic violence with the unit costs of these services. Both sub-studies use an upward approach, which examines first the number of people affected by domestic violence and then calculates the total cost of domestic violence. Table 1 below summarises the main data and variables of the sub-studies, which are described in more detail in the following sections.

In the first sub-study (*Register-based study*), a longitudinal study is conducted on the healthcare costs of domestic violence by using the register data of primary and specialised health care. The study compares the health costs of people identified as victims of domestic violence with those of the control group.

The second sub-study (*Population-based study*) examines the prevalence of domestic violence, the use of social, healthcare and legal services related to violence, the costs of service use and the satisfaction of victims of domestic violence with the services they receive, using nationally representative survey data. The study compares service use between respondents who have experienced domestic violence and the general population.

Table 1. Sub-study data and variables

	Data		Variables
Register-based study	Care Registers for Healthcare (HILMO) Outpatient care register of the public health services (AvoHILMO) Shelters for victims of domestic violence	Study population 1	Domestic violence, broad definition Domestic violence, narrow definition Healthcare costs
	Police	Study population 2	
Population-based study	GBV survey		Experienced domestic violence Domestic violence in childhood The use of health services The use of social services The use of legal services

4.2 Data: Register-based study

The first sub-study was carried out using a two-part register-based approach. The basic population for the data collection included all persons who lived in Finland between 1 January 2015 and 31 December 2020 and had a Finnish personal identity code.

In the **first** phase of the register study, victims of domestic violence were identified from the national client registers of primary health care, specialised healthcare, shelters and the police. The sample selected for the data consisted of people aged 19–54 who used these services (N = 47,504)[8]. In the **second** phase of the register-based study, the direct health costs of violence were estimated by comparing the use of services by persons identified as victims of violence with the reference population.

The data set based on the client registers of healthcare and shelters is called study population 1. The data set based on registers from police reports is called study

8 Persons who have experienced violence as identified from healthcare client registers (HILMO, AvoHILMO), shelters and police client registers

population 2. These two sets of data have been analysed separately, as it was not possible to combine the police register data with the healthcare and shelter register data within the timeframe of this study. In both data sets, victims of violence were only included based on the first time they were identified, even if they had experienced violence on several occasions. So, if a person was identified in 2015 and 2017, they are only included in the 2015 figures.

4.2.1 Study population 1 (healthcare and shelter client registers)

In study population 1, victims of violence were identified from three different client data systems: the HILMO register for specialised healthcare, the AvoHILMO register for primary health care and the client register for shelters (Appendix 1). A more detailed description of the content and purpose of these registers is provided in Appendix 2.

From the HILMO and AvoHILMO registers, patients with ICD-10 diagnosis classification describing experiences of violence were selected for the study. The diagnostic classifications for domestic violence used for identification are described in more detail in Chapter 4.4.1. As there are several gaps in the identification and recording of domestic violence in healthcare, the register-based study data was supplemented by the electronic client data system for shelters. Shelter clients whose personal identity code was registered in the client data system were selected for the study. The three data sets were combined using the personal identity codes of the respondents. Victims of violence are examined through two definitions.

The broad definition of victims of violence includes all victims of violence, regardless of the perpetrator (including domestic violence). A narrow definition of violence refers to domestic violence. This refers mainly to domestic violence, i.e. cases where the perpetrator is identified as the spouse or partner. The exception is shelter data where the perpetrator of the violence is a spouse, partner or other close person.

There were three reasons for using a broad and a narrow definition of violence. Firstly, the broad definition of violence is likely to include cases of domestic violence as well. Secondly, the number of victims of domestic violence was small, so it was important to be able to compare healthcare costs between a broad and a narrow definition of violence. Thirdly, there was no desire to include cases that fell within the broad definition of violence in the reference group. The aim was to exclude victims of violence from the reference group.

Between 2015 and 2020, a total of 26,431 victims of violence (broad definition) were identified from healthcare and shelter registers. Victims of violence include all victims of

violence (including victims of domestic violence) identified in the client registers of the service concerned. In total, 4,921 (18.2%) persons in the sample were monitored for up to six years after they were first identified as victims, 4,334 (16.4%) were monitored for up to five years, 4,265 (16.1%) for up to four years, 4,498 (17.0%) for up to three years, 4,249 (16.1%) for up to two years, and 4,164 (15.8%) for up to one year.

Between 2015 and 2020, a total of 11,823 victims of domestic violence (narrow definition) were identified from registers. Victims of domestic violence include all those identified as victims of domestic violence in the client registers of specialised healthcare and primary health care, and shelter client registers include those experiencing intimate partner violence and other forms of domestic violence. In total, 1,881 (15.9%) persons in the sample were monitored for up to six years after they were first identified as victims, 1,702 (15.1%) were monitored for up to five years, 1,859 (15.7%) for up to four years, 2,098 (17.8%) for up to three years, 2,051 (17.3%) for up to two years, and 2,152 (18.2%) for up to one year.

The numbers of subjects included in study population 1 are indicated in the table below (Table 2). Between 2015 and 2020, a total of 5,963 female victims of violence were treated by specialised healthcare services. 2,794 of them had experienced domestic violence (intimate partner violence). For shelter clients, the number of victims of violence (broad definition) was the same as for the narrow definition of violence. Almost all of them had experienced intimate partner violence.

Table 2. Numbers of victims of violence and domestic violence for 2015 to 2020 included in the register-based study (study population 1)

	Victims of violence[1]		Victims of domestic violence[2]	
	Men	Women	Men	Women
Specialist medical care				
2015	1108	1093	216	516
2016	935	1033	164	508
2017	847	911	146	456
2018	964	992	185	493
2019	978	1049	151	450
2020	856	885	105	371
Total	5688	5963	967	2794

	Victims of violence[1]		Victims of domestic violence[2]	
	Men	Women	Men	Women
Primary health care				
2015	902	1017	63	123
2016	716	821	49	98
2017	733	828	43	104
2018	690	810	37	110
2019	454	611	59	119
2020	490	732	99	236
Total	3985	4819	350	790
Shelters for victims of domestic violence				
2015	54	966	54	966
2016	58	973	58	973
2017	77	1113	77	1113
2018	99	1288	99	1288
2019	123	1236	123	1236
2020	130	1313	130	1313
Total	541	6899	541	6889

1 Victims of violence include all victims of violence (including victims of domestic violence) identified in the client registers of the service concerned.

2 Victims of domestic violence include all those identified as victims of domestic violence in the client registers of specialised healthcare and primary health care. Shelter client registers include those experiencing intimate partner violence and other forms of domestic violence.

4.2.2 Study population 2 (police register)

In study population 2, the data on domestic and intimate partner violence is based on register data on crimes reported to the police. For the victims and suspects extracted from the police report data (PATJA system), information on residence, family status, children, parents, spouse and registered partner was retrieved from data from Statistics Finland. Based on family status and residence data, it has been determined whether the victim and the suspect are in civil partnership. (Statistics Finland[9])

9 https://tilastokeskus.fi/til/rpk/2018/15/rpk_2018_15_2019-06-06_tie_001_fi.html

Table 3. Numbers of victims of violence and domestic violence for 2015 to 2020 included in the register-based study(study population 2)

	Victims of domestic violence	
	Men	Women
Police data on domestic and intimate partner violence		
2015	833	3377
2016	828	2980
2017	705	2600
2018	757	2537
2019	790	2497
2020	795	2374
Total	4708	16365

Between 2015 and 2021, a total of 21,073 victims of domestic violence were identified from the police client register (Table 3). In total, 4,210 (18.6%) persons in this sample were monitored for up to six years after they were first identified as victims in 2015, 3,808 (16.4%) were monitored for up to five years, 3,305 (16.4%) for up to four years, 3,394 (17.0%) for up to three years, 3,287 (16.1%) for up to two years, and 3,169 (15.8%) for up to one year. Table 3 shows the annual number of victims of violence identified through registers between 2015 and 2020.

4.3 Data: Population study

Statistics Finland carried out the Gender Based Violence (GBV) survey coordinated by Eurostat, the Statistical Office of the European Union, in Finland between 2021 and 2022 as an online and postal questionnaire survey.

The primary target population of the survey was women aged 18–74 living in Finland, of whom a total of 15,000 were selected for the survey sample. In addition, 5,000 men aged 18–74 and 5,000 young women aged 16–17 were selected for the survey as additional samples for national analyses. The sampled individuals are representative of the population of their age in Finland.

Survey respondents were invited to participate through a letter and a leaflet delivered to their homes. They were reminded to respond and motivated to participate not only

by letter but also by email and telephone. During the collection period, telephone interviewers attempted to motivate non-respondents to participate in the online data collection by targeting telephone motivations to groups under-represented in the data collection.

By the end of February 2022, a total of 7,768 people responded to the survey. 81% of them were women and 19% men. The participants' age varied between 16 and 74 years, and the average age was 42. Approximately one fifth of all the respondents were minors. The vast majority of respondents were Finnish citizens: Less than 4% of respondents were citizens of other countries living in Finland. Almost half of the respondents had completed at least upper secondary education, and 41% had a university degree. Almost two thirds of respondents were either professionally active or studying. Table 4 indicates the response rate to the survey broken down by background variables.

Table 4. Response rate and sample by age group, mother tongue, number of children, education and occupational data

	Response rate, men	Response rate, women	Sample, men	Sample, women
All	28.7%	31.5%	4,999	19,989
Age group				
16-17		32.4%	-	5000
18-24	18.7%	29.0%	535	1522
25-34	24.8%	29.5%	933	2635
35-44	25.4%	27.1%	927	2628
45-54	26.0%	30.0%	828	2494
over 55	36.7%	35.7%	1776	5710
Mother tongue				
Finnish	28.8%	32.3%	4361	17584
Swedish	35.5%	36.0%	251	975
Other	22.5%	18.6%	387	1430
Number of biological children				
No children	30.5%	33.7%	3637	15797
1	26.4%	27.6%	557	1732

	Response rate, men	Response rate, women	Sample, men	Sample, women
2	22.3%	25.5%	539	1653
3	21.5%	23.3%	181	559
4 or more	20.3%	15.9%	79	232
Level of education				
No post-primary education / unknown	16.9%	22.0%	1220	7964
Upper secondary school or vocational upper secondary education	25.5%	26.8%	2331	6001
Specialist professional qualification	20.0%	35.3%	50	139
Vocational institute qualification	41.8%	42.5%	311	1749
Bachelor's degree	40.6%	36.9%	566	2263
Master's degree	49.3%	46.0%	471	1733
Postgraduate education	60.0%	49.3%	50	140
Professional group				
No occupational data	26.3%	28.7%	2044	10986
0 Military	28.6%	33.3%	14	3
1 Managers	34.1%	42.0%	167	207
2 Specialists	47.1%	42.6%	590	1892
3 Experts	36.2%	38.0%	456	2018
4 Office and customer service workers	25.8%	41.5%	93	739
5 Service and sales workers	26.0%	24.7%	350	2699
6 Farmers, forestry workers, etc.	31.7%	36.5%	101	137
7 Construction, repair and manufacturing workers	19.8%	23.4%	565	171
8 Process and transport workers	19.6%	30.7%	404	270
9 Other professions	26.3%	21.8%	175	705
X Unknown	20.0%	29.6%	40	162

Table 5 indicates the demographics of the respondents. The survey sample did not include men under the age of 18, which had a statistically significant effect not only on the age distribution but also on the education and employment distribution of the respondents. The proportion of women responding to the survey was thus significantly higher than that of men among students and those with no more than upper secondary education. Similarly, men were significantly more likely than women to be employed, unemployed and retired. The proportion of men was significantly higher in the age groups over 26 and among those with at least a higher education degree. Women rated their financial situation as significantly worse than men and were more likely than men to report being dependent on their spouse. On the other hand, men rated their social support networks significantly worse than women. There were no significant differences in perceived health status or mother tongue between men and women.

The sampling array and non-response rate of the data collection has been adjusted with a two-stage weighting, where the sampling array weight was increased by a correcting non-response weighting for each stratum using the two-stage method proposed by Laaksonen and Hämäläinen (2018). The non-response weight was calculated for the respondents' data on a model basis, using the variables included in the sampling frame (age, education, number of children, occupational status, region, type of municipality, marital status). The weight estimated from the non-response model was calibrated in the following stage to match the educational, age and main activity structure of the population for men and women separately.

81% of respondents had been in a relationship at some point in their lives. At the time of the survey, 64% of respondents were in a relationship. Of those in a relationship, 62% were married or in a registered partnership, and 22% were cohabiting. The majority of respondents had been in their current relationship for more than ten years, and almost one in five had children of their own or their spouse's children living in the same household. A significantly higher proportion of men were in a relationship at the time of the response. Similarly, a significantly higher proportion of women had never been in a relationship in their lifetime. On the other hand, a significantly higher proportion of women had children living in the same household.

Only respondents who were in a relationship at the time of the survey or who had been in a relationship in the past were asked about their experiences of domestic violence. Descriptive data on the prevalence of experiences of domestic violence and use of healthcare, social and legal services were reported by gender and separately for underage respondents. The need for services was modelled by regression analysis only among the women who responded to the survey, because the number of men who had experienced domestic violence was so small in the data material.

Table 5. Background information of survey respondents

	All	Women	Men	Significant gender difference
Age				$p < .001$
16–17 yrs	20.7%	**25.4%**	**0%**	
18–25 yrs	8.4%	8.3%	8.7%	
26–35 yrs	12.8%	**12.0%**	**16.3%**	
36–45 yrs	12.3%	**11.4%**	**16.1%**	
46–55 yrs	12.8%	**12.0%**	**15.9%**	
56–65 yrs	17.8%	**16.7%**	**22.3%**	
66 years or older	15.3%	**14.0%**	**20.7%**	
Mother tongue				-
Finnish or Swedish	94.5%	94.6%	94.0%	
Other	5.5%	5.4%	6.0%	
Level of education				$p = .001$
No post-primary education	0.1%	0.1%	0.1%	
Secondary education	54.9%	56.0%	50.2%	
Lower tertiary level	4.4%	4.2%	4.9%	
Higher tertiary level or doctorate	40.6%	39.7%	44.7%	
Working status				$p < .001$
Employed	47.3%	**44.6%**	**58.6%**	
Unemployed	3.9%	**3.7%**	**4.9%**	
Retired or incapacitated for work	20.8%	**19.2%**	**27.9%**	
Student	27.0%	**31.4%**	**8.1%**	
Other (e.g. military or medical leave)	0.9%	1.0%	0.5%	
Financial circumstances and social situation				
Able to cover unexpected expenses from personal income	80.3%	**78.0%**	**89.9%**	$p < .001$
Dependent on spouse financially or otherwise	17.4%	**18.7%**	**12.7%**	$p < .001$
Possibility of living temporarily away from home	95.1%	**95.9%**	**91.8%**	$p < .001$

	All	Women	Men	Significant gender difference
Possibility of discussing personal matters outside the home	86.9%	**88.6%**	**79.8%**	$p < .001$
Perceived health status				-
Very good	22.9%	23.1%	21.9%	
Good	50.6%	50.8%	49.6%	
Moderate	22.2%	21.8%	23.8%	
Poor	4.0%	3.9%	4.4%	
Very poor	0.4%	0.5%	0.3%	
Current relationship status				$p < .001$
Married or in cohabitation	53.9%	**50.4%**	**69.30%**	
Dating partnership	10.3%	**11.1%**	**6.9%**	
Not in a relationship	35.8%	**38.6%**	**23.9%**	
Duration of the current relationship				$p < .001$
Less than 1 year	6.5%	**7.5%**	**2.9%**	
1–5 years	18.1%	**19.3%**	**13.6%**	
6–10 years	12.1%	12.1%	12.0%	
11–20 years	18.8%	18.4%	20.0%	
21 years or more	44.6%	**42.6%**	**51.4%**	
Previous relationship				$p < .001$
Never in a relationship	19.0%	**21.2%**	**9.5%**	
Divorced	9.2%	9.3%	9.1%	
Widow/er	2.3%	**2.6%**	**11.7%**	
Former dating or cohabiting partner	69.5%	**67.1%**	**80.3%**	
Children living at home				$p = .049$
No children	80.4%	**66.1%**	**77.9%**	
Children aged 0–6 years	8.3%	8.3%	9.1%	
Children aged 7–15 years	8.4%	**6.5%**	**10.0%**	
Children aged 16 years or older	2.9%	2.4%	3.0%	

Statistically significant gender differences in cell frequencies (adjusted residual ≥ 2.0 or ≤ -2.0) are indicated in bold.

4.4 Variables: Register-based study

The independent variables in the register data included respondents' experiences of violence as measured by ICD-10 disease classification codes. The dependent variable was the cost of healthcare between 2015 and 2020. Because not all the diagnosis codes included in the registers distinguish the perpetrator of violence, the data have been analysed using two different definitions of victims of violence in order to analyse the use of healthcare services by victims of violence. The broad definition of victims of violence includes all victims of violence, regardless of the perpetrator. The narrow definition of domestic violence refers to intimate partner violence, i.e. cases where the perpetrator is identified as the spouse or partner (and, in the shelter data, another close person). The following sections describe in more detail the variables used in the registers.

4.4.1 Violence in healthcare and shelter client records (broad definition)

Based on previous studies, it is known that recording domestic violence perpetrator codes in patient records is deficient, and the number of cases is thus underreported in healthcare patient systems (Kivelä, 2020; Siltala, 2021). In register-based study, there is therefore a high risk that not all cases of domestic violence are included in the data. For this reason, we first defined violence broadly in this study, in order to be able to find as many victims of domestic violence as possible in the patient registers at an early stage. Violence is then defined more narrowly as domestic violence, which includes cases identified in client registers as victims of domestic violence. In this case, the victims are mainly those experiencing intimate partner violence.

Table 6. ICD-10 codes for a broad definition of violence in healthcare registers and shelter register

ICD-10 / Shelters	ICD-10 main diagnosis
T74	Maltreatment syndromes
Z63.0	Problems in the relationship between spouses or partners
S00-99 + X85-Y09 + additional code (xxx.0)	Injuries, poisoning and other damage caused by external factors AND External cause (murder, manslaughter or other intentional assault and maltreatment) (X85-Y09) AND Additional code indicating intimate partner violence: spouse or partner (xxx.0)
Shelter clients	

Table 6 below lists the ICD-10 codes underlying the broad definition of violence. In addition, the broad definition of violence includes data from shelter client registers, which are used in the same way in the broad and narrow definitions of violence. More detailed information on the ICD-10 classification is provided in Appendix 3. The broad definition of violence based on the ICD-10 classification includes maltreatment syndromes, spousal and partner relationship problems and injuries, poisoning and damage caused by some other external factors, where the perpetrator of violence is coded as the spouse or partner.

We included in the broad definition of violence all maltreatment syndrome T74 diagnosis codes in healthcare client records without more specific factor codes (Table 6). In this main category of T74 diagnosis codes, the fourth figure indicates a specific form of abuse as described in Table 7 (e.g. T74.0 Neglect or abandonment).

Table 7. ICD-10 main code T74 (maltreatment syndromes)

Code	Description
T74.0	Neglect or abandonment
T74.1	Physical abuse
T74.2	Sexual abuse
T74.3	Psychological abuse
T74.8	Other maltreatment syndromes
T74.9	Maltreatment syndrome, unspecified

The main diagnosis Z63.0 'Problems in relationship with spouse or partner' is defined as discord between partners resulting in severe or prolonged loss of control, in generalisation of hostile or critical feelings or in a persistent atmosphere of severe interpersonal violence. (Finnish Institute for Health and Welfare, 2011) This classification, which describes exposure to multiple forms of violence, is relevant for use in identifying victims of domestic violence (Olive, 2018).

The ICD-10 diagnoses S00 to S99 describing various types of injuries include injury, poisoning and certain other consequences of external causes (such as injuries to the head, neck and thorax, etc.). The cause of the injury has been established as other than self-inflicted violence. It is also possible to use a perpetrator relationship code for the mechanism of injury, where the fifth character level 0 indicates violence by a spouse or partner.

All persons experiencing domestic violence whose personal identification code was recorded in the client information system were extracted from the client data of shelters. The client data also records more detailed information on the violence, such as the type of violence and the perpetrator. However, obtaining this information was not possible within the scope of this study and would have required manual data extraction by many operators. Shelter statistics indicate that the majority of clients have experienced intimate partner violence and a small proportion have experienced other forms of domestic violence (Shelter services 2020). Therefore, all clients of shelters were included in the narrow definition of domestic violence.

4.4.2 Domestic violence in healthcare and shelter client records (narrow definition)

The narrow definition of violence refers to people experiencing intimate partner violence in healthcare registers and people experiencing domestic violence in shelter registers. The majority of adult clients in shelters have experienced intimate partner violence and a small proportion have experienced violence from someone else close to them (Shelter services 2020).

The table 8 below indicates the ICD-10 codes used in the narrow definition of violence. In addition, the narrow definition includes shelter clients. Victims of violence include those cases in healthcare client registers where the perpetrator of violence is a spouse or partner.

Table 8. ICD-10 codes for a narrow definition of violence in healthcare registers and shelter register

ICD-10 / Shelters	
T74 + X85-Y09 + additional code (xxx.0)	Maltreatment syndrome (T74) AND External cause (murder, manslaughter or other intentional assault and maltreatment) (X85-Y09) AND Additional code indicating intimate partner violence: spouse or partner (xxx.0)
Z63.0	Problems in the relationship between spouses or partners
S00-99 + X85-Y09 + additional code (xxx.0)	Injuries, poisoning and other damage caused by external factors AND External cause (murder, manslaughter or other intentional assault and maltreatment) (X85-Y09) AND Additional code indicating intimate partner violence: spouse or partner (xxx.0)
Shelter clients	

Victims of intimate partner violence were identified using additional codes used in healthcare registers. When establishing in the healthcare client registers the diagnosis category T74 for maltreatment syndrome, an additional code for the external cause of assault (X85–Y09) should be entered in the medical records, including a code indicating the perpetrator of the assault. In addition, sections S00–99 (injury, poisoning and certain other consequences of external causes), which describe non-self-inflicted injuries, include the possibility to use an additional code indicating the perpetrator of the violence. Details of the codes are provided in Appendix 3.

The additional codes X85–Y09 contain information on the so-called mechanism of injury, but they also allow the identification of the perpetrator relationship in cases of assault. If the fifth character level of the additional code is 0, it means violence committed by a spouse or partner (e.g. X85.0 = Murder, manslaughter or other intentional assault by drugs, medicines or biological substances by spouse or partner). Details of the additional codes are available in Appendix 3.

4.4.3 Definition of violence in the police register

Statistics Finland's data on domestic and intimate partner violence is based on the Police report (PATJA) system[10]. Based on police records, victims of intimate partner violence are defined as victims of domestic violence. In these cases, violence occurred 1) between spouses or cohabiting partners, or 2) between former spouses or cohabiting partners. Former cohabiting partner refers to a spouse with whom the victim has cohabited during the previous five years, but not during the statistical year. The statistics also include cases where the victim and the suspect have a child together.

All offences reported during the statistical year are included in the statistics. In addition to the sexual offences in Chapter 20 and crimes against life and health in Chapter 21 of the Criminal Code, crimes related to domestic and intimate partner violence include deprivation of liberty (Criminal Code Chapter 25, Section 1–2), unlawful threats (Chapter 25, Section 7), stalking (Chapter 25, Section 7a), coercion (Chapter 25, Section 8) and human trafficking (Chapter 25, Section 3). Abduction (Chapter 31, Section 1) and extortion offences (Chapter 31, Section 3) are also taken into account (Criminal Code 39/1889). The offences that are taken into account are listed in Appendix 4.

10 https://tilastokeskus.fi/til/rpk/2020/15/rpk_2020_15_2021-06-01_laa_001_fi.html

4.4.4 Comparison group

To estimate the costs of violence, comparison groups were created for the identified victims of violence. The first comparison group was defined on the basis of a narrow definition of violence (domestic violence only) and the second comparison group was defined on the basis of a broader definition of victimisation (domestic violence + other violence).

Both study groups were compared to age-and gender-matched control groups, which were five times larger than the groups of victims of violence. These individuals in the comparison group had not been identified as victims of domestic violence in the data sets between 2015 and 2020. Both comparison populations were selected through the Digital and Population Data Services Agency (DVV).

4.4.5 Healthcare service use and expenses

In the register data, the costs of domestic violence included the costs of primary health care, specialised health care and the use of psychiatric drugs. Information on the sources of the costs is described in Appendix 5.

Primary health care services included health centres, school and student healthcare, maternity clinics, mental health services, physiotherapy, oral healthcare, substance abuse services and home care. The cost data for these services were based on the Finnish Institute for Health and Welfare unit costs for 2017 (Mäklin & Kokko, 2021). If the cost of a particular type of visit was not defined in the unit costs above, the cost of a similar type of visit was used in the study.

The costs of **specialised health care** visits were determined using the DRG classification system. Cost-values of DRG are not available for psychiatric visits. In these cases, we used unit costs instead of the cost-values of DRG: . DRG is based on a patient-specific cost calculation. 'The system is based on the idea of allocating the cost of medical care to the patient who receives it, on a causal basis. The patient is charged all the costs of their care, such as medical and nursing care, medicines, examinations and procedures, and general costs such as property and administrative costs. (FCG Finnish Consulting Group, 2021)

NordDRG is a patient classification system managed and maintained by the Nordic Casemix Center. In Finland, NordDRG is widely used in university hospitals, but some hospitals do not use the system for all visits.

For this study, the Finnish Institute for Health and Welfare ran all observations from the HILMO data (inpatient and outpatient visits) through the NordDRG aggregator to produce

a DRGF variable and estimated the cost of care by combining the calculated DRG weights with the collected cost data. All observations refer to hospitalisations, inpatient care (overnight stays) and outpatient visits. In this study, this was referred to as DRGF cost data.

The amounts of **psychiatric drugs** used and their costs were based on KELA drug reimbursement data.

4.5 Variables: Population-based study

In the population study, the independent variables included respondents' experiences of domestic violence in adulthood and childhood. The dependent variables included the use of social, healthcare and legal services and the costs of using these services. The following sections describe in more detail the variables used in the population study.

4.5.1 Domestic violence

In the population study, domestic violence was defined as violence in intimate partner and family relationships, which can be physical, sexual or psychological violence or stalking, as defined by the Istanbul Convention.

For experienced violence, the unit of analysis targeted by the GVB data collection is based on the definition of an '*episode of violence*', which describes a single or repeated episode of violence by the same perpetrator over a specified period of time. In addition to the specific perpetrator, the intensity of the violence experienced, the duration of the episode, the specific forms of violence experienced and its consequences can be distinguished for each episode of violence. In addition to intimate partner violence, the data collection aims to separately identify violence experienced in the workplace, in childhood and elsewhere, and its consequences. Of these experiences, childhood violence has been included in this study. The temporal definition of episodes of violence focuses on distinguishing between acute violence that occurred within 12 months and medium-term violence that occurred between 1 and 5 years, as well as violence experienced prior to that.

The definition of **episodes of violence** was based on reference periods defined by Eurostat, according to which respondents' experiences of domestic violence were divided into events occurring in the past year, in the past five years and more than five years ago. Violent episodes were defined separately for physical and sexual violence (with and without threats) and psychological violence. The prevalence of these episodes among women who responded to the population study is indicated in Table 9.

For the most recent episode of violence, the direct health consequences of the violence (symptoms, bruises, absence from work) and the use of services are also asked as follow-up questions using the following question formats (where intimate partner violence has occurred):

> *Did you reveal this incident to someone in the social or healthcare services (for example, a doctor, nurse or social worker)?*
>
> *Did you call a help line, crisis line or otherwise contact a victim support organisation?*
>
> *Did you contact any support organisations or associations as a result of the incident? Did you contact social services?*
>
> *Did you contact a mother and child home or shelter for victims of domestic violence?*
>
> *Did you contact Victim Support or another service that helps victims of crime?*
>
> *Did you contact a church or other religious organisation?*
>
> *Did you contact a legal counselling service?*
>
> *Did you report the incident to the police?*

In addition to episodes of violence, the need for services was also modelled by the **consequences of domestic violence**, defined as psychological symptoms reported by respondents in relation to the violence, contusions, bruises or other injuries caused by the violence, and seeking help from healthcare services in relation to domestic violence. The prevalence of these consequences among women who responded to the population study is indicated in Table 10. Direct physical injuries and the need for medical treatment were asked using the following wording:

> *Did any of the above events cause you any of the following: [contusions, bruises, fractures, cuts, burns, head injuries]?*
>
> *Did you receive medical treatment for what happened?*

The psychological consequences of the episode of violence were measured by the following question:

> *Do you suffer from any psychological symptoms as a result of the incident, such as depression, panic attacks, difficulty concentrating, sleeping or eating?*

Table 9. Prevalence of violent episodes at one and five-year follow-up periods among women aged 16–74 by age, mother tongue, number of children, socio-economic status and education

	Physical or sexual violence (including threats)		Physical or sexual violence (excluding threats)		Psychological violence		N
	1 v	5 v	1 v	5 v	1 v	5 v	
All	2.5%	9.2%	2.2%	7.3%	14.2%	41.4%	6196
Age							
16–19 yrs	4.3%	12.5%	4.0%	9.9%	6.2%	20.3%	1698
20–29 yrs	5.6%	18.3%	5.0%	14.5%	12.6%	36.1%	716
30–39 yrs	3.0%	11.1%	2.2%	8.7%	12.5%	44.0%	699
40–49 yrs	2.7%	11.7%	2.3%	9.3%	16.0%	50.5%	699
50–59 yrs	1.7%	5.9%	1.4%	4.9%	16.8%	49.1%	878
60–69 yrs	0.7%	2.7%	0.7%	2.5%	14.1%	37.8%	1097
70–74 yrs	0.5%	3.0%	0.5%	1.7%	16.4%	32.6%	409
Mother tongue							
Other mother tongue	2.3%	5.9%	2.1%	5.7%	11.4%	27.5%	316
Finnish or Swedish	2.6%	9.5%	2.2%	7.5%	14.4%	42.6%	5880
Number of children							
No children	2.4%	8.3%	2.0%	6.6%	13.4%	38.8%	5149
1 child	2.6%	10.3%	2.2%	7.6%	13.1%	47.6%	471
2 children	2.7%	10.6%	2.7%	10.4%	17.1%	50.0%	410
3 or more children	4.4%	16.9%	3.2%	10.6%	22.5%	46.3%	166
Working status							
Employed	2.5%	9.6%	2.0%	7.3%	15.1%	45.6%	2763
Unemployed or incapacitated for work	5.1%	16.1%	4.7%	14.5%	13.2%	40.9%	376
Retired	0.8%	3.4%	0.8%	2.7%	14.7%	35.7%	1107
Student/ conscript	3.8%	12.8%	3.1%	9.8%	8.6%	30.7%	1950
Education							

	Physical or sexual violence (including threats)		Physical or sexual violence (excluding threats)		Psychological violence		N
	1 v	5 v	1 v	5 v	1 v	5 v	
No post-primary education	2.1%	7.2%	1.9%	5.9%	9.7%	31.7%	1689
Secondary education	3.3%	11.8%	2.9%	9.6%	12.1%	41.4%	1508
Lower tertiary level	3.1%	8.9%	2.8%	6.6%	15.0%	45.8%	534
Higher tertiary level or doctorate	1.8%	7.5%	1.4%	5.9%	16.9%	42.2%	2465

Table 10. Prevalence of the consequences at one and five-year follow-up periods among women aged 16–74 by age, mother tongue, number of children, socio-economic status and education

	Psychological symptoms related to violence		Contusion, bruise or injury		In contact with healthcare in relation to violence	
	Ever	5 yrs.	1 yr.	5 yrs.	1 yr.	5 yrs.
All	12.0%	5.0%	1.1%	3.2%	0.5%	1.7%
Age						
16–19 yrs	7.5%	7.5%	1.2%	1.9%	0.2%	1.3%
20–29 yrs	14.2%	11.6%	3.0%	7.1%	1.1%	3.4%
30–39 yrs	14.7%	5.4%	0.8%	3.4%	0.3%	1.9%
40–49 yrs	16.0%	5.8%	1.2%	4.1%	1.1%	2.3%
50–59 yrs	12.8%	3.3%	0.9%	2.5%	0.4%	1.4%
60–69 yrs	8.2%	1.3%	0.3%	0.9%	0%	0.5%
70–74 yrs	4.7%	0.6%	0.5%	1.0%	0.3%	0.8%
Mother tongue						
Other mother tongue	11.3%	4.3%	1.6%	2.2%	1.5%	1.8%
Finnish or Swedish	12.1%	5.1%	1.1%	3.3%	0.4%	1.7%
Number of children						
No children	11.1%	4.7%	1.1%	2.7%	0.4%	1.3%

	Psychological symptoms related to violence		Contusion, bruise or injury		In contact with healthcare in relation to violence	
	Ever	5 yrs.	1 yr.	5 yrs.	1 yr.	5 yrs.
1 child	14.9%	5.2%	1.0%	3.7%	0.8%	2.4%
2 children	13.9%	6.1%	1.1%	4.7%	1.1%	3.3%
3 or more children	15.3%	6.7%	2.3%	5.7%	0.4%	3.4%
Working status						
Employed	12.4%	4.6%	0.9%	3.3%	0.3%	1.5%
Unemployed or incapacitated for work	18.7%	10.6%	2.8%	6.0%	1.8%	4.2%
Retired	8.4%	1.8%	0.8%	1.5%	0.4%	1.0%
Student/ conscript	10.4%	8.3%	1.3%	3.2%	0.4%	2.0%
Education						
No post-primary education	11.1%	5.1%	0.8%	2.9%	0.1%	0.5%
Secondary education	14.5%	6.6%	1.8%	4.0%	0.7%	2.1%
Lower tertiary level	14.9%	4.3%	1.7%	3.7%	1.2%	1.9%
Higher tertiary level or doctorate	9.0%	3.8%	0.5%	2.4%	0.2%	1.6%

The definition of a **partner** includes all current and former spouses, cohabiting partners and dating partners, regardless of features such as age, gender or duration of the relationship. Respondents were asked to specify whether they had ever been in a relationship, and only respondents who indicated that they had been in a relationship at the time of the survey or at some point in the past were asked about violence by (former) partners.

All respondents were asked about their **experiences of violence in childhood.** Respondents were asked whether they had experienced parental physical or psychological violence in their childhood or witnessed physical or psychological violence between their parents. A parent was defined in the survey as the person responsible for raising the respondent. In addition to the biological mother or father, the definition could also include a stepfather, stepmother, other carer or, for example, grandparents, if they had significant responsibility for the respondent's upbringing. Respondents were also asked whether they had experienced sexual violence by a parent, sibling, relative or other close person in their childhood.

Physical violence was defined as any intentional act against the respondent that caused physical harm and fear, including hitting, slapping, kicking, choking, strangling, throwing objects, and using a blade or firearm. The broad definition of physical violence also included threats of physical violence or threats of using weapons.

Sexual violence was defined as any harmful and non-consensual sexual acts against a respondent, including rape, attempted rape, touching intimate areas, and threatening or pressuring a person into sexual acts. Sexual acts can include sexual intercourse, oral sex, touching or posing naked.

Psychological violence was defined as any intentional, non-physical act that caused psychological harm to the respondent, including belittling, humiliation and name-calling. Psychological violence also includes any form of harmful control, such as restricting the defendant's social relationships, or financial violence.

Stalking was defined as one or more persons having repeatedly and, causing fear, alarm or distress, sent unwanted messages or gifts to the respondent, made threatening or silent phone calls, made unwanted contact, spied on or followed the respondent personally, damaged the respondent's property or animals, made threatening or embarrassing comments in public or published the respondent's personal information.

4.5.2 Use of social, healthcare and legal services

The use of social, healthcare and legal services in the last 12 months was surveyed using the following questions in the population study (the wording is not original). Respondents were also asked about the adequacy of the services received in relation to their perceived needs. For healthcare services, only respondents' own use of services was asked, while for social and legal services, services used by minor children living in the household were also taken into account.

See Appendix 6 for a list of the services available as response options. For institutional care, the number of days of care was asked, and for other services, the number of visits to the place of service or visits to a worker was asked.

1) In the last 12 months, how many times in total have you or any minor children in your household used the following **social services**? An estimate is sufficient. If you have not used the service in the last 12 months, please tick 0.
2) In the last 12 months, how many times in total have you or any minor children in your household used the following **legal services** or been involved in related legal proceedings? An estimate is sufficient. If you have not been involved in the last 12 months, please tick 0.

3) In the last 12 months, how many times have you used the following **healthcare services**? An estimate is sufficient. If you have not used the service in the last 12 months, please tick 0.

As the GBV data collection is a population-based survey with a fairly straightforward implicitly stratified sampling of respondents, and the target population is all persons aged 16–74 living in Finland (in the main stratum, women), each average respondent (N=6,167) corresponds on average to the experience of approximately 330 members of the target population. In this case, it is clear that estimating the service use associated with domestic violence, which is less common at the population level, is highly challenging. For example, based on preliminary data for 2021, the number of adults using shelter services was 2,773 (Shelter services, 2020). Given the sample size of the GBV survey, this would mean that only around 6–10 shelter clients would end up in the survey. In the final sample, there are four of them, which is not sufficient for reliable estimation of service use from the point of view of statistical inference.

In general, therefore, it can be said that a population study of this scale can only provide meaningfully accurate estimates of phenomena whose prevalence at the population level would imply a minimum number of observations in the tens or hundreds of thousands, since only such phenomena can provide sufficient observations for estimation. But because GBV is so far the only statistically representative study at the population level that aims to cover the direct and indirect effects of domestic violence in such a comprehensive way, the results of this section will also be presented for phenomena where the number of observations is in the low dozens. In other words, within the framework of this report, we want to be able to say something about the smaller number of services and the consequences of domestic violence, despite the high statistical uncertainty associated with them. However, we make this uncertainty explicit in the scoreboards by reporting the statistical confidence intervals and standard errors associated with the estimates. This is also important to be aware of for an interpreter of the results who may wish to compare the results with data from a new study in the near future.

In other words, the number of observations in the GBV data is insufficient to estimate more than the most common service-need impacts of domestic violence. This means that the data can only identify service needs that are related to the most commonly used healthcare, social and legal services at the population level and that have a strong statistical link to the direct consequences of domestic violence (health consequences or perceived need for social services).

Before analysing the service use indicators, they were subjected to an internal logic check in the data so that answers that were deliberately incorrect or incorrect due to negligence would not confuse the modelling of service use. Unlikely high levels of service use were

identified by comparing the responses to the health status indicators at the top of the questionnaire, and in the case of social services, for example, the use of child protection and maternity clinic services was compared with the age distribution of children living at home.

After logic checks, the analysis of service demand was limited to those service types for which at least 2% of respondents have observations in the data, because estimating the services used less frequently than this would make no sense at all. For substantive reasons, dental care, student healthcare and conscript healthcare were also excluded, as it is not worth trying to estimate the related service needs by modelling.

4.5.3 Costs of services

To estimate the cost of service use by respondents to the population study, an average unit cost was determined for each of the social, healthcare and legal services listed in Appendix 6. The unit costs had been either determined by the Finnish Institute for Health and Welfare (Mäklin & Kokko, 2021) or they were estimates calculated by the service provider itself. As the costs of social services in particular vary considerably from one municipality to another (Heino et al., 2016), the study also determined a cost range (min–max) for the services for which several cost estimates were available. All unit costs are expressed in 2020 money value for comparability.

The healthcare cost data were based entirely on the unit costs of health and social care in 2017 published by the Finnish Institute for Health and Welfare (Mäklin & Kokko, 2021).

For social services, unit cost data compiled by the Finnish Institute for Health and Welfare were available for child protection outpatient social worker appointments, substance abuse treatment appointments, outpatient social worker appointments and adult and family social worker appointments. The unit cost of assistive online and telephone services was determined on the basis of the cost of the Nollalinja helpline (2021 budget divided by the number of calls and chat conversations made during the year). The unit costs of all other social services were based on the final report of the HuosTa project published by the Finnish Institute for Health and Welfare (Heino et al., 2016).

Among the costs of legal services, the unit cost of a meeting with a lawyer was based on the average hourly rate reported by the Finnish Bar Association in 2017, the unit costs of home alarms and crime reports were based on the National Police Board's data for 2020, the cost of a mediation meeting was based on the Finnish Institute for Health and Welfare report on mediation in criminal and civil cases 2020 (Elonheimo & Kuoppala, 2021) and the costs of court hearings were based on the operational performance indicators of the courts for 2020.

4.5.4 Service demand

The population study's variables for the use of social, healthcare and justice services in the past year describes the total demand for all these services, of which only a small proportion is in some way related to domestic violence. There are significant methodological challenges in retrospectively assessing service use, as service use over the past 12 months in a survey can only be based on the respondents' own assessment, which may be subject to various sources of error. It can be difficult to remember the number and timing of visits to health centres if the visits were made 10 months ago, compared to a situation where health services were used in the past month. Estimates may therefore be approximate or superficial for each respondent if, for example, health services in their municipality have been outsourced to a private operator (should visits be reported as a private or public visit?).

Overall, there are several sources of error in the estimation of total healthcare and social service use, because failure to respond in the data collection may also be of such a nature that it either overestimates service use (older people who use more services tend to respond better) or underestimates it (healthy and well-off people may respond better than poor people who use more public services). The overall effect of measurement error due to these factors can be seen when the estimated service use is compared with register-based statistics. For this reason, self-reported indicators of health service use are calibrated so that the service use estimated from the data corresponds as closely as possible to the most accurate register-based data possible. Without calibration, it is more than likely that the estimated service use related to domestic violence would be similarly biased.

With the limitations described above, the data estimate the total use of each type of service among the population of women aged 16–74 over the past 12 months. Of the individual service types, health centres and private and occupational healthcare had the highest number of users during the year. In health centre visits, it should be noted that in 2021, a large proportion may be Covid-19 vaccine recipients (those who have made one or two visits).

The use of health services can be described either by the number of self-reported visits per user (such as health centre visits), or by examining the total use of health services by summing the calculated one-off costs of individual service types into a single cost variable. This latter approach is more efficient from a purely modelling point of view, as the distribution of the sum variable distribution is easier to model than the service-specific distribution of individual visits. At the same time, however, if, for example, the individual costs of visits to all health services were added together, the greatest weight would be given to expensive specialised health care services that do not necessarily have anything to do with domestic violence.

For this reason, the total cost of service needs in EUR is modelled in two parts for health services:

1) First, for each individual service, an optimal negative binomial regression model is constructed that estimates the service demand impact of domestic violence, verifying the key background variables.
2) A sum variable describing the total cost of services is then constructed only for those services for which the demand per service could be explained by the indicator variables for domestic violence.

The second-phase models will be created separately for healthcare, social and legal services, because the time span of service needs is different. Demand for healthcare services is primarily an acute need, while the time span of demand for social and legal services is clearly longer. The latter models will therefore use a longer reference period of five years as an explanatory variable for domestic violence, while the use of healthcare services will be modelled with indicators covering a 12-month reference period. The variables explaining the demand for services in the models are presented in Table 11.

Table 11. Operationalisation of independent variables in models explaining the demand for healthcare, social and legal services

Variable	Reference period for the variable	Interpretation
Physical violence 1 year	12 months	Respondent experienced physical violence in a relationship in the past 12 months
Physical violence 5 years	5 years	Respondent experienced physical violence in a relationship in the past 5 years
Psychological violence 5 years	5 years	Respondent experienced psychological violence in a relationship in the past 5 years
Long-term health damage from violence	Lifetime	The respondent has a long-standing health problem due to a history of violence
Other violence	5 years	Respondent sought health services due to external violence in a relationship
Severe injury 5 years	5 years	Burn, cut, fracture or head injury resulting from domestic violence
Contact with healthcare services 1 year	12 months	Respondent has been in contact with a health service in the last year regarding domestic violence

Variable	Reference period for the variable	Interpretation
Contact with social services 1 year	12 months	Respondent has been in contact with a social service in the last year regarding domestic violence
Police or criminal report 1 year	12 months	Respondent filed a police report or talked to the police about violence in the past year
Mental health problem 5 years	5 years	Psychological symptoms related to physical violence in the past five years

4.5.4.1 Modelling the cost of healthcare services

The healthcare services model standardises the variables of perceived health status, which are not standardised in the total cost models for social and legal services. The impact of long-term domestic-violence-related psychological symptoms on service needs is predicted by perceived psychological symptoms related to a recent episode of violence. In turn, the cost of seeking acute health services is explained by reported service-seeking due to violence within a 12-month reference period.

4.5.4.2 Modelling the costs of social services

The cost variable related to the cost of social services is derived in a content-oriented way, although the link with seeking help was also examined on a service-specific basis. With an emphasis on the interpretability of the content, it was decided to derive the cost variable for social services by including in the calculation social services primarily related to child protection and custody disputes, as well as various services related to helplines and other crisis work, including shelter services. Since a large part of social service expenditure is related to child protection or child visits, the total social service costs are estimated using a model with an interaction term for families (whether the respondent has children or not). The marginal cost estimate for social services is therefore reported separately for families and non-families.

4.5.4.3 Modelling the costs of legal services

The costs associated with legal services are also modelled directly using a total cost indicator based on a theoretical approach. However, delimiting the indicator explaining total costs is more challenging than it is for social services, as the number of observations of victims of violence who have explicitly sought legal services is lower than for social services. As there are few reports of violence made to the police in the data, observations on them are combined in the same variable with the group of those seeking legal aid. In

this way, the model provides a single unambiguous explanatory variable to describe in general terms the group of respondents who have in one way or another been in contact with legal services in the past five years in relation to a past episode of violence.

4.6 Methods of analysis: Register-based study

Cost estimates for all healthcare visits and all mental-health-related drug costs were aggregated into total annual costs. This was done for each year from 2015 to 2020 using data from primary health care, specialised health care and data on the purchase of mental-health-related drug costs (from the reimbursement database of the National Social Insurance Institution Kela).

In the cost calculation, the cost-of-illness (COI) approach has been used to identify and estimate the cost of a particular disease or condition and to estimate the total burden of the disease to society. More information on the approach is available in Appendix 7.

We applied both descriptive and econometric approaches. First, we identified both victims of domestic violence and other victims of violence, and then calculated healthcare costs based on individual-level registry data. The cost averaging approach compares the average costs of two populations to estimate the difference in costs due to a disease or condition. First, we estimated the healthcare costs of victims of domestic violence, defined as the average healthcare costs of victims. They were compared with the average healthcare costs for non-domestic violence.

Second, we derived attributable costs using multivariate analysis, with age and gender as explanatory variables. We applied a generalised linear model (GLM), which takes into account the non-normal distribution of healthcare costs and models average costs directly, thus eliminating the need to convert cost estimates (Manning & Mullahy, 2001). Our GLM model used a Gamma distribution and a Log-link function.

Cost estimates were converted to 2020 prices, and the most appropriate healthcare sector inflation index was used. All analyses were carried out using the statistical software Stata (version 17).

4.7 Methods of analysis: Population-based study

4.7.1 Descriptive and comparative data

Differences between population study respondents in terms of background variables, domestic violence experiences and categorical service use were analysed using cross-tabulation and chi-square tests. In cross-tabulation, cell differences were defined as significant if the cell's adjusted standardised residual was ≥ 2.0 or ≤ -2.0. Differences in the average costs of social, healthcare and legal services were analysed using the Rao-Scott adjusted Chi^2 test. In the analyses, the data were weighted for background variables so that the results could be generalised to the whole population.

4.7.2 Cost modelling

Data from a population study were used to model the costs of domestic violence among women aged 16–74. Cost modelling could not be done for men, because the data included so few men who had experienced domestic violence.

Although measuring the prevalence of domestic violence and the need for services through a survey is challenging, assessing the causal relationship between experiences of violence and the need for social services presents a particular challenge. The need for services cannot be assessed directly by comparing the service use of those who have experienced violence with others, because both the use of healthcare services and the experience and intensity of domestic violence are presumably both strongly related to the age and socio-economic status of the subjects (Häkkinen & Alha, 2006).

We therefore pay particular attention to verifying these explanatory factors of healthcare and social service use when modelling service costs, so that the predictors of healthcare service use correlated with domestic violence do not confound the estimates. In addition to socio-economic status (employment and education), three important control variables describing the health status of the respondent can be derived from the data: general perceived health status, experience of a long-term health problem and the presence and severity of a health problem affecting functional capacity. Healthcare visits related to non-domestic violence can also be standardised within the data, as the GBV survey also covers the consequences of other types of violence. The more that unrelated healthcare service use can be removed from the data by standardisation, the more accurate the estimate of the need for healthcare services for domestic violence.

After the weighting of the data and a comprehensive logic check of the service use data, the combined effect of the above sources of error can be assessed by comparing the estimated service use in the data at the population level by women aged 16–74 with the

number of client visits recorded by the Finnish Institute for Health and Welfare. Since the sources of error overestimate or underestimate the demand for healthcare services A–X as such, a correction factor is calculated for each service type to correct for this bias in the data, so that the total demand for healthcare services matches the data from the register data sources. Our analytical strategy therefore considers the causal link between the experience of domestic violence and service demand as selection-on-observables.

Cost modelling is also complicated by the uneven distribution of service use, as described in Table 12. Typically, data describing service use would be analysed using OLS regression, but the shape of the service use distribution does not meet the underlying assumptions of this method. Most of the observed frequencies for healthcare services are zero, as the majority of respondents have not used more specialised healthcare services at all in the past year. The problem is common in health science research, which is generally interested in discrete events related to health status (e.g. Hutchinson & Holtman, 2005; Diehr et al., 1999) that are highly skewed and abnormally distributed in the population base. For this type of distribution, the assumptions of a normal OLS regression are not met when the dispersion of a variable is significantly larger than its mean. Therefore, service use related to domestic violence was estimated using negative binomial regression. This is a generalisation of the Poisson regression, with less strict assumptions on the variance of the variable.

The majority of survey respondents had not used the services, and a very small number had used them a lot. As a result, the mode of the cost of using each service is 0, and the standard deviation is many times larger than the mean. Due to the high dispersion, the distribution of total costs for both healthcare and social services is adjusted for modelling purposes by excluding 1% of the highest values of the distribution from the cost model. Similarly, the ceiling for the total cost of legal services was set at EUR 2,500, because less than 1% of the findings would have extended the tail of the total cost distribution to EUR 6,500.

Table 12. Average key figures for total costs of healthcare, social and legal services related to domestic violence in the survey data

	Mean	(Standard deviation)	Range of variation
Healthcare services	EUR 43.0	(332.22)	EUR 0–1,990
Social services	EUR 12.33	(62.36)	EUR 0—680
Legal services	EUR 53.11	(280.66)	EUR 0—2,500

4.8 Strengths and limitations of the study

This study has a number of strengths. Firstly, the costs of domestic violence have not previously been modelled at a national level in Finland. In this respect, the study provides completely new information. The survey data includes comprehensive coverage of the use and costs of healthcare, social and legal services. Longitudinal register data, on the other hand, allow the health costs of domestic violence to be estimated over a period of up to six years. The large sample sizes and comparison groups of the sub-studies allow the results of the study to be generalised to the entire population.

The study also provides up-to-date information on the prevalence of domestic violence in Finland, which was last surveyed at population level in 2014, 2010 and 2005. The study surveys experiences of violence among women, men and girls aged 16–17. The data also provide information on the exposure of respondents' children to violence. The study takes into account the different forms of domestic violence, including psychological, physical and sexual violence, economic and social control and stalking, in a more comprehensive way than previous national studies.

As discussed in Chapter 2, there are several challenges in estimating the cost impact of domestic violence, including the identification of domestic violence, the definition of costs and the methods used. This study uses both register and survey data, which complement each other as data sources and reduce sources of error in cost estimation. In both sub-studies, the cost of violence is estimated by calculating empirically observed service use and multiplying visits by their cost. Previous research suggests that this bottom-up approach to assessment better captures the true service burden of domestic violence (see Heiskanen & Piispa, 2002).

However, there are a number of uncertainty factors in determining prices for violence-related services, because precise unit costs are not available to the same extent as in the health sector. This applies particularly to social and legal services. The study systematically attempted to avoid overestimating the costs of domestic violence and, as a result, the prices of services have been underestimated in several cases. For example, the average cost of placement outside the home is derived from the average cost of all different types of placement, with family placement being the cheapest and institutional placement the most expensive. However, institutional placement is much more common than family placement, which is why the average cost per placement day underestimates the cost of placement outside the home. Due to the uncertainties associated with the amount of costs, the results of the study include not only the average costs but also the confidence intervals of the costs.

In addition, it is important to note that this study focused only on the direct costs of violence in social, healthcare and legal services. In other words, it does not reach the indirect costs, such as the number of days of sick leave, inability to work or the losses in productivity. The estimated costs presented in the study are therefore more likely to be too low than too high in this respect too.

As there are several confounding factors associated with the cost impact of domestic violence, the survey paid particular attention to standardising the factors explaining the use of healthcare services (age, education, socio-economic status, number of children and region). An attempt was also made to correct for sources of error in the population-level estimation of service demand by calibrating the number of client visits generated by the survey data to match the nationally recorded use of healthcare services. Despite statistical weighting and calibration, it is still likely that there will be bias in the survey non-response rate, which will be localised in key outcome variables (e.g. sick or high service users may be over-represented or under-represented even after weighting) or in explanatory variables (representativeness in terms of becoming a victim of violence). Measurement error also arises because self-reporting healthcare service use can be perceived as challenging, or respondents simply refuse to answer questions.

Similarly, the main problem with the register data relates to the under-reporting of domestic violence, which means that the data used in the survey are unlikely to be comprehensive. It is likely that victims of domestic violence are underreported or miscoded in client registers. In addition, a major shortcoming of the register data is that it could not comprehensively take into account the impact of socio-economic status and comorbidities on the costs of domestic violence. Taking these factors into account would have improved the results of the study, but it was not possible to include them due to practical constraints.

Unfortunately, it was not possible to combine all the data sources for this study during this project, mainly due to the time needed to obtain permits and to combine the data. The current legislation (552/2019) and other data protection restrictions mean that some data may not be used or combined at all. In some cases, access and linking was not possible because of additional costs due to delays, high fees or both. These constraints should be taken into account in the timing and budget of new research projects and more generally in the legislation on the use of client data.

Although the survey aimed to obtain population-level data on both women's and men's experiences of domestic violence, the proportion of men who had experienced domestic violence was so small that it was not possible to reliably estimate the costs of domestic violence. This limits the generalisability of the survey results. In addition, the use of several

healthcare, social and legal services was so low in the data that there is considerable uncertainty in estimating the costs of these services.

These problems should therefore be taken into account when designing further studies. Larger sample sizes would allow for more comprehensive data on the prevalence of domestic violence among men, various minority groups, as well as more accurate estimates of the costs of violence. The interconnection of all relevant registers should be considered as part of future studies to the extent possible under the current legislation. For example, linking register data to the children of the study subjects would provide more accurate information on the impact of domestic violence. Further research is needed, particularly on the costs of social and legal services, lost productivity and other indirect costs of violence. It would also be interesting to examine more closely the relationship between domestic violence and service use and costs for the population most actively using services. The 1% of the sample that now use the most services were excluded for analytical reasons, which may have contributed to underestimating the costs of domestic violence.

5 Results

5.1 Cost of domestic violence – Register data

5.1.1 Descriptive data

This chapter examines the healthcare costs of domestic violence based on register data. Background information on victims of domestic violence is presented by register in the accompanying tables 13–14. The tables indicate that far more victims of violence were identified from healthcare registers (HILMO, AvoHILMO) using a broad definition of victims of violence compared to a narrow definition. Using a broad definition of violence, it is found that women and men were almost equally represented in the healthcare client register (Table 13). Using a narrow definition of domestic violence, it is found that victims of violence include clearly more women (69–74%) than men (26–31%) (Table 14). For healthcare registers, the narrow definition refers to people who are certain to have experienced intimate partner violence. It was also found that in healthcare and shelter client registers, the victims of domestic violence were mainly not the same people. The percentage of the same persons in the healthcare and shelter data was 6.6%.

A closer look at the study population of those who had experienced domestic violence reveals that in the group with the broad definition of violence, more people were included in the youngest age group in the healthcare client registers compared to the group with the narrower definition of domestic violence (Tables 13–14).

In terms of gender, it can be observed that for the period 2015–2020, client registers clearly contained more women than men who had experienced domestic violence (Table 14). Of the women who had experienced domestic violence, 74% were in specialised health care registers, 69% in primary health care registers, 93% in the registers of shelters for victims of domestic violence and 78% in registers based on police reports.

Table 13. Distribution of victims of violence by age and gender (2015–2020), study population 1 (broad definition)

	Specialised health care Inpatient and outpatient visits (HILMO)[1] N= 11,651	Primary health care (AvoHILMO)[1] N=8,804	Shelters for victims of domestic violence N=7,430
Age group			
19–29	43.0	39.8	32.5
30–39	27.9	30.6	38.4
40–54	29.1	29.6	29.1
Gender			
Men	48.8	45.3	7.3
Women	51.2	54.7	92.7

[1] Victims of violence: including ICD-10 codes T74 and Z63.0 and the entire S main category and external cause codes X85–Y09 if additional code (xxx.0) was 0 (perpetrator of violence was spouse or partner)

Table 14. Distribution of victims of domestic violence by age and gender (2015–2020), study population 1 and 2 (narrow definition)

	Study population 1			Study population 2
	Specialised health care Inpatient and outpatient visits (HILMO)[1] N=3,761	Primary health care (AvoHILMO)[1] N=1,140	Shelters for victims of domestic violence N=7,430	Domestic violence and intimate partner violence data (PATJA) N=21,073
Age group				
19–29	30.8	27.5	32.5	32.3
30–39	31.1	35.5	38.4	34.1
40–54	38.1	37.0	29.1	33.6
Gender				
Men	25.7	30.7	7.3	22.3
Women	74.3	69.3	92.7	77.7

[1] Victims of domestic violence: ICD-10 code for main diagnosis T74 and external cause codes (X85-Y09) in the S category, where the fifth digit of the three digits (X85–Y09) is 0, indicating that the perpetrator of violence was a spouse or partner

5.1.2 Healthcare service use and costs

Next, we examine the use and costs of healthcare services in study population 1, i.e. healthcare and shelter client registers. Healthcare costs for victims of violence and domestic violence and the comparison group in the first six years after identification from 2015 to 2020 are indicated in Tables 15 and 16. Next, costs are presented in more detail, using the cost of domestic violence in 2015 as an example.

The tables indicate that the average costs for victims of violence and/or domestic violence are higher than for both comparison groups. The distribution of service use was highly skewed, with a small number of respondents using a significant number of services. This is why the results are presented separately for the entire sample and for the 99% fractile, excluding the 1% of the sample that used services the most. These 99% fractile results can be considered the most reliable result.

A total of 4,921 victims of violence were identified in healthcare and shelter registers in 2015, using a broad definition of violence. In a broad definition, the perpetrator of violence could be known or unknown (Table 15). The total number of service users was 4,680, after removing 1% of those who used the service the most. Healthcare costs averaged EUR 14,627 per victim of violence over six years and EUR 5,254 per person in the comparison group over six years. The average cost of healthcare for victims of violence, broadly defined, was therefore EUR 9,373 higher than for the comparison group.

In 2015, a total of 1,881 victims of domestic violence were identified from healthcare and shelter registers using a narrow definition of violence (Table 16). The total number of service users was 1,539, after removing 1% of those who used the service the most. Healthcare costs averaged EUR 10,241 per victim of domestic violence over six years and EUR 4,550 per person in the comparison group over six years. The average cost of healthcare for victims of domestic violence, narrowly defined, was therefore EUR 5,692 higher than for the comparison group. The cost per person was therefore roughly the same for victims of violence (broad definition, Table 15) and victims of domestic violence (narrow definition, Table 16).

Table 15. Estimated healthcare costs for victims of violence and comparison group in the first 6 years after identification, 2015–2020, study population 1 (healthcare and shelter client registers, broad definition of violence)

		Average healthcare costs			
Year of identification[1]	Duration	Victims EUR	Comparison group EUR	Attributable costs EUR	Victims N
2015 total	Up to 6 years	34 405	10 805	23 600	4921
99% fractile		14 627	5 254	9 373	4680
2016 total	Up to 5 years	27 342	8 889	18 454	4334
99% fractile		11 940	4 396	7 544	4092
2017 total	Up to 4 years	21 026	7 206	13 819	4265
99% fractile		10 098	3 538	6 560	4029
2018 total	Up to 3 years	16 007	5 701	10 306	4498
99% fractile		7 445	2 690	4 755	4243
2019 total	Up to 2 years	9 284	2 978	6 307	4249
99% fractile		5 433	1 804	3 629	4024
2020 total	Up to 1 year	4 233	1 354	2 879	4164
99% fractile		2 625	912	1 713	3 943

[1] The word 'total' refers to all victims of violence

Table 16. Estimated healthcare costs for victims of domestic violence and comparison groupin the first 6 years after identification, 2015–2020, study population 1 (healthcare and shelter client registers, narrow definition of domestic violence)

			Average healthcare costs		
Year of identification[1]	Duration	Victims EUR	Comparison group EUR	Attributable costs EUR	Victims N
2015 total	Up to 6 years	26 755	4 689	22 066	1881
99% fractile		10 241	4 550	5 692	1539
2016 total	Up to 5 years	32 420	3 894	28 526	1782
99% fractile		8 343	3 767	4 576	1464
2017 total	Up to 4 years	20 726	3 121	17 606	1859
99% fractile		7 050	3 029	4 021	1498
2018 total	Up to 3 years	19 233	2 349	16 884	2098
99% fractile		5 265	2 280	2 984	1721
2019 total	Up to 2 years	9 212	1 609	7 604	2051
99% fractile		3 711	1 551	2 160	1699
2020 total	Up to 1 year	4 160	860	3 299	2152
99% fractile		2 102	808	1 295	1913

[1] The table includes each person only once during the entire period. The word 'total' refers to all victims of violence.

A total of 4,210 victims of domestic violence were identified from register data based on police reports in 2015 (Table 17). The total number was 4,089, after removing 1% of those who used healthcare services the most. Healthcare costs averaged EUR 13,521 per victim of domestic violence in the police client register over six years and EUR 6,656 per person in the comparison group over six years. The average cost of healthcare for victims of domestic violence was therefore EUR 6,865 higher than for the comparison group.

Table 17. Estimated healthcare costs for victims of domestic violence and comparison group in the first 6 years after identification, 2015–2020, study population 2 (police)

		Average healthcare costs			
Year of identification[1]	Duration	Victims EUR	Comparison group EUR	Attributable costs EUR	Victims N
2015 total	Up to 6 years	24 314	11 724	12 590	4 210
99% fractile		13 521	6 656	6 865	4 089
2016 total	Up to 5 years	15 853	9 438	6 415	3 808
99% fractile		10 758	5 551	5 207	3 710
2017 total	Up to 4 years	13 945	7 591	6 353	3 305
99% fractile		8 768	4 461	4 307	3 210
2018 total	Up to 3 years	11 451	5 884	5 567	3 294
99% fractile		6 589	3 375	3 214	3 198
2019 total	Up to 2 years	6 346	3 561	2 785	3 287
99% fractile		4 427	2 261	2 165	3 186
2020 total	Up to 1 year	3 075	1 542	1 534	3 169
99% fractile		2 174	1 129	1 044	3 073

[1] The table includes each person only once during the entire period. The word 'total' refers to all victims of violence.

Table 18 indicates the mean and median annual healthcare costs for victims of domestic violence in study population 1 for up to six years after being identified as a victim of violence in the registers (2015–2020). In Table 18, each person is included only once during the entire period. Average annual healthcare costs per victim were EUR 5,983 in the first year after identification, falling to EUR 4,101, EUR 4,386, EUR 4,642, EUR 4,249 and EUR 3,395 per year for the six years after identification. The average healthcare costs were highest during either the first or second year after identification. The appendices also indicate the corresponding results for costs for the broad definition of study population 1 (Appendix 8) and study population 2 (Appendix 9).

Table 18. Annual healthcare costs (mean and median) for victims of domestic violence in study population 1 for up to six years after being identified as a victim of violence in the registers (2015–2020). Each person is included in the table **only once** during the entire period. (healthcare and shelter client registers, narrow definition of domestic violence)

	N		Year 0 EUR	Year 1 EUR	Year 2 EUR	Year 3 EUR	Year 4 EUR	Year 5 EUR	Year 6 EUR
2015 victims	1,881	mean		5983	4101	4386	4642	4249	3395
		median		1720	1201	1052	994	1020	1009
2016 victims	1,782	mean	7632	5822	5733	13803	3587	3474	
		median	933	1585	1172	1077	921	994	
2017 victims	1,859	mean	4843	6922	5733	4721	3801		
		median	1022	1690	1268	1112	1077		
2018 victims	2,098	mean	4066	8665	6298	4270			
		median	961	1608	1195	1063			
2019 victims	2,051	mean	4547	5174	4038				
		median	1067	1634	1299				
2020 victims	2,152	mean	3320	4160					
		median	917	1621					

Table 19 below also includes repeated cases of domestic violence over a six-year period. The results were similar to those in the table above (cases included only once), but the average costs were slightly higher than in Table 18 (cases included only once). Table 19 indicates that the costs of domestic violence were higher in the first year after a victim of domestic violence had been identified by a healthcare service or shelter. For instance, in 2015 the average cost was EUR 5,983 per person (or a median cost of EUR 1,720 per person), and the following year the cost was lower (average EUR 4,101 per person, median EUR 1,201 per person). The data includes a total of 1,932 victims who used healthcare services in at least two different years. The healthcare costs of victims of violence in study population 1 (Appendix 8) and study population 2 (Appendix 9) were similar.

Table 19. Annual healthcare costs (mean and median) for victims of domestic violence in study population 1 for up to six years after being identified as a victim of violence in the registers (2015–2020). A person can be included in the table for **more than one year** during the period. 1 (healthcare and shelter client registers, narrow definition of domestic violence)

	N		Year 0 EUR	Year 1 EUR	Year 2 EUR	Year 3 EUR	Year 4 EUR	Year 5 EUR	Year 6 EUR
2015 victims	1,881	mean		5983	4101	4386	4642	4249	3395
		median		1720	1201	1052	994	1020	1009
2016 victims	2,080	mean	8356	6549	6181	12972	4046	3806	
		median	1123	1763	1283	1141	988	1065	
2017 victims	2,269	mean	5545	7159	5779	4415	3906		
		median	1318	1818	1348	1179	1131		
2018 victims	2,631	mean	5065	10243	6353	4520			
		median	1248	1867	1377	1233			
2019 victims	2,683	mean	4992	5399	4316				
		median	1348	1893	1473				
2020 victims	2,783	mean	4195	4615					
		median	1218	1847					

Table 20 indicates the healthcare costs of domestic violence, both unadjusted and adjusted by gender and age. In this report, the standardisation focuses on how gender and age group were related to allocated costs. Overall, the unadjusted cost of violence was estimated to be approximately EUR 22,066 per person over six years of follow-up, including all observations. Secondly, a truncated population (99%) is examined, excluding the top 1% of cost observations (these may concern exceptional observations of very high costs). The average cost of domestic violence was EUR 5,692 per person over six years of follow-up.

The result indicates that the 1% who used the service the most had a significant impact on the average cost. When age and gender were included in the model, women's costs

were found to be significantly higher than men's. For example, in 2015, the average cost of healthcare services used by women was EUR 2,599 higher per person than for men (99% fractile). There were no consistent results for age, but in some years it could be detected that costs for the youngest age group (19–29 years) were higher than those for the older age groups. Although the use of services increases with age, costs may still be lower on average compared to younger age groups. Thus, factors other than age may be connected to the costs.

Table 20. Healthcare costs of domestic violence that can be allocated after **identification as a victim** of violence (year of identification and subsequent years until 2020)

Study population 1 Victims of domestic violence[1]		N	Attributable costs EUR (95% DV)	N	99% fractile Attributable costs EUR (95% DV)
Year of identification					
2015 Up to 6 years		1 881		1 539	
Unadjusted					
Group	Victims	22066	(20331, 23800)	5692	(5084, 6299)
Adjusted					
Group[2]	Victims	25286	(23095, 27477)	6284	(4680, 6020)
Gender[3]	Women	2874	(2737, 3011)	2599	(2475, 2644)
Age[4]	30–39	322	(149, 495)	242	(129, 356)
	40–54	-281	(-454, -109)	-260	(-347, -147)
2016 Up to 5 years		1 782		1464	
Unadjusted					
Group	Victims	28526	(25104, 32038)	4576	(4052, 5100)
Adjusted					
Group	Victims	28612	(25317, 31906)	4927	(4639, 5486)
Gender	Women	2584	(2425, 2743)	2100	(2029, 2173)
Age	30–39	125	(-80, 330))	54	(-42, 151)
	40–54	-335	(-541, -129)	-282	(-380, -184)
2017 Up to 4 years		1 859		1498	

Study population 1 Victims of domestic violence[1]		N	Attributable costs EUR (95% DV)	N	99% fractile Attributable costs EUR (95% DV)
Year of identification					
Unadjusted					
Group	Victims	17606	(16248, 18964)	4021	(3562, 4480)
Adjusted					
Group	Victims	17709	(16319, 19099)	4200	(3719, 4680)
Gender	Women	1995	(1914, 2077)	1704	(1644, 1765)
Age	30–49	-67	(-173, 39)	-65	(-147, 16)
	40–54	-253	(-362, -144)	-271	(-355, -189)
2018 Up to 3 years		2098		1721	
Unadjusted					
Group	Victims	16884	(15318, 18450)	2984	(2646, 3223)
Adjusted					
Group	Victims	17791	(16178, 19404)	3185	(2827, 3544)
Gender	Women	1571	(1484, 1658)	1268	(1219, 1317)
Age	30–39	-108	(-217, 1)	-106	(-171, -41)
	40–54	-195	(-308,-82)	-205	(-272, -138)
2019 Up to 2 years		2051		1699	
Unadjusted					
Group	Victims	7604	(6970, 8237)	2160	(1898, 2422)
Adjusted					
Group	Victims	8298	(7591, 9004)	2314	(2036, 2593)
Gender		972	(924, 1020)	849	(812, 885)
Age	30–39	-118	(-179, -57)	-123	(-171, -74)
	40–54	-169	(-232. -105)	-173	(-223, -123)
2020 1 year		2152		1913	
Unadjusted					
Group	Victims	3299	(2892, 3616)	1295	(1134, 1455)
Adjusted					

Study population 1 Victims of domestic violence[1]		N	Attributable costs EUR (95% DV)	N	99% fractile Attributable costs EUR (95% DV)
Year of identification					
Group	Victims	3480	(3144, 3817)	1336	(1264, 1409)
Gender	Women	510	(482, 537)	526	(499, 553)
Age	30–39	-59	(-94,-23)	-84	(-118, -50)
	40–54	-66	(-103, -29)	-88	(-123, -52)

[1] A narrow definition of victims of domestic violence (healthcare and shelter client registers)

[2] reference group = comparison group

[3] reference group = men

[4] reference group = 19–29-year-olds

Table 21 indicates the healthcare costs of domestic violence in the first year after identification for all years in the data. It examines the results of Table 18 presented above, focusing on the costs incurred in the first year for the standardised constants of age and gender. The average healthcare costs of domestic violence were EUR 507 higher per person for women than for men in 2015 (99% fractile). The difference between the different years was approximately the same. There were no statistically significant differences between the age groups.

Table 21. Healthcare costs of domestic violence **in the first year** of being identified as a victim of domestic violence

Study population 1 Victims of domestic violence[1]		N	Attributable costs EUR (95% DV)	N	99% fractile Attributable costs EUR (95% DV
Year of identification					
2015	Year 1	1881		1539	
Unadjusted					
Group[2]		5187	(4526, 5848)	1031	(966, 1095)
Adjusted					
Group		5350	(4680,6020)	1104	(1035,1174)

Study population 1 Victims of domestic violence[1]		N	Attributable costs EUR (95% DV)	N	99% fractile Attributable costs EUR (95% DV
Year of identification					
Gender[3]	women	542	(507,578)	507	(481, 533)
Age[4]	30–39	236	(190, 282)	176	(142, 211)
	40–54	43	(0, 87)	15	(-18, 48)
2016	Year 1	1782		1464	
Unadjusted					
Group		5049	(4436,5661)	1406	(1209,1602)
Adjusted					
Group		5656	(4943,6370)	1518	(1306,1730)
Gender	Women	513	(478, 548)	410	(389, 431)
Age	30–39	117	(72,161)	91	(62, 120)
	40–54	-21	(-64,23)	-31	(-58, -3)
2017	Year 1	1859		1498	
Unadjusted					
Group		6150	(5453, 6846)	1431	(1234, 1628)
Adjusted					
Group		6158	(5446, 6870)	1520	(1310, 1730)
Gender	Women	539	(506, 572)	423	(402, 444)
Age	30–49	61	(18, 104)	47	(18, 76)
	40–54	-37	(-80, 6)	-49	(-77, -21)
2018	Year 1	2098		1721	
Unadjusted					
Group		7925	(6747, 9102)	1306	(1132, 1481)
Adjusted					
Group		8509	(7311, 9707)	1395	(1209, 1581)
Gender	Women	562	(511, 613)	392	(371, 413)
Age	30–39	22	(-38, 83)	10	(--18, 38)
	40–54	-18	(-82,-44)	-42	(-71, -14)

Study population 1 Victims of domestic violence[1]		N		Attributable costs EUR (95% DV)	N		99% fractile Attributable costs EUR (95% DV
Year of identification							
2019	Year 1	2051			1699		
Unadjusted							
Group			4426	(3964, 4887)		1317	(1137, 1497)
Adjusted							
Group			4873	(4354, 5391)		1835	(1590, 2079)
Gender	Women		471	(441, 502)		435	(412, 459)
Age	30–39		-55	(-94, --17)		15	(-16, 47)
	40–54		-102	(-142. -64)		-38	(-70, -6)
2020	Year 1	2152			1913		
Unadjusted							
			3299	(2892,3616)		1295	(1134, 1455)
Adjusted							
Group			3480	(3144, 3817)		1336	(1264, 1409)
Gender	Women		510	(482,537)		526	(499, 553)
Age	30–39		-59	(-94,-23)		-84	(-118, -50)
	40–54		-66	(-103, -29)		-88	(-123, -52)

[1] A narrow definition of victims of domestic violence (healthcare and shelter client registers)

[2] reference group = comparison group

[3] reference group = men

[4] reference group = 19–29-year-olds

5.2 Cost of domestic violence – Population study

5.2.1 Descriptive data

5.2.1.1 Domestic violence experienced by women and men

The prevalence rates of domestic violence estimated for the entire population from the survey data are shown in Table 22. The study indicates that 74.9% of Finns have experienced domestic violence at least once in their lives. In contrast, 64.6% reported having experienced domestic violence against themselves or between parents during their childhood.

Meanwhile, 43.6% have experienced intimate partner violence or stalking by a former or current partner in their lifetime. In the past year, 4.4% of Finns have experienced intimate partner violence or stalking. Around one in five respondents had experienced psychological, physical or sexual violence by a current partner, and over a quarter had experienced violence by a former partner. Psychological abuse by the current partner was significantly more common than physical or sexual abuse, but experiences of physical and sexual violence by a former partner were also common.

Of course, intimate partner violence is even more common if respondents who have never been in a relationship are excluded. Of the adult respondents (n=5,706) who had been in a relationship at some point in their lives, 51.1% had experienced intimate partner violence at least once, and 9.2% had experienced it in the past year. 25.1% of respondents had experienced psychological, physical or sexual violence by a current partner, and 52.9% had experienced violence by a former partner.

The experiences of domestic violence for women and men are described in more detail in Table 22. There were no significant differences between women and men in the total amount of violence perpetrated by the current partner, the amount of psychological abuse by the current partner, the total amount of intimate partner violence or stalking experienced in the past year, or the amount of parental violence. Women had experienced all other forms of domestic violence significantly more than men.

Table 22. Women's and men's experiences of domestic violence

	All	Women	Men	Significant gender difference
Current partner				
Psychological violence	18.7	18.1	19.4	-
Physical violence or threat	5.9	6.9	4.8	$p < .05$
Sexual violence	0.7	1.2	0.2	$p < .001$
Total	19.9	19.0	20.8	-
Ex-partner				
Psychological violence	25.4	15.3	10.2	$p < .001$
Physical violence or threat	17.9	23.8	11.9	$p < .001$
Sexual violence	5.2	8.7	1.7	$p < .001$
Total	27.2	32.8	21.7	$p < .001$
Stalking by a current or former partner	5.0	7.4	2.6	$p < .001$
Total intimate partner violence (including stalking)	43.6	48.0	39.3	$p < .001$
Intimate partner violence (including stalking) during 12 months	4.4	5.0	3.9	-
Domestic violence in childhood				
Psychological or physical violence by parents	46.8	48.5	45.1	-
Psychological or physical violence between parents	54.1	57.4	50.8	$p < .001$
Sexual violence by a family member or relative	1.2	2.3	0.1	$p < .001$
Total	64.6	67.0	62.4	$p < 0.05$
Total domestic violence	74.9	77.5	72.2	$p < .001$

5.2.1.2 Domestic violence experienced by children

The data provides information on both domestic violence against children and children's exposure to intimate partner violence experienced by their guardians.

The sample of respondents under the age of 18 did not include boys, so gender differences in the experience of domestic violence among minors were not analysed. The population study indicates that 68% of Finnish girls aged 16–17 have experienced

domestic violence at least once in their lives. More detailed data on underage girls' experiences of domestic violence are presented in Table 23. Approximately half of girls aged 16–17 have experienced physical or psychological violence by their parents and have witnessed physical or psychological violence between parents. In contrast, 1.5% have experienced sexual violence by a family member or relative. Among girls who have been in a relationship at least once, 45.4% have experienced violence from their partner. Psychological violence is the most common form of intimate partner violence experienced by young people, but more than one in ten girls in a relationship have also experienced physical or sexual violence from their partner.

A total of 23.6% of all adult respondents (n=6,037) of the population study had their own or their spouse's children living in their household. In contrast, 29.6% of respondents who had experienced intimate partner violence in the past five years had children living in the household, a significantly higher proportion than those who had not experienced intimate partner violence (23.2%, $p < .001$). Of families with children, 76.2% had children under school age living at home, 63.1% had children aged 7–15 and 18.2% had children over 15.

Table 23. Domestic violence experienced by girls aged 16–17

	All (N = 1,618)	Those who have been in a relationship (N = 586)
Domestic violence		
Psychological or physical violence by parents	47.5%	-
Psychological or physical violence between parents	53.1%	-
Sexual violence by a family member or other relative	1.5%	-
Violence by a current or former partner		
Psychological violence	-	41.0%
Physical violence or threat	-	16.9%
Sexual violence	-	12.8%
Stalking	-	5.3%
Total intimate partner violence	-	45.4%
Total domestic violence	68.0%	

5.2.2 Use of services

5.2.2.1 Use of healthcare, social and legal services in the last 12 months

Table 24 indicates respondents' overall use of healthcare, social and legal services in the last 12 months. For intimate partner violence, all respondents are included; for childhood violence, only adult respondents are included. As the table 24 indicates, respondents who had experienced domestic violence were significantly more likely to have used all services. The proportion of respondents who had used social services in the past year was 40–200% higher among those who had experienced domestic violence compared to those who had not. The proportion of respondents who had resorted to legal services (including the police) was 60–360% higher among those who had experienced violence compared to those who had not. Similarly, for healthcare services, non-victims were 40–200% more likely not to have used healthcare services at all in the past year. Service use was most common among those who had experienced intimate partner violence in the past year – they had used healthcare and social services twice as often and legal services 3.6 times more often than non-victims.

Table 24. Use of services by those who had and had not experienced domestic violence in the last 12 months

	Used healthcare services	Used social services	Used legal services
Experienced intimate partner violence during past 12 months			
Yes	96.2%	21.2%	17.7%
No	90.7%	10.3%	4.9%
p	.002	.030	< .001
Experienced intimate partner violence in their lifetime			
Yes	94.3%	16.3%	7.2%
No	89.4%	8.0%	4.4%
p	< .001	< .001	< .001
Domestic violence experienced in childhood*			
Yes	93.0%	13.6%	8.2%.
No	90.4%	9.9%	4.6%
p	.027	.025	< .001

* Only adult respondents

Data weighted by background factors and significance differences tested with a first-degree Rao-Scott adjusted chi^2 test

5.2.2.2 Costs of services

The costs of using services reported by all respondents in the last 12 months amounted to approximately EUR 10.4 million for healthcare services, EUR 960,000 for social services and EUR 510,000 for legal services. Respondents who had experienced domestic violence accounted for 85.4% of the total cost of services, which was higher than their share of all respondents (75.7%).

Tables 25–27 compare the mean cost of using services for respondents who had experienced different forms of domestic violence with respondents who had not experienced violence. The tables indicate that the costs of healthcare, social and legal services were significantly higher among those who had experienced domestic violence compared to those who had not. The largest cost impact was on the social and legal services used during the past year. The mean cost of social services was 60–90% higher for those who had experienced intimate partner violence than for those who had not. For those who experienced intimate partner violence in the past year, the cost of legal services was almost four times higher than for those who had not experienced violence. Childhood domestic violence was also reflected in 50% higher costs of social and legal services among adult respondents.

Table 25. Mean healthcare costs over the previous 12 months

	Mean costs	Standard deviation	Median	*p*
Experienced intimate partner violence in their lifetime				< .001
Yes	875 €	(19500)	555 €	
No	660 €	(14830)	355 €	
Experienced intimate partner violence during past 12 months				< .001
Yes	935 €	(18770)	620 €	
No	725 €	(16100)	380 €	
Domestic violence experienced in childhood*				< .001
Yes	810 €	(15700)	480 €	
No	710€	(18575)	375 €	

* Only adult respondents

Data weighted by background factors and significance differences tested with a first-degree Rao-Scott adjusted chi^2 test

Table 26. Mean social service costs over the previous 12 months

	Mean costs	Standard deviation	Median**	*p*
Experienced intimate partner violence in their lifetime				< .001
Yes	36 €	(2210)	-	
No	19 €	(1360)	-	
Experienced intimate partner violence during past 12 months				< .001
Yes	39 €	(1920)	-	
No	24 €	(1600)	-	
Domestic violence experienced in childhood*				< .001
Yes	48 €	(1995)	-	
No	31 €	(1530)	-	

* Only adult respondents

** Middle respondent had not used services

Data weighted by background factors and significance differences tested with a first-degree Rao-Scott adjusted chi² test

Table 27. Mean legal service costs over the previous 12 months

	Mean costs	Standard deviation	Median**	*p*
Experienced intimate partner violence in their lifetime				< .001
Yes	47 €	(4545)	-	
No	28 €	(3035)	-	
Experienced intimate partner violence during past 12 months				< .001
Yes	125 €	(6510)	-	
No	32 €	(3350)	-	
Domestic violence experienced in childhood*				< .001
Yes	48 €	(4480)	-	
No	31 €	(3240)	-	

* Only adult respondents

** Middle respondent had not used services

Data is weighted by background factors and significance differences tested with a first-degree Rao-Scott adjusted chi² test

5.2.2.3 Seeking help and satisfaction with services

Victims of domestic violence are heavy users of social, healthcare and legal services. However, based on prior studies presented in section 2.3, a significant proportion of domestic violence remains unrecognised in these services. In order to find out whether they had sought help, respondents who had experienced domestic violence were asked whether they had ever reported their experience of violence to a professional working in healthcare or in services specialising in helping victims of violence, or to the police. At population level, the proportion of respondents who sought help is indicated in Table 28. People who have experienced violence are most likely to have sought help for violence in the last year and less likely to have sought help for violence in childhood.

Respondents who used the services were also asked about their satisfaction with the social, healthcare and legal services they received. These data are presented in Table 29. The results show that people who have experienced domestic violence during their lives are significantly more dissatisfied with the healthcare, social and/or legal services they receive than Finns who have not experienced violence. Those who have experienced intimate partner violence in the past year are the most dissatisfied: only around half of them are satisfied with the services they have used, while almost 80% of those who have not experienced violence are satisfied. Domestic violence experienced in childhood has a significant association with higher dissatisfaction with healthcare services but not with a higher dissatisfaction with social or legal services.

Table 28. Respondents who have experienced domestic violence seeking help from social, healthcare and legal services

	Experienced intimate partner violence in their lifetime	Experienced intimate partner violence during past 12 months	Domestic violence experienced in childhood*
Reported violence	21.5%	25.5%	5.3%

* Only adult respondents

Data weighted by background factors and significance differences tested with a first-degree Rao-Scott adjusted chi^2 test

Table 29. Respondents' satisfaction with the services they receive

	Satisfied with healthcare services	Satisfied with social services	Satisfied with legal services
Experienced intimate partner violence in their lifetime			
Yes	73.5%	70.3%	68.5%
No	81.2%	84.0%	84.1%
p	<.001	<.001	<.050
Experienced intimate partner violence during past 12 months			
Yes	54.1%	46.8%	52.2%
No	79.2%	79.6%	79.2%
p	<.010	<.050	.258
Domestic violence experienced in childhood*			
Yes	72.6%	73.5%	69.1%
No	80.1%	79.6%	80.6%
p	<.001	.400	.055

* Only adult respondents

Data weighted by background factors and significance differences tested with a first-degree Rao-Scott adjusted chi^2 test

5.2.3 Costs of domestic violence (regression modelling)

Next, we look at the use of services for which it was possible to construct interpretable effects using regression models. Of the individual service types, meaningfully interpretable effects could be detected for health centre, psychotherapy and emergency room visits. For other healthcare services, this means that, due to the small number of observations or the size of the random error, it is not possible to make any comments on services potentially related to domestic violence (e.g. specialised health care) in the context of this survey data. Instead, the costs of the three types of services identified should be examined using a so-called total cost model, as the estimates for each are still too imprecise to estimate the costs of domestic violence.

Table 30 presents the service-specific regression models predicting the use of health services that yield a meaningfully interpretable result for the consequences of domestic violence that has at least indicative statistical significance. Thus, health centre visits were modelled using visits to healthcare services as a result of violence and long-term adverse

health effects. In turn, psychotherapy visits were modelled using long-term adverse health effects and psychological symptoms associated with violence, and emergency room visits were modelled using a contusion more severe than a bruise. The respondent's age, education, socio-economic status, number of children, type of municipality, health status and other violence-related health visits are standardised in each model. Unlike healthcare services, it was not possible to estimate the use of social and legal services by type of service, as there were not enough observations for individual services.

Table 30. Service-specific models predicting the use of healthcare services (negative binomial regression), parameter estimate (standard error)

	Health centre visits		Psychotherapy visits		Emergency room visits	
Parameters						
Sought health services within 12 months of domestic violence	0.513*	(0.239)	-	-	-	-
Long-term adverse health effects related to domestic violence	0.493	(0.154)	1.121	(0.599)	-	-
Psychological symptoms over 5 years	-	-	0.521*	(0.295)	-	-
An injury more serious than a bruise over 12 months	-	-	-	-	0.255	(0.213)
Log likelihood	4236		-723.8		-3302	
AIC	16386		5546		8126	

Table 31 indicates the estimated prevalence of experiences of violence among the basic population of women aged 16–74 living in Finland, using the definitions described above. The results have been weighted to the population level on a sample design basis by weighting the data for each individual respondent in the data by a weighting factor correcting for sampling design and non-response. The data indicate that approximately 42,000 women have experienced physical domestic violence (excluding those who have experienced threats alone) in a year, while more than 79,000 women have experienced psychological symptoms due to an episode of violence occurring during the last five years. 842,000 women report having experienced psychological violence, and 33,000 report having experienced more serious consequences of violence (injuries more serious than bruising).

Table 31. Prevalence of experiences of violence, health consequences of violence and service-seeking in 12-month and 5-year reference periods in the study and adjusted to the population level (women aged 16–74 living in Finland).

	In the last 12 months			In the last 5 years		
	%	Standard error	N adjust.	%	Standard error	N adjust.
Experienced violence						
Psychological violence	14.7	0.6	295 805	41.7	0.8	841 628
Physical violence (including threats)	2.4	0.3	49 101	9.1	0.5	183 756
Physical violence (excluding threats)	2.1	0.2	42 160	7.2	0.5	146 227
Consequences of violence						
Any injury	53.1	6.0	22 382	43.6	3.2	64 067
Severe injury*	18.4	4.7	9 029	18.2	2.3	33 399
Psychological symptoms	57.3	5.8	24 162	54.4	3.2	79 524
Seeking help for violence						
Sought healthcare services	20.3	5.3	8 558	22.6	2.7	33 015
Disclosed to social or healthcare services	22.1	5.4	9 316	21.9	2.7	31 988
Disclosed to social services**	5.7	4.1	2 414	6.1	1.7	8 942
Disclosed to the third sector	8.7	4.3	3 689	10.7	2.4	15 653
Sought legal aid	5.7	4.1	2 414	4.3	1.5	6 310
Filed a report with the police	9.3	3.6	3 929	9.4	1.9	13 709
N (those who have experienced violence other than threats)	127			406		
Sample design coefficient (experience of violence)	1,839			1,859		

* A serious injury refers to a fracture, burn or cut, or head injury.

** Those who contacted social services directly.

Table 32 indicates the marginal effects of the predicted total service needs of service use indicators related to the consequences of domestic violence. Healthcare service use is estimated with a reference period of 12 months of acute care admission and 5 years of psychological symptoms, while social and legal service use is estimated only with a reference period of 5 years of service use since the violent episode. The shape of the distribution of the response variable and the small number of observations are reflected in the results as an extremely high statistical uncertainty, which is reflected in the indicative standard errors of the marginal effects in the first column of the table. The use of marginal effects is explained in more detail in Appendix 10.

Table 32. Marginal effects of the cost of direct service use for domestic violence (negative binomial regression), the weighted basic population for the indicator [90% confidence interval] and their product (estimate of total cost)

	Marginal effect, EUR (standard error)	Weighted basic population, thousands of persons [confidence interval]	Total cost at the population level, thousands of euros
Health centre or emergency care due to violence	148** (190)	9.8 [6.2-13.5]	1 450
Therapy services for violence	110** (99)	97 [87.7-107.0]	10 670
Social services*, victim with children	220** (230)	13.9 (9.8-18.1]	3 058
Social services*, victim has no children	20 (18)	19.3 [15.2-23.4]	-
Contacting legal services about violence	204** (425)	22.8 [17.7-27.8]	4 650
Total			19 800

* Meeting with a child welfare worker, meeting with a child supervisor, a supervised meeting with a child, a day in a shelter, contacting a helpline or online service.

** Statistically significant difference between the marginal mean and the reference category.
Estimates are based on the total cost of using services estimated by negative binomial regression. Models standardised for respondent's age, education, number of children, socio-economic status and health status (healthcare services model only). The social services model includes an interaction term that takes into account the children in the household as a cost conditioning factor.

6 Summary and recommendations

6.1 Summary and conclusions

The results of the study show that 75% of Finnish people aged 16–74 have experienced psychological, physical or sexual domestic violence at least once in their life. Intimate partner violence has been experienced by 44% and childhood domestic violence by 65% of the respondents. In the last year, 4% of the total population and approximately one in ten of those who have been in a relationship at least once have experienced intimate partner violence. Of the adult respondents who had been in a relationship at some point in their lives, 51% had experienced violence at least once in their relationship, and 9% had experienced it in the past year. These prevalence rates are slightly higher than those measured in previous population-based studies, which is probably at least partly due to the fact that this study takes into account physical, psychological and sexual violence and stalking.

Women have experienced intimate partner violence significantly more often during their life than men (women 48%, men 39%), as well as violence committed by an ex-partner (women 33%, men 22%) and childhood domestic violence (women 67%, men 62%). In their current relationship, women are more likely than men to have experienced physical (7% women, 5% men) and sexual (1% women, 0.2% men) intimate partner violence. Compared to men, women are also more likely to have experienced stalking by a current or former partner (7% of women, 3% of men). These findings on gender differences are in line with previous Finnish population studies (Heiskanen & Ruuskanen, 2010). A similar gender difference emerged for the register data used in the study. Women composed 74% of the domestic violence victims identified in specialised health care registers, 69% in outpatient healthcare registers, 93% in the registers of domestic violence shelters and 78% in police registers.

The study showed that 30% of the respondents who had experienced intimate partner violence in the past five years had children living in their household. The figure is high, considering how harmful exposure to violence is in childhood (Vu et al., 2016). Furthermore, the study shows that experiences of domestic violence are common among girls aged 16–17 (the sample did not include underage boys). Of girls, 68% had experienced domestic violence at least once in their life. Most commonly, they had witnessed psychological or physical violence between their parents (53%) and experienced violence committed by their parents (48%). Intimate partner violence experienced by girls aged 16–17 is also considerably common: 36% of girls have had

an intimate relationship and, of them, 45% have experienced violence committed by their partner. Special attention should therefore be paid to ensuring that girls in this age group receive services, as violence experienced in intimate relationships at a young age increases the risk of victim experiences and acts of violence in intimate relationships in adulthood (Cui et al., 2013).

It was possible to adjust the prevalence rates found in the study to the population level for women aged 16–74. The result is that 42,000 Finnish women in this age group experience physical intimate partner violence and 230,000 women experience psychological violence each year. In five years, 146,000 women have experienced physical violence and 841,000 have experienced psychological violence. In turn, 9,000 women in one year and 33,400 women in five years have suffered physical injuries more serious than bruising as a result of violence. Almost the same number (8,600 and 33,000 respectively) of women have sought healthcare services as a result of violence. The number of women suffering from psychological symptoms as a result of violence is 24,000 a year and 80,000 if violence have occurred during five years.

However, in healthcare registers, violence-related diagnoses had been entered annually to approximately 800 people, which is only 9% of all women who have suffered serious injuries. In addition, the register-based study found that only 6% of the clients of the shelters had been identified as victims of violence in healthcare within six years. The number of women suffering from psychological symptoms as a result of intimate partner violence was several times as high as the number of women who had sought help from health services. This suggests either that survivors of domestic violence with psychological symptoms have not received professional help or that their symptoms have not been linked to the violence. These findings correspond to earlier studies, according to which domestic violence is significantly underidentified in Finnish health services (Kivelä, 2020; Siltala, 2021). The number of women who had reported their assault to the police was 9% of all women who had experienced physical intimate partner violence and 44% of those who had sustained more serious injuries. Previous studies have estimated that 10%–20% of more serious cases of intimate partner violence are reported to the police (FRA, 2014; Kääriänen, 2006).

The register-based study showed that the healthcare costs of persons identified as victims of domestic violence were more than double the costs of the reference group for at least six years. The costs were the highest in the year of identification and declined after that. The study indicates that only a fraction of all people who have experienced domestic violence register with a healthcare service or the police. However, data on the number of women who had experienced violence within five years was available from the population study, and so this information was used to estimate the health costs of violence.

Excluding the 1% of subjects who used the services the most, the mean annual attributable cost of domestic violence per person was EUR 949 from healthcare registers and EUR 1,099 from police registers. Although the register data may have included the same people to some extent, to summarise the results it can be assumed that the mean attributable cost to healthcare per victim of domestic violence is EUR 1,024 per year. If the mean attributable cost calculated from the registers (EUR 1,024) is multiplied by the number of women who have experienced physical domestic violence in five years (146,000) based on the population study, the direct attributable cost of domestic violence experienced by Finnish women is EUR 150 million per year. On the other hand, psychological violence is also known to cause significant adverse health effects (Lagdon et al., 2014; Siltala, 2021). If it is assumed that psychological domestic violence causes a similar increase in costs, the annual attributable costs to public healthcare would amount to EUR 861 million.

The cost is limited to violence over a five-year period, as an accurate cost estimate could be calculated for this period on the basis of the register-based study. However, the results of the population-based study suggest that life-long intimate partner violence and domestic violence in childhood are also reflected in an increased use of healthcare services. In reality, the health costs of domestic violence are thus not limited to a five-year period. The calculation also does not include the costs of domestic violence experienced by men or those under the age of 16, as they could not be estimated from the data in this study. In addition, the estimate only includes direct treatment costs to the public healthcare system. Again, this underestimates the cost of domestic violence, as a significant number of Finns use occupational healthcare or other private healthcare services instead of or alongside public services. The indirect costs of violence, such as sick leave or incapacity for work, were also excluded from this study. However, previous studies suggest that these indirect costs account for more than half of the total costs of domestic violence (EIGE, 2014).

Furthermore, the costs of domestic violence are not limited to healthcare; the study indicates that victims of domestic violence also use social welfare and legal services much more than non-victims. The mean cost of social services was 60–90% higher for those who had experienced intimate partner violence in the past year or in their lifetime than for those who had not experienced any intimate partner violence. The cost of legal services (including the police) was 70% higher for those who had experienced intimate partner violence during their lifetime, and almost four times higher for those who had experienced intimate partner violence in the past year compared to those who had not experienced any intimate partner violence. Childhood domestic violence was also reflected in 50% higher costs of social and legal services. Despite higher levels of service use, people who have experienced intimate partner violence, especially in the past year, are significantly dissatisfied with the healthcare, social and legal services they receive:

only one in two victims of intimate partner violence who have used services were satisfied with the services they received. This finding also highlights the need to improve how healthcare, social and legal services deal with victims of domestic violence.

The recommendations are based on three main results:

1) The use of health, social and legal services among people who have experienced domestic violence is many times higher than among the rest of the population. The highest additional costs are caused by acute domestic violence, but the violence experienced by adults in their childhood is also visible as higher costs. Both the direct and the long-term consequences of violence affect service use and the need for help.

2) Almost half of all Finnish people have experienced intimate partner violence at least once in their life and 4% in the past year. Sixty-five per cent of adult Finnish people have experienced domestic violence in their childhood.

3) The study highlights the deficiencies in recording domestic violence in the electronic client registers. Fewer than one in ten cases of domestic violence that have led to serious injuries are recorded in healthcare or police registers. As for the registers of social services, there is currently no information at all available on domestic violence.

6.2 Guidelines

Recommendations for organising work on domestic violence in Finland. Work on violence refers to helping the different parties involved in violence and providing psychosocial support and legal assistance to victims of violence.

This study provided new information on the direct health costs of domestic violence and the costs to social and legal services. The use of health and social services by victims of domestic violence would seem to be twice as high when compared to the rest of the population, and the use of legal services up to four times as high. People who have experienced domestic violence are also less satisfied with the services they receive. The direct health costs of domestic violence can be influenced, as the identification of violence seems to translate into lower health costs.

The results of the study encourage more effective intervention in domestic violence in order to help reduce the human suffering caused by the violence and its costs to society.

1) Organising the prevention of and intervention in domestic violence in municipalities and wellbeing services counties must be ensured by implementing effective working methods and service packages. In addition, the proposals contained in Recommendation 2 on statutory multi-professional cooperation and coordination should be implemented.

   A) The prevention of domestic violence, bringing it up in discussions and assessing it as well as risk assessments, drawing up safety plans, providing help in the initial stage and guidance to services must be included in the basic work carried out in social and healthcare services. These issues must also be taken into account in the recording practices.

   B) Efficient treatment and service packages must be available to the victims of violence, the perpetrators and children who have been exposed to violence. Examples:
      - Seri Support Centres to support victims of sexual violence
      - MARAK working groups (multidisciplinary risk assessment meeting) to help victims of serious intimate partner violence
      - Barnahus work aimed at preventing all forms of violence against children and developing the service paths for child victims

2) Provisions on the organisation of structures and services related to domestic violence prevention work in municipalities and wellbeing services counties must be laid down in legislation. Provisions will be laid down:

   A) On the duties of municipalities and wellbeing services counties in their own organisations and on cross-administrative multiprofessional cooperation to prevent domestic violence and to organise well-working service chains.

   B) Municipalities and wellbeing services counties designate a violence prevention work coordinator and a multiprofessional working group coordinating violence prevention work.

3) Training on violence prevention work and awareness of the phenomenon of domestic violence must be included in all basic education provided in the social welfare, healthcare and legal sectors (violence experienced in childhood and adulthood).

4) Systematic recording and statistical reporting of domestic violence must be included and implemented in all client information systems to support work with clients and to highlight the prevalence of domestic violence

   A) Client information systems must include information on the forms of violence and the perpetrator.

   B) Training and instructions for recording must be provided to directors and personnel.

   C) The recording instructions and practices must ensure the client's safety.

5) A population-based study focusing on experiences of domestic violence and getting help must be carried out regularly.
   Information on the phenomenon of domestic violence must be used in knowledge-based management and in the organisation and development of services.

The content and rationale of the recommendations are examined in more detail below. This is justified by the three main outcomes of the summary and conclusion (section 6.1). The justifications also mention other relevant conclusions, which are discussed in sections 1–3 of the report.

1. Organising the prevention of and intervention in domestic violence in municipalities and wellbeing services counties must be ensured by implementing effective service packages.

In addition, the proposals contained in Recommendation 2 on statutory multi-professional cooperation and coordination should be implemented.

1 A) The prevention of domestic violence, bringing it up in discussions and assessing it, as well as risk assessments, drawing up safety plans, providing help in the initial stage and guidance to services must be included in the basic work carried out in social and healthcare services. These issues must also be taken into account in the recording practices.

More comprehensive instructions should be available for client work in social, healthcare and legal services, and professionals should be trained in trauma-informed client encounters, talking about violence, assessing the risk of violence and coordinating services. Service guidance and client plans should indicate how violence has been addressed, whether it has been mapped and where the client may have been referred. The security plan and the conclusions of the risk assessment must also be carefully documented, and the client's security plan must be updated whenever necessary. Those responsible for the regional organisation and coordination of work on domestic violence promote the transfer of practices to client work. For example, the Finnish Institute for Health and Welfare already has models for organising activities and identifying domestic violence.[11].

There is a clear need to develop guidelines and training for professionals on violence work, as currently professionals in social, healthcare and legal services often do not perceive violence work as part of their job description (Husso et al., 2012). This, together with previous studies, has shown that people experiencing domestic violence make significant use of basic services. Work on domestic violence cannot therefore be entrusted to specialist violence services alone. Identifying domestic violence as early as possible at the baseline could also significantly reduce the adverse effects and costs of violence (Siltala, 2021).

11 https://thl.fi/fi/web/vakivalta

The Istanbul Convention, which is also enforced in Finland, obliges all relevant authorities to conduct a risk assessment of violence and to assess the risk of the victim's death and to provide the victim with measures to increase safety through coordinated actions (SopS 53/2015, Art. 51 and 18). However, the basic training of professionals does not yet sufficiently cover skills such as violence risk assessment. The authorities are also not sufficiently aware of the human rights convention regulations that are binding on them.

Adequate guidance on screening, risk assessment and risk management procedures for domestic violence must therefore be developed for social, healthcare and legal professionals. Such guidance is widely used in maternity clinic guides (Klemetti & Hakulinen-Viitanen, 2013). An updated treatment guideline for assessing risk of violence against children was also published in spring 2022 (Hotus, 2022). Basic information on risk assessment is available in the Finnish Institute for Health and Welfare online training courses, but more extensive training packages should be available for professionals engaging in demanding work with clients.

1 B) Effective treatment and service packages must be available to the victims of violence, the perpetrators and the children exposed to violence.

As stated above, all professionals working in social, healthcare and legal services should have basic skills in identifying and dealing with domestic violence in their work. However, to deal with the complex and long-term consequences of domestic violence, there is also a need for specialised service packages to which the parties involved in domestic violence can be referred in municipalities or wellbeing services counties. The Istanbul Convention (SopS, 53/2015), the Social Welfare Act (1301/2014), the Child Welfare Act (4147/2007), the Act on the Care Services for Older People (980/2012) and the Health Care Act (1326/2010) contain an obligation to provide services and intervene in cases of domestic violence.

Services related to domestic violence must be available throughout the country, they must be adequately resourced, and the people working in the services must be highly skilled in working with people involved in domestic partner violence. Services should be available for adults and children, for survivors and perpetrators of domestic partner violence, and for all genders. Domestic violence care services must also take into account different groups of people, such as the elderly, people with disabilities and people of foreign origin.

To ensure the coverage of services and to support the coordination of work on violence, we recommend that a multidisciplinary centre of excellence on violence be established in each wellbeing services county. The centre may be established as a physical service point or a collaborative network of existing service providers. We also recommend improving the functioning and accessibility of existing national service systems, such as MARAK

teams and Seri support centres. **We will now make more specific recommendations for organising these services.**

MARAK (Multidisciplinary Risk Assessment Meeting) is a multidisciplinary method for assessing the risk of serious intimate partner violence and helping the victim. MARAK brings together the regional authorities and organisations working to assist victims and coordinates the support provided to victims. MARAK involves a systematic risk assessment of violence. If the risk is elevated, a multidisciplinary team will help the victim. The team draws up a multidisciplinary plan to improve the victim's safety[12]. There are MARAK teams in dozens of localities in Finland, but we need to improve access to them so that they are available in all regions. In 2019, approximately 200 cases of domestic violence were dealt with by MARAK teams in Finland. This is a relatively small number given the prevalence of domestic violence found in this study and, in particular, the low number of service referrals made by the police. Regional and national guidelines should therefore improve the resourcing of MARAK teams, service coverage and referral to the service.

Seri support centres will be set up for victims of sexual violence in wellbeing services counties so that sufficient services are available. This is based on Article 25 of the Istanbul Convention on support for victims of sexual violence (SopS, 53/2015). Seri support centres have been established since 2017, and the plan is to have a Seri support centre in every wellbeing services county by the end of 2023. Seri support centres should provide both forensic and psychosocial support for victims of sexual violence. The centres must be easily accessible and serve victims of sexual violence with comprehensive opening hours, because a significant proportion of sexual violence takes place at night and on weekends.

Barnahus work. The ongoing Barnahus project aims to prevent all forms of violence against children and to develop service pathways for child victims. As part of the Barnahus work, the Finnish Institute for Health and Welfare produced an extensive survey of service pathways for child victims of violence, and these were found to have significant deficiencies (Laajasalo, 2020). On a national level, the project provides training for professionals in effective trauma care for children and young people. In addition, services are being built up on a regional level, including family centres and Seri support centres, with support for specialised counselling and training. The project will contribute to strengthening knowledge on violence in municipalities and wellbeing services counties, and a permanent national coordination structure for the work must be ensured in the next few years.

12 MARAK https://thl.fi/fi/web/vakivalta/tyon-tueksi/marak-moniammatillinen-riskinarviointi

2. Provisions on the organisation of structures and services related to domestic violence prevention work in municipalities and wellbeing services counties must be laid down in legislation.

Provisions will be laid down:

2 A) On the duties of municipalities and wellbeing services counties in their organisations and on cross-administrative multiprofessional cooperation to prevent domestic violence and to organise well-working service chains.

Multidisciplinary cooperation has been found to be a basic prerequisite for effective work on domestic violence, which is why municipal and regional basic services should be obliged to cooperate in domestic violence matters. Recommendations on cooperation in violence work have already been made in the past, for example in 2008 (STM, 2008) and in 2019 (Nipuli, 2019). On the other hand, in 2019, it was found that despite the recommendations, joint coordination of violence work was still lacking in half of the municipalities, and the action plans required by the recommendations for the prevention and eradication of domestic violence were far from being implemented everywhere (Nipuli, 2019). The lack of coordination and visibility of violence work is also worryingly reflected in the fact that even municipal officials are not necessarily aware of the violence work being carried out in their area (Mäkeläinen et al., 2012). It would therefore be important that the law ensure multidisciplinary work on violence in municipalities and wellbeing services counties. This has been referred to, for example, as structural law (Nipuli, 2019).

The law would obligate the wellbeing services counties to create service pathways for people experiencing domestic violence through cooperation between different operators (e.g. hospitals, health centres, maternity clinics, social services, schools, mental health and substance abuse services, occupational healthcare services, and the police). The Social Welfare Act (Section 33a) already states that social services may be grouped together with other services if this is necessary to ensure specialised expertise and thus client safety and the quality of services. The law specifically mentions services for victims of violence and sexual offences as such special services. However, the provision of services should be made more binding than it is at present. For example, the Mental Health Act also provides for the coordination of mental health services (Mental Health Act 14 December 1990/1116, Section 5), and the Act on Welfare for Substance Abusers provides for cooperation (Act on Welfare for Substance Abusers 17 January 1986/41, Section 9).

2 B) Municipalities and wellbeing services counties designate a violence prevention work coordinator and a multiprofessional working group coordinating violence prevention work.

The law should stipulate that services and offices in the area must have a designated expert on violence work, i.e. a violence work coordinator, and a multiprofessional team coordinating violence work (e.g. maternity clinic, social services, schools, mental health services, substance abuse services, the police, occupational healthcare services). The violence work coordinator must have expertise in violence work and work as part of a broad regional network for work on domestic violence. A separate coordinator is needed to address gaps in the work on domestic violence in regions and service systems.

Currently, domestic violence is a highly under-recognised problem, even in healthcare services (Kivelä, 2020; Siltala, 2021), and recommendations for regional cooperation to prevent domestic violence are not implemented (Nipuli, 2019). Problems in identifying and recording domestic violence in client registers were also evident in this study. Numerous development projects have been implemented in Finland to improve the identification of and intervention in domestic violence, but it has been very challenging to implement them on a permanent basis (Husso et al., 2021). This is very unfortunate, both from the point of view of the clients experiencing domestic violence and from the point of view of the resources spent on development projects.

The regional development of work on domestic violence and the implementation of the recommended operating models require long-term work, specific expertise and resources. Such development work would be one of the key tasks of a regional violence work coordinator. The need for development work and normative guidance is particularly relevant for implementing the new guidelines on the organisation of work on violence to be published in 2022 and for creating service systems for violence in wellbeing services counties.

3. Training on violence prevention work and awareness of the phenomenon of domestic violence should be included in basic education for all social welfare, healthcare and legal fields.

Finland has an obligation under the Istanbul Convention (SopS 53/2015, Article 15) to train professionals on domestic violence and gender-based violence. The training of social and healthcare professionals, the police and lawyers should therefore include basic information about domestic violence as a phenomenon and its effects, the meaning and practices of asking questions about violence, helping, referring to services and up-to-date legislation, as well as international human rights obligations binding Finland. The training should also include information on national guidelines and recommendations on violence

work. The training will support professionals in social, healthcare and legal services in implementing the recommendations outlined in the previous section.

The need for increased training is evident, as professionals working in social, healthcare and legal services have reported a number of challenges in encountering clients who have experienced domestic violence and in engaging in multiprofessional cooperation (Notko et al., 2022; Husso et al., 2012). Shortcomings in professionals' knowledge of violence are most likely to be directly reflected in the dissatisfaction reported by victims of domestic violence with the help they receive (Kääriäinen, 2005). These shortcomings must be addressed in order to improve the effectiveness of intervention in social, healthcare and justice services and to reduce the adverse effects and costs of domestic violence.

Education on domestic violence should therefore be systematically included in social, healthcare and legal education. There is also a great need for information on domestic violence, for instance among teachers. In Sweden, for example, the Higher Education Ordinance (Högskoleförordning, 1993:100) provides for specific education on violence against women and on domestic violence for different professional groups. In Finland, domestic partner violence is currently dealt with in a limited or non-existent way in social, healthcare and legal education. The scattered courses on offer are often optional and therefore do not reach a sufficient range of professionals in key sectors. Training in identifying and dealing with domestic violence, taking into account the specific needs of social, healthcare and legal services, should therefore be offered as a compulsory part of the basic studies for each professional group.

In addition to basic training, both municipalities and wellbeing services counties should offer information on the phenomenon and additional training on domestic violence to staff and management already in working life. Wellbeing services counties are subject to a staff training obligation, according to which the wellbeing services county must monitor the professional development of its own social and healthcare staff as well as that of private service providers providing services to it, and ensure that staff take part in sufficient further training in their field. Further training for staff must take into account the length of the basic training of staff, the demanding nature of their work and the content of their duties (Act on Organising Social Welfare and Healthcare 612/2021, Section 59). Those working in municipalities and educational institutions should be offered additional training and instructions on how to identify violence and what to do when violence is detected.

The Finnish Institute for Health and Welfare recommends using its free, ready-to-use online training courses to support staff induction and professional further training.[13]. In addition, further training should be organised on a regional and municipal level on features such as the phenomenon of violence, violence prevention, trauma-informed client encounters, research-based methods used in violence work and service counselling.

With regard to violence against children, the Non-Violent Childhoods action plan 2020–2025 (Korpilahti et al., 2019) contains a number of measures aimed at ensuring the competence of professionals in different fields, especially with regard to violence against children (e.g. training and information on children's rights, training on separation situations, special training on investigating crimes against children). A comprehensive, research-based, handbook-style intervention plan can also be used as training material in its own right.

4. Client information systems should include the recording and statistics on domestic violence in a way that supports client work and highlights violence as a phenomenon.

4 A) Client information systems must include information on the forms of violence and the perpetrator.

There are significant differences between the currently used client information systems as to whether they include information on the form and perpetrator of the violence (perpetrator classified as e.g. The partner).

- The **healthcare** patient data system includes an ICD-10 classification of forms and perpetrators of violence. However, there is major variation in the recording of this information, and this study indicates that the use of the perpetrator classification is very limited. In addition to information on violence, the healthcare patient data system provides data on the use of services and their costs.

- The **social services** client information system, on the other hand, does not yet provide national data on domestic violence. Client information systems should ensure that in the future they include information on the forms of violence, perpetrators and service management. The data must be stored in a structured format that allows the data to be used in the study (codes, i.e. ready-made classifications).

13 See https://thl.fi/fi/web/vakivalta/tyon-tueksi/vakivalta-aiheiset-verkkokoulut

In social care service management, attention should be paid to ensuring that violence is indicated in client records. The client plans for social care clients show what help and support has been planned and offered to the parties to the violence.

- The **police** information system contains data on domestic violence, and the corresponding classifications have recently been revised. The training of police officers has paid particular attention to recording information on domestic violence in the client information system.

4 B) Training and instructions for recording must be provided to directors and personnel.

Guidance and training on recording and the statistics on domestic violence should be provided both regionally and nationally, so that information on violence can be recorded correctly and client safety can be taken into account. Professionals should be informed about the importance of recording and registers for the evaluation, monitoring and development of work on violence.

At present, under-reporting domestic violence significantly reduces the usability of statistics on features such as the use of healthcare services. The consequence of a failure to produce records is that the prevalence, adverse effects and costs of domestic violence are not visible in service systems, which reduces motivation and opportunities to eradicate domestic violence.

4 C) The recording instructions and practices must ensure the client's safety.

More comprehensive recording of domestic violence would be important, but the safety of the perpetrator must always be taken into account. As a rule, information recorded in the social and healthcare sector is strictly confidential. On the other hand, it would be important for professionals working with a client to have access to information on violence, so that the victim of domestic violence can get the help they need and their situation can be followed up. Communication is also needed, for instance between healthcare, child protection and the police, in order to deal effectively and comprehensively with cases of domestic violence.

The starting point for client records in social services and healthcare is that people of legal age have access to their own data and the data of their dependent children in electronic systems. However, the perpetrator may have the victim's login details or may use threats or other forms of blackmail to gain access to them, in which case the presence of domestic violence data in the system could pose a serious security risk. Disclosing this information

to the perpetrator may even endanger the victim's life and provide the perpetrator with new opportunities to carry out violence and, for example, stalking. Particular care must be taken with regard to the visibility, availability and possible disclosure of client data on children in shared custody to their guardians (see the Act on the Openness of Government Activities).

In addition, when recording domestic violence, professionals must be particularly careful in following security guidelines regarding the disclosure of information. There is a risk that the perpetrator may gain access to the victim's or potential victim's client data, which may increase the violence or threat of violence.

If an employee has concerns about domestic violence, the issue should only be raised in a private and quiet space. For example, in a health centre, a person accompanying a client may be a perpetrator of violence.

To ensure client safety, a professional should always **raise the issue of whether information on violence should be hidden in the person's client records and discuss this issue with a victim of domestic violence privately**. It is important to consider the impact of access rights in individual client situations and to highlight the potential risks associated with access to information and how to protect against them.

For the client, it is essential that the recording of referrals to services for violence would enable them to discuss the issue at the next appointment, which would also make it easier for the worker to raise the issue and provide timely and adequate support and care. Systematic recording and statistics allow the phenomenon to be monitored and studied in real time. The lack of national data means that the phenomenon is invisible, and for this reason, the data systems and their use must take violence into account separately.

5. A population-based study focusing on experiences of domestic violence and getting help must be carried out regularly.

Information on the phenomenon of domestic violence must be used in knowledge-based management and in the organisation and development of services.

A population study on domestic violence should be carried out regularly, and resources should be allocated for it. For example, the study can be carried out at an interval of 5–8 years. A regular population study will allow trends in domestic violence to be monitored and make the phenomenon visible at a national level. The study also provides essential information for the development of services by enabling, for example, the collection of data on the effectiveness of measures to prevent and intervene in domestic violence. The GBV population study used as data for this study would provide a good basis for a regular

data collection targeting adults. In addition, the population study should also take into account questions on the perpetrators of violence.

In addition to violence against adults, repeated, high-quality and ethical data collection must also be ensured by collecting data directly from children. The fourth Child Victim Survey will take place in 2022. The School Health Promotion Study allows a cruder level of monitoring the prevalence of violence against children and a review of the results in relation to child health and well-being every two years. These studies and questionnaires provide complementary information. The continuity and coverage of the data collections must be ensured.

Since domestic violence is mainly a hidden crime, population studies are essential to obtain comprehensive information on the prevalence and adverse effects of domestic violence. Information from client registers is incomplete because a large proportion of victims of domestic violence do not seek help, and there are also major gaps in recording practices. In Finland, population studies focusing on domestic violence and access to help have so far been carried out only sporadically and in connection with various projects. The irregularity of the studies and differences in their methods and definitions limit the ability to assess the prevalence and impact of domestic violence experiences at the population level.

Existing regular population studies in Finland (e.g. FinSote and the Study on victims of crime) survey domestic partner violence only for a few forms of violence and for the past year. These population studies do not include a more detailed analysis of the different forms and perpetrators of violence, the duration of violence, experiences of violence at different stages of life, the consequences of violence and access to help for domestic violence. The prevalence and diversity of experiences of domestic partner violence found in this study also underline the importance of mapping the different forms of domestic violence. Coverage of the perpetrators of domestic violence is an essential blind spot for the phenomenon of domestic violence. The perpetration of domestic violence has so far not been surveyed at the population level in Finland. Instead, studies have focused only on victims of violence. Information on perpetrators of violence would be important for developing services for them.

Information on the phenomenon of violence should be used for knowledge-based management and for the evaluation, development and planning of services.

Data from client information systems and population studies should be systematically collected and used to organise and develop services for the different parties involved in domestic violence in municipalities and wellbeing services counties.

Welfare reports are an important medium for using information on violence. There is a need to develop and include more information on violence in welfare reports. Currently, the minimum data content of the welfare report includes a single indicator of violence against children, but no indicator of violence against adults.[14]. Municipalities and wellbeing services counties should work together to build a regional situational picture of the phenomenon of violence, providing information for the management to support strategic and economic planning and informed decision-making.

Improving the recording and accessibility of client data will enable the widespread use of data in the future by municipalities, wellbeing services counties and research (Recommendation 4 on recording in client information systems). It is essential to systematically collect data on the manifestations of violence, its impact and the number of clients of services, both regionally and nationally.

Regular population studies on domestic violence and improved recording of data in client systems would help to examine trends in the prevalence of domestic violence, monitor the impact of the development of the work on violence and examine more closely the costs of domestic violence.

In the future, it will be important to further develop research on the costs of domestic violence. Currently, the major problem is that there is no equivalent register information available for social services as there is for healthcare services. However, this may change in the future with the migration of social services client data to the Kanta system. This would also provide more comprehensive information on the additional costs to social services. However, the costs of domestic violence cannot be examined through register studies alone, as only a minority of perpetrators of domestic violence seek help or are identified by services. In addition to register-based studies, population-based studies are needed to provide more comprehensive information on the prevalence of domestic violence in different population groups. When studying the costs of domestic violence, it is important to use a variety of study data to get as comprehensive an overview as possible. For example, limited information is currently available on domestic partner violence experienced by men, children and various minority groups such as sexual and gender minorities or people with a foreign background.

14 Minimum information content for welfare reports: https://thl.fi/fi/web/hyvinvoinnin-ja-terveyden-edistamisen-johtaminen/tieto-ja-toimintamallit/hyvinvointikertomusten-minimitietosisalto

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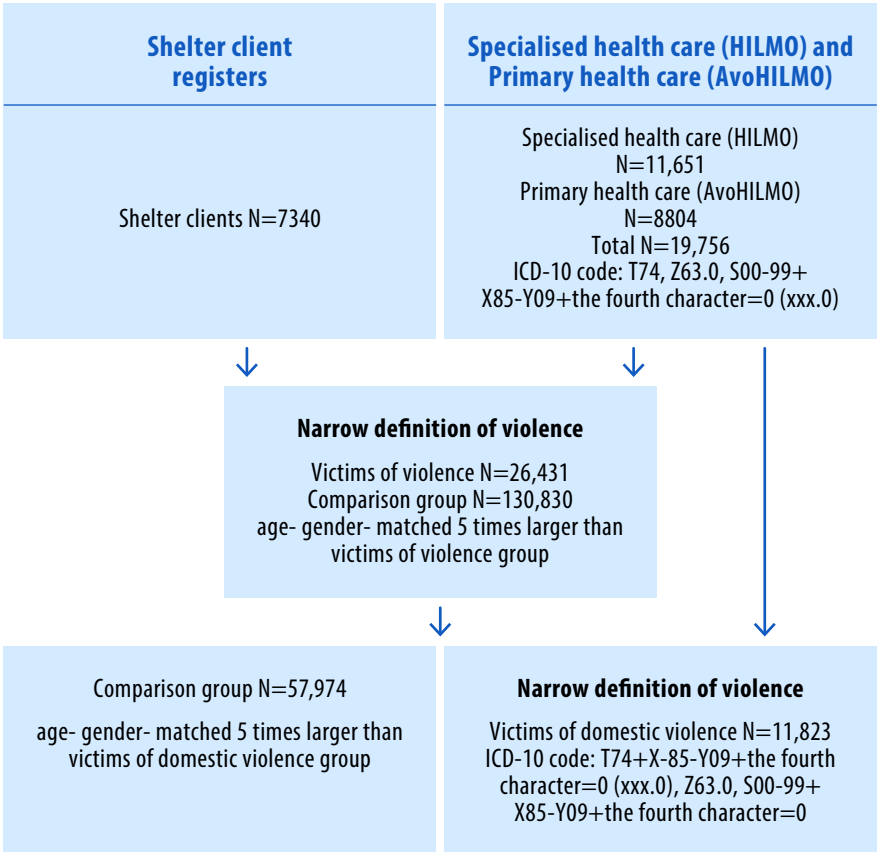
Appendices

Appendix 1. Figure on the register-based study sample: Hilmo, AvoHilmo and shelters



Appendix 2. Hilmo and AvoHilmo registers

The Care Register for Health Care (HILMO, formerly the Hospital Discharge Register) was established in 1969. Today, it includes all public sector inpatient care, specialist outpatient care and day surgery. Since 1994, HILMO has recorded every inpatient visit according to the 10th revision of the WHO International Statistical Classification of Diseases (ICD-10).

The Register of Primary Health Care Visits (AvoHILMO) contain information on all primary care services provided in Finland since 2011. In reality, however, it is known that not all visits are recorded in AvoHILMO and that the use of ICD-10 and ICPC2 classification is not comprehensive or complete in healthcare services.

Victims of violence were identified from sources 1 (HILMO) and 2 (AvoHILMO). Identification was based on ICD-10 main diagnoses or secondary diagnoses (T74, Z63.0), and/or external cause diagnoses (X85–Y09) used in Finland.

Appendix 3. ICD-10 codes in the register study

ICD-10 used to identify victims of violence

T74	**1. Victims of violence**
	Maltreatment syndromes
	T74.0 Neglect or abandonment
	T74.1 Physical abuse
	T74.2 Sexual abuse
	T74.3 Psychological abuse
	T74.8 Other maltreatment syndromes
	T74.9 Maltreatment syndrome, unspecified
Final diagnosis T74 external cause codes X85–Y09	**2. Victims of domestic violence**
	External cause (X85–Y09)
	For murder, manslaughter and assault (X85–Y09) in the S category, where the fifth digit of the three digits (X85–Y09) is 0, indicating that the perpetrator of violence was a spouse or partner
	X85.0 Assault by drugs, medicaments and biological substances by spouse or partner
	X90.0 Assault by unspecified chemical or noxious substance by spouse or partner
	X91.0 Assault by hanging, strangulation and suffocation by spouse or partner
	X92.0 Assault by drowning and submersion by spouse or partner
	X95.0 Assault by gas, air or spring-operated guns by spouse or partner
	X99.0 Assault by sharp object by spouse or partner
	Y00.0 Assault by blunt object by spouse or partner
	Y04.0 Assault by bodily force by spouse or partner
	Y05.0 Sexual assault by bodily force by spouse or partner
	Y06 Neglect and abandonment
	*Y07 Other maltreatment syndromes
	Y08.0 Assault by other specified means by spouse or partner
	Y09 Assault by unspecified means
Z63.0	Problems in the relationship between spouses or partners

ICD-10 used to identify victims of violence

S chapter external cause codes X85–Y09	ICD-10 diagnoses S10-S99 and T00-T01 indicate a cause of injury other than self-inflicted violence. X85-Y09 For murder, manslaughter and assault (X85–Y09) in the S category, where the fifth digit of the three digits (X85–Y09) is 0, indicating that the perpetrator of violence was a spouse or partner

* In the original US version of the ICD-10, the code Y07 is used to indicate the relationship with the perpetrator of the assault (WHO, 2016). In the Finnish version, Y07 does not name the perpetrator, but the fourth and fifth character levels of the three-character assault codes (X85–Y09) indicate the relationship with the perpetrator. This study excludes Y07.

Appendix 4. Categories of offences in the police register

Categories of offences
Rape, aggravated rape, Criminal Code Chapter 20:1–2
Other sexual offences Criminal Code 20:4–5, 5a, 8–9
Attempted murder, manslaughter or killing Criminal Code 21:1–3, 34a:1
Assault Criminal Code 21:5
Aggravated assault Criminal Code 21:6
Minor assault Criminal Code 21:7
Robbery offences Criminal Code 31:1–2
Extortion, aggravated extortion Criminal Code 31:3,4
Deprivation of liberty Criminal Code 25:1–2
Other offences Criminal Code 17.22, 21.6, 21.8-9, 25.3–3a-1, 25:4:1–2, 25:8.

Appendix 5. Sources of healthcare costs in the register study

Healthcare services and Kela drug costs	Source	Source of unit cost
Primary health care (AvoHILMO)		
Outpatient care School and student health services Maternity and child health clinic Mental health care Physiotherapy	THL	The cost of each visit was estimated using three different pieces of information: 1) type of service, 2) occupation categories and 3) communication method. Where information on the type of service was not available, we used the unit cost for a comparable service type. If information on the occupation was not available in the unit cost table, we used the unit cost of the similar occupational group using Statistics Finland's classification of occupational groups.
Inpatient and outpatient visits (HILMO)		
Specialist medical care Psychiatry visits	THL	*DRGF Cost-values of DRG are not available for psychiatric visits. In these cases, we used unit costs instead of the cost-values of DRG.
KELA		
ATC category N Medicinal products affecting the nervous system N02 Analgesics N03 Anti-epileptic drugs N05 Antipsychotics, neuroleptics and sleeping pills N06 Antidepressants and central nervous system stimulants	KELA	Kela medical reimbursements

* For this study, the Finnish Institute for Health and Welfare ran all observations from the HILMO data (inpatient and outpatient visits) through the NordDRG aggregator to produce a DRGF variable and estimated the cost of care by combining the calculated DRG weights with the collected cost data. All observations refer to hospitalisations, inpatient care (overnight stays) and outpatient visits. In this study, this was referred to as DRGF cost data. THL run all the HILMO-data observations through the NordDRG grouper to produce the DRGF-variable and estimate costs of care with the combination of calculated DRG-weights and collected expenditure data. All observations mean hospital care (inpatient (overnight stay) and outpatient visits.

Appendix 6. Cost of social, healthcare and legal services in the population study (EUR) per service visit or per treatment day (in 2020 money value)

	Cost mean	Minimum cost	Maximum cost
Social services			
Maternity clinic visit	152.74	113.36	192.12
Child welfare foster care day (foster family, family home or institution)	183.99	103.02	327.42
Meeting with an Open Child Protective Services worker (other than foster care)	104.55	56.10	153.00
Child welfare support person or support family meeting	73.14	54.42	100.48
A visit from a family worker or home service worker	56.16	42.34	66.50
Meeting with a child supervisor	100.70	79.65	121.75
Supervised or supported visits with children	78.05	75.92	80.18
Substance abuse treatment day (inpatient or outpatient)	358.53	280.50	436.56
Meeting with an outpatient substance abuse services worker	146.54	102.00	177.48
An appointment with an adult or family social worker	104.55	56.10	153.00
Shelter day	218.34	160.50	276.17
Family rehabilitation day	327.32	-	-
Peer support group visit	61.69	61.56	61.84
Contacting a helpline or online service (e.g. Crisis Helpline, Sekasin Chat, Victim Support Finland, Nollalinja, Women's Line, Lyömätön linja, Avoin linja)	85.22	-	-
Other social services for children and young people	78.44	73.58	90.74
Other social services for adults	104.55	56.10	153.00
Healthcare services			
Maternity clinic visit	71.15	44.88	105.06
Psychotherapy visit (individual, couple, family or group therapy)	194.48	145.86	464.10

	Cost mean	Minimum cost	Maximum cost
Healthcare visit for conscripts (not dental care)	79.05	43.86	111.18
Student healthcare visit (not dental)	79.05	43.86	111.18
Health centre visit (not dental)	61.97	35.70	84.66
Visit to private healthcare (not occupational healthcare or dental care)	300.36	-	-
Occupational healthcare visit (not dental)	63.24	40.80	65.28
Dental visit	64.26	54.06	-
Visit to specialised healthcare (e.g. central hospital, university hospital, including a psychiatric outpatient clinic or mental health centre)	313.37	299.20	327.55
Emergency care visit	315.41	284.94	347.29
Home care visit	35.70	-	-
Day at a hospital (not in a health centre)	788.66	325.35	987.35
Day at a health centre	314.16	263.16	366.18
Legal services			
Meeting with a lawyer	204.00	-	-
Emergency response call to your household (call made by the victim or someone else)	449.90	-	-
Police report (made by the victim or someone else) or a preliminary investigation by the police	1273.1	-	-
Mediation meeting	158.00	-	-
Proceedings in the district court (full case)[1]	264.75	-	-
Proceedings in the Court of Appeal (full case)	4848.57	-	-
Proceedings in the Supreme Court (full case)	4509.07	-	-

[1] Oral hearing in the district court EUR 1,657.

Appendix 7. Brief description of cost-of-illness (COI) analysis approaches

COI analyses are the most common economic analysis method used in violence research (Corso, 2009). COI studies aim to identify and estimate the costs of a particular disease or conditions and to estimate the economic burden of a particular disease on society (Tarricone, 2006).

COI analyses can be carried out using either a prevalence or incidence-based approach. Prevalence-based estimates assess the total cost of the disease in a given year and do not depend on when the exposure to violence occurred. On the other hand, incidence-based analyses aim to estimate the cost of all new violent episodes occurring during a given period. This study used an incidence-based approach to estimate direct healthcare costs for up to six years from the first t episode of violence between 2015 and 2020. Incidence-based approaches can be considered appropriate when the aim of the study is to provide information on preventive measures. We estimate costs using a bottom-up approach.

The analysis is done from the perspective of the healthcare system, and we only include direct healthcare costs, not indirect costs, such as the loss of work ability caused by the treatment of an illness or conditions.

Appendix 8. Annual healthcare costs for victims of violence in a register study, Study population 1, broad definition (healthcare, shelters)

Appendix table 8A. Annual healthcare costs (mean and median) for victims of violence in study population 1 for up to six years after being identified as a victim of violence in the registers (2015–2020). Each person is included in the table only once during the entire period (broad definition of violence).

Hospital inpatient and outpatient visits (HILMO), Primary health care (AvoHILMO), and Shelters for people experiencing domestic violence

	N		Year 0 EUR	Year 1 EUR	Year 2 EUR	Year 3 EUR	Year 4 EUR	Year 5 EUR	Year 6 EUR
2015 victims	4921	mean		7920	5940	5709	5730	5761	3973
		median		1389	974	870	870	887	858
2016 victims	4334	mean	6383	6808	4903	8264	3813	3553	
		median	817	1342	964	943	846	877	
2017 victims	4265	mean	5384	6918	5849	4374	3885		
		median	820	1384	1037	919	924		
2018 victims	4498	mean	3992	6721	5147	4139			
		median	805	1412	987	1045			
2019 victims	4249	mean	4997	5270	4015				
		median	918	1515	1191				
2020 victims	4164	mean	3265	4233					
		median	869	1588					

Appendix table 8B. Annual healthcare costs (mean and median) for victims of violence in study population 1 for up to six years after being identified as a victim of violence in the registers (2015–2020). A person can be included in the table for more than one year during the period (broad definition of violence).

Hospital inpatient and outpatient visits (HILMO), Primary health care (AvoHILMO), and Shelters for people experiencing domestic violence

	N		Year 0 EUR	Year 1 EUR	Year 2 EUR	Year 3 EUR	Year 4 EUR	Year 5 EUR	Year 6 EUR
2015 victims	4921	mean		7920	5940	5709	5730	5761	3973
		median		1389	974	870	870	887	858
2016 victims	4790	mean	6935	7329	5146	8116	4104	3726	
		median	927	1429	1041	1003	907	920	
2017 victims	4986	Mean	5640	7068	5872	4546	3995		
		median	957	1493	1103	981	1001		
2018 victims	5272	mean	4549	7697	5393	4440			
		median	999	1567	1116	1109			
2019 victims	5163	mean	5238	5447	4301				
		median	1141	1692	1368				
2020 victims	5127	mean	4018	4719					
		median	1098	1802					

Appendix 9. Annual healthcare costs for victims of violence in a register study, population 2 (the police)

Appendix table 9A. Annual healthcare costs (mean and median) for victims of domestic violence in study population 2 for up to six years after being identified as a victim of violence in the registers (2015–2020). Each person is included in the table only once during the entire period.

Data on domestic and intimate partner violence (based on the Police report system (PATJA))

	N		Year 0 EUR	Year 1 EUR	Year 2 EUR	Year 3 EUR	Year 4 EUR	Year 5 EUR	Year 6 EUR
2015 victims	4210	mean		6103	4938	3403	3422	3494	2954
		median		953	789	767	758	782	790
2016 victims	3808	mean	3396	3517	3665	3075	2900	2696	
		median	770	922	818	792	745	798	
2017 victims	3305	mean	3272	3175	4582	3188	3000		
		median	782	920	831	749	832		
2018 victims	3294	mean	3451	5078	3425	2949			
		median	762	970	866	855			
2019 victims	3287	mean	3628	3444	2902				
		median	826	1022	914				
2020 victims	3169	mean	2737	3075					
		median	768	1031					

Appendix table 9B. Annual healthcare costs (mean and median) for victims of domestic violence in study population 2 for up to six years after being identified as a victim of violence in the registers (2015–2020). A person can be included in the table for more than one year during the period

Data on domestic and intimate partner violence (based on the Police reports system (PATJA)

	N		Year 0 EUR	Year 1 EUR	Year 2 EUR	Year 3 EUR	Year 4 EUR	Year 5 EUR	Year 6 EUR
2015 victims	4210	mean		6103	4938	3403	3422	3494	2954
		median		953	789	767	758	782	790
2016 victims	4290	mean	4713	4118	3641	3259	3081	2808	
		median	832	973	871	860	810	832	
2017 victims	4010	mean	4127	3193	4408	3142	2986		
		median	846	985	916	820	875		
2018 victims	4120	mean	3422	5109	3513	3184			
		median	854	1059	940	915			
2019 victims	4277	mean	3870	3696	3212				
		median	958	1170	1024				
2020 victims	4190	mean	3148	3299					
		median	892	1153					

Appendix 10. On marginal means

The direct costs of domestic violence resulting from the need for healthcare, legal and social services were modelled using negative binomial regression. If this were a linear regression model, the direct service cost impact of domestic violence could be read directly from the parameter estimates of the independent variables of the model describing it, but the shape of the distribution of the response variable and the model used do not allow this (the estimates describe the logarithm of the costs).

The interpretation of the cost effects thus requires the estimation of the so-called marginal means describing the independent effect of the independent variables of domestic violence in the model (this is done using the LSmeans clause of the proc genmod procedure used for estimation). The marginal means in this case represent the independent effect of each independent variable of domestic violence, independent of the other variables in the model (constant covariates), from which a population-level cost estimate is derived by multiplying it by the weighted basic population (the population that has experienced the form of domestic violence concerned at the population level). Ultimately, the interpretation of marginal effects always includes the latent effect of non-observables that are uncontrollable in the model, which may inflate the estimate when they occur. This is a common problem for statistical inference on cross-sectional population-level data where there is no randomised sample design. An attempt has been made to minimise this problem in this report by limiting the actual estimation to independent causal variables whose interpretation is obvious (respondent reports having sought services for domestic violence).

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