Primary prevention interventions for elder abuse: Results from a systematic review

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A systematic review of evidence

Primary Prevention Interventions for Elder Abuse
Prepared for Respect Victoria on behalf of National Ageing Research Institute.

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Executive summary

Background
Elder abuse is a significant global criminal justice, public health, and human rights issue. A recent systematic review and meta-analysis estimates the global prevalence of elder abuse in community settings at 15.7%, while within institutional settings, the global prevalence of elder abuse is estimated at 64.2%. With estimates from the United Nations suggesting that the number of people aged 60 years and above will increase to about 2 billion by 2050, the problem of elder abuse is a major concern. Elder abuse has deleterious consequences for the health and wellbeing of older people, as well as enormous social costs, warranting attention of policymakers, healthcare providers and researchers as a serious public health issue.

Although a number of systematic reviews and/or meta-analyses have to date been conducted assessing the effectiveness of elder abuse interventions, these have not had a specific focus on primary prevention programs targeted at the drivers of elder abuse.

This systematic review was carried out as part of a larger research project focusing on the prevention of elder abuse. While this review was initially limited to primary prevention elder abuse programs, this ultimately resulted in too few results to analyse. A decision was therefore made to include some secondary prevention or early intervention programs in order to consider the factors that influence the effectiveness of elder abuse interventions (regardless of whether their focus is primary or secondary prevention). This also meant that – despite this project’s focus on family violence - we extended our inclusion criteria to incorporate some studies focused on institutional settings where these learnings were relevant for primary prevention, or more broadly impacted the effectiveness of prevention programs. Thus, the review aimed to synthesise evidence on the effects of primary (and some secondary) interventions in tackling the drivers or risk factors of elder abuse, and to identify the factors that influence the effectiveness of elder abuse programs or interventions (both primary and secondary). The review was guided by the following questions:

1. Which drivers (and risk factors) of elder abuse have been the focus of primary (and secondary) prevention programs/interventions?
2. What are the effects of primary (and secondary) prevention interventions in tackling the drivers and risk factors of elder abuse?
3. What are the factors that influence the effectiveness of elder abuse interventions?

Summary of methods

The review was guided by the elder abuse conceptual framework developed by Dow and colleagues, which identifies both elder abuse drivers and/or risk factors as well as potential interventions at individual, community, and societal levels. The search for literature was performed in the following databases Ovid Medline, Ovid Embase, AgeLine, PsycINFO, Web of science, and Sociological abstracts. A targeted search was conducted in WHO’s online portal Violence Info (an information system that collates published scientific information on the main type of interpersonal violence) as well as the following journals for relevant articles: Age and Ageing, Journal of Elder Abuse and Neglect, The Gerontologist, The Journal of Gerontology Social Sciences and Psychological Sciences, and Gerontology. The reference lists of retrieved articles and systematic reviews were manually searched for additional studies. Studies published in peer reviewed journals and grey literature between 2000 and 2019 were included. The literature search yielded 10,987 articles of which 172 full-text articles were screened for eligibility. Thirteen articles reporting on 12 interventions/studies were finally included in the review.

Main findings

Study characteristics

Twelve studies evaluating the effects of elder abuse primary or secondary prevention interventions met the review inclusion criteria, two of which were randomised controlled trials. A total of 2126 participants were involved in the twelve studies. Of these, 1153 were older people, 479 were caregivers, 255 were young adults and 238 were professionals/service providers. Six of the studies were targeted at older people, four each focused on caregivers and young adults/were intergenerational in nature, three were targeted at professionals/service providers, and one was a dyadic intervention (pairing caregivers and older adults with dementia). Five of the studies took place in institutional settings while eight took place in community settings.

Types of interventions

The review covered four types of elder abuse primary and secondary prevention interventions: intergenerational programs; educational/psychological interventions for caregivers;
educational interventions for practitioners/professionals; and multidisciplinary team interventions. With the exception of the intergenerational programs that act as primary prevention strategies at the community and societal level, we did not find any other macro-level primary prevention strategies. Except for two studies - one focused on psychological abuse and the other financial elder abuse - all other interventions focused on multiple forms of abuse.

**Drivers of abuse addressed by included studies**

Five of the interventions focused on tackling caregiver risk factors for elder abuse. All four intergenerational interventions included in the review addressed ageism and social isolation, with one having an additional focus on the marginalisation of LGBT older people. Two interventions focused on addressing organisational level risk factors for elder abuse (i.e. reducing the incidence of abusive care environments). Three interventions focused on addressing risk factors specific to older people. In line with the review conceptual framework, we did not find any interventions addressing structural elder abuse drivers such as gender inequality or other forms of marginalisation or discrimination (aside from homophobia and transphobia).

**Factors influencing implementation and intervention effectiveness**

While implementation approaches varied, strong evidence was found for the significant role of partnership across organisations, collaborative partnership (alliance among professionals, and alliance between health professionals, and older people and caregivers), co-design and person-centred approaches in optimising programs’ impacts. In relation to the drivers of change that explain how and why interventions worked or failed to work, the most compelling evidence was for social interactions (largely engendered in group-based interventions), multi-component interventions, tailoring of interventions, motivational interviewing, booster sessions, and multi-professional team approach to program design and delivery. In conjunction with the use of participatory approaches, the operation of these factors played a key role in increasing program uptake and improving program effectiveness.

**Gaps in the evidence**

The gaps in the evidence identified relate firstly to the lack of primary prevention elder abuse programs available to review. Other issues included limited focus of interventions on
macro/structural drivers of elder abuse; limited elder abuse outcome measures; lack of quality evaluations including limited use of theoretical frameworks; and limited description of interventions and implementation processes.

Conclusion
This review has shown that there is limited high-quality evidence regarding the implementation, evaluation and effectiveness of elder abuse primary prevention interventions. The review has identified four primary or secondary prevention strategies that appear to have the potential for targeting the drivers or risk factors of elder abuse:

- Intergenerational programs
- Caregiver psycho-educational programs
- Educational programs for professionals, and
- Multi-sectoral/disciplinary team interventions

The review has also shown that the effectiveness of elder abuse interventions is contingent on a number of factors including the type of implementation approaches used, and the specific mechanisms that may be at play during the implementation process. The gaps in the evidence identified in this review provide further direction to policy makers, researchers and evaluators regarding the development, adaptation, implementation and evaluation of elder abuse primary prevention interventions. Of importance to both elder abuse policy and practice is the need to pay attention to the development, implementation and evaluation of macro level primary prevention interventions such as policies fostering positive attitudes to ageing, addressing gender inequality and other forms of discrimination or marginalisation, which are identified drivers of elder abuse.
1. Background
The World Health Organization defines elder abuse as ‘a single or repeated act or lack of appropriate action, occurring within any relationship where there is an expectation of trust which causes harm or distress to an older person’ [1]. There are various forms of elder abuse within this broad categorisation including physical, emotional/psychological, sexual, financial/economic, social and neglect [2, 3]. Elder abuse can be perpetrated by family members, a formal or informal caregiver or acquaintance, and can occur in the home, community or institutional settings [4-6].

Elder abuse is a significant global criminal justice, public health, and human rights issue. A recent systematic review and meta-analysis by Yon et al. [7] estimates the global prevalence of elder abuse in community settings at 15.7%. Within institutional settings, Yon et al.’s [3] second systematic review and meta-analysis estimates the global prevalence of elder abuse at 64.2%.

Until the results of the 2020 population-level study of the prevalence of elder abuse in Australia are reported, the true prevalence of elder abuse in Australia will remain unknown. Smaller-scale studies, including a paper from the Australian Institute of Family Studies, estimates the prevalence to be anywhere between 2 and 14%, with the rates of neglect possibly higher [6, 8]. Further, Australian data reveals that the experience of elder abuse is gendered, and most commonly occurs within the family context. Analysis of two years of data from the Senior Rights Victoria helpline in conjunction with National Ageing Research Institute (NARI) showed that the number of older women reporting abuse is approximately 2.5 times that of older men, and that 92% of abuse occurs from a family member (with 67% perpetrated by a son or daughter of the older person) [9]. It has also been noted that particular communities may be more likely to experience different kinds of abuse (such as people from culturally and linguistically diverse (CALD) backgrounds being particularly vulnerable to financial abuse due to language and literacy barriers [10] and risk factors for abuse such as social isolation [11, 12]).

However, it is likely that elder abuse, like other forms of family violence, often goes unreported and these figures may be an underestimation [13]. This is often because the victims fail to recognise the situation as abusive; are ashamed or embarrassed, or fear consequences for the perpetrator. Thus, while victims want the abuse to stop, many express ambivalence because of
the potential fallout for the family member who has harmed them, and out of concern for their relationship [14].

With estimates from the United Nations (UN 2015) suggesting that the number of people aged 60 years and above will increase to about 2 billion by 2050, the problem of elder abuse should be a major concern. Elder abuse has deleterious consequences for the health and wellbeing of older people and enormous social costs. Its impacts include decreased quality of life; morbidity; mortality; depression; anxiety; fear; other psychological stress such as feelings of unworthiness; substance abuse and in some cases, suicide [15]. This warrants the attention of policymakers, healthcare providers and researchers as a serious public health issue.

The drivers of elder abuse are poorly understood, and there is no Australian, evidence-based Primary Prevention Framework for addressing elder abuse, although one is (at the time of writing) under development by the Victorian Government’s Department of Health and Human Services. For the purposes of this project, and systematic review, primary prevention can be defined as addressing the “underlying causes – or drivers – of violence. These include the social norms, practices and structures that influence individual attitudes and behaviours.” [16] Drivers are sometimes also explained as the “most consistent predictors” of violence, as in Change the Story, the primary prevention framework for understanding violence against women [17]. Targeting drivers of elder abuse is therefore the domain of primary prevention, which should be understood as distinct from early intervention, or secondary prevention, which by contrast “aims to change the trajectory for individuals at higher-than-average risk of perpetrating or experiencing violence” [17].

While there is some understanding of the risk factors of elder abuse, drivers have been much less extensively explored. This may be in part because drivers are more complex to identify. Nonetheless, existing literature suggests that ageism (including stereotypes and discrimination of older people or groups on the basis of their age) is a significant driver. A report by Senior Rights Victoria, meanwhile, concluded that “while ageism is clearly a main driver of elder abuse, gender inequality often acts as an accompanying driver,” [18] with gender inequality named elsewhere as another likely driver of elder abuse [19]. Other possible drivers discussed in more recent work done in the Victorian context include intersecting forms of discrimination, including racism, homophobia, transphobia, ableism and more [18]. Finally, capitalism – or a
society where a person’s worth is defined by their capacity to contribute financially – has also been considered as a potential driver of elder abuse [20].

For the purposes of this review, it is worth also reiterating that in Victoria, but not in all other states or all other countries, elder abuse is considered a form of family violence under the Family Violence Protection Act 2008. Elder abuse was also considered as an issue of importance in the Victorian Royal Commission into Family Violence of 2016. Indeed, family violence against older people is addressed in three of the Commission’s recommendations [21]:

153: Resource the development and delivery of information on family violence of older people
154: Workers delivering community care services complete certified training in family violence and review the existing Community Services Training Package course
155: Scope options for a trial of a dedicated family violence and elder abuse response team.

Nonetheless, there remain issues in terms of appropriate response to elder abuse due to a lack of agreement as to whether elder abuse should be seen as a subset of family violence, or an area requiring separate policy/service responses [13]. In particular, there are overlaps with other forms of family violence, including cases of intimate partner violence (where violence against older women by their partners may be classified as elder abuse), which means that victims can fall through gaps in service provision.

This systematic review seeks to canvas what work has been done globally to address the problem of elder abuse at the primary prevention level. There have been a number of systematic reviews and/or meta analyses to date which have focused on the effectiveness of elder abuse interventions, including caregiver interventions [22, 23], emergency shelter [24, 25], helplines [26, 27], and money management programs [28, 29]. However, these have largely focused on high income countries and have also not included qualitative studies focusing on the impacts of elder abuse interventions [30-33], meaning the evidence to date is incomplete. These reviews have also not had a specific focus on primary prevention interventions targeted at the drivers of elder abuse.

Finally, it is important to note that while this review was initially limited to primary prevention elder abuse programs, this ultimately resulted in too few results to analyse meaningfully. A decision was therefore made to include some secondary prevention or early intervention
programs in order to consider the factors that influence the effectiveness of elder abuse interventions (regardless of whether their focus is primary or secondary prevention). As the UK Medical Research Council (MRC) has highlighted, it is important to understand the range of factors which may influence the implementation of complex interventions [34] particularly in terms of their effectiveness to adequately inform evidence-based policy and practice. This also meant that – despite this project’s focus on family violence - we extended our inclusion criteria to incorporate some studies focused on institutional settings where these learnings were relevant for primary prevention, or more broadly impacted the effectiveness of prevention programs.

2. Review aim and questions
This review aims to synthesise evidence on the effects of primary prevention (as well as some secondary prevention) interventions in tackling the drivers of elder abuse. This includes identifying the factors that influence the effectiveness of both primary and secondary elder abuse prevention interventions. The review is guided by the following questions:

4. Which drivers (and risk or reinforcing factors) of elder abuse have been the focus of primary and secondary prevention interventions?
5. What are the effects of primary and secondary prevention interventions in tackling the drivers of elder abuse?
6. What are the factors that influence the effectiveness of elder abuse interventions at the primary and secondary prevention level?

3. Methods
This review was conducted in line with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement [35]. The approach described in the Cochrane Handbook for Systematic Reviews of Interventions [36] also served as a guideline for the review.

3.1. Review conceptual framework
Dow et al.’s [37] conceptual framework for elder abuse (see Figure 1) was used to guide this review. This framework identifies elder abuse drivers and risk factors (for both the individual and person of trust) as well as potential interventions at the individual, community, and societal levels. While the framework helps to understand some of the possible drivers of elder abuse, it also provides a useful conceptualisation of the various types of interventions at the individual,
relationship and person of trust, community and society levels that could be used to address the drivers, risk and/or reinforcing factors of elder abuse.

Fig. 1: Conceptual framework for elder abuse interventions

3.2 Eligibility criteria

The inclusion and exclusion criteria in this review, including the PICOS (Population, Intervention, Comparison, Outcome, and Study design), are described below.

Population – The population of interest to this review are articles focusing on primary prevention (and occasionally secondary prevention) of elder abuse targeted to older people, caregivers, family members, other perpetrators of acts of elder abuse, health professionals responsible for treating or preventing elder abuse, and the community. We included studies focusing on persons aged 60 and older living in communities or institutions (such as residential care or health facilities).

Interventions – This review focused on primary prevention interventions (as well as some secondary prevention programs) targeted at elder abuse, with primary prevention defined as
addressing the “underlying causes – or drivers – of violence. These include the social norms, practices and structures that influence individual attitudes and behaviours.” [16] In line with the review conceptual framework, primary prevention interventions can plausibly be targeted at different levels reflecting the socio-ecological approach, that is, at individual, relationship and person of trust, community and societal levels. This further aligns with De Donder’s [38] classification of elder abuse primary prevention interventions as targeting the macro level (such as public information campaigns on elder abuse and public anti-ageism campaigns), exo-level (such as intergenerational programs and awareness and education programs) and meso-level (such as social network strengthening programs).

Given the lack of ‘pure’ primary prevention programs for elder abuse, the range of interventions that were eligible for inclusion in the review were expanded to include caregiver interventions, money management programs, government policies and legislation on elder abuse, advocacy initiatives, and health system interventions (e.g. active service models). Interventions focusing on one or more of the following types of elder abuse: physical, psychological/emotional, sexual, financial, and neglect were included. Interventions focusing on self-neglect or homicide were excluded.

**Comparator** – Studies were included if they (a) include comparison with usual care or another intervention, or if they (b) include a limited or no intervention comparison group.

**Outcomes** – This review focused on both effectiveness and intervention implementation. The outcomes of interest in relation to intervention effectiveness included, but are not limited to: (a) incidence/occurrence of elder abuse, (b) empowerment of older adults in the context of elder abuse, (c) quality of life, (d) safety and security of older adults in the context of elder abuse, (e) prevention of social isolation, (f) awareness, detection and prevention of elder abuse amongst the health care sector (g) increase in the capacity of older people to live independently, and (h) improvement in attitudes towards elder abuse. Intervention implementation outcomes of interest include (a) approach and process to intervention implementation, and (b) drivers of implementation.

**Study design** – This review considered a wide range of study designs to provide rich data in terms of intervention effectiveness and implementation factors from both quantitative and qualitative evidence. Study designs therefore included randomised-controlled trials (RCTs),
cluster RCTs, interrupted time series, uncontrolled or controlled trials, controlled before-and-after studies, mixed-methods studies and qualitative studies. Eligible qualitative studies comprised of stand-alone investigations of impacts of primary (and some secondary) prevention interventions for elder abuse, including those reporting the perceptions of older people and/or stakeholders, and those embedded in included quantitative studies. The use of qualitative studies here was to provide insights into a broader range of effects that primary prevention strategies may achieve in preventing elder abuse. Studies were excluded if they were not published in English.

### 3.3. Literature search

The search for literature was performed in the following databases Ovid Medline, Ovid Embase, AgeLine, PsycINFO, Web of science, and Sociological abstracts. The following key words were used to guide the search: (Older adult* OR elder* OR frail elderly OR aged OR senior* OR senior citizen*) AND (abuse OR neglect OR assault OR mistreatment OR maltreatment OR violence OR exploitation OR restraint OR anger OR conflict* OR aggression OR intergenerational elder abuse) AND (intervention* OR prevention OR program* OR project OR training OR education OR model* OR policy OR law* OR regulation* OR intergenerational intervention* OR driver* OR power of attorney). Targeted search was conducted in WHO’s online portal Violence Info (an information system that collates published scientific information on the main type of interpersonal violence) as well as the following journals for relevant articles: Age and Ageing, Journal of Elder Abuse and Neglect, The Gerontologist, The Journal of Gerontology Social Sciences and Psychological Sciences, and Gerontology. The reference lists of retrieved articles and systematic reviews were manually searched for additional studies. Studies published in peer reviewed journals and grey literature between 2000 and 2019 were included.

### 3.4 Data extraction

A data extraction tool was developed and piloted to ensure consistent and rigorous data collection. For each included study, one independent reviewer extracted descriptive data pertaining to: study design, setting (e.g. country and organisation type); participant information (e.g. sample size and demographic information); intervention description (e.g. the intervention development process duration, and cost); measurement tools used, and data relating to outcomes and intervention implementation (i.e. approaches to implementation, delivery
implementation drivers, duration and intensity). To ensure accuracy and consistency of data extraction, a 20% random sample will be coded by a second reviewer.

3.5 **Quality assessment**

To assess the quality of the range of study designs included in this review, the most appropriate tool for each study design was used including: Cochrane Risk of Bias Tool [36] for randomised controlled trials (RCTs) and cluster RCTs; Risk of Bias in Non-Randomised Studies-of Interventions [39] for non-randomised trials; and the Mixed-Methods Appraisal Tool [40] for mixed methods studies. Qualitative studies linked to included intervention studies will be quality assessed using the Joanna Briggs Institute’s [41] Qualitative Assessment and Review Instrument. All eligible studies were judged as ‘high’ ‘moderate’ or ‘low’ quality, given an overall consideration of the risk of bias assessment/quality appraisal and the potential impact of the identified risks on the study results.

While a formal assessment of quality of the included studies was conducted to potentially explain differences in results of otherwise similar studies, all studies were included in the review regardless of quality assessment. This was to allow the inclusion of qualitative data from a range of study designs that may shed light on the broader impacts of primary prevention interventions for elder abuse, and the factors important for the implementation of elder abuse interventions. One independent reviewer performed the quality assessment.

3.6 **Data synthesis**

A narrative synthesis was used to summarise the results following the approach recommended by Popay et al. [42]. This approach entailed undertaking a preliminary synthesis of the findings, exploring the relationships in the data, and assessing the robustness of the synthesis. At the initial synthesis stage, the data extracted from the included studies were used to provide a textual and a visual summary of the results using summary of findings tables. The stage of exploring relationships between and within studies involved identifying drivers of implementation that explain how and why the intervention worked or failed to work.
4. Findings
4.1 Search results
The PRISMA flow chart (Figure 1) shows the studies’ selection process. The literature search yielded 10,987 articles of which 172 full-text articles were screened for eligibility. Twenty-one full-text articles meeting the inclusion criteria were considered for data extraction. At the data extraction stage eight studies were found to be secondary prevention interventions without relevance to primary prevention in terms of factors that influence program effectiveness, and were therefore excluded from the review. Thirteen articles reporting on a mix of 12 primary and secondary interventions/studies were finally included in the review. One study [43] from Australia entitled the Older People: Equity, Respect and Ageism (OPERA) project was awaiting assessment.

Fig. 1 PRISMA flow diagram
4.2 Characteristics of included studies

Appendix 2 provides details of the included studies. The included articles comprised of five pre-post experimental designs [44-47], three randomised controlled trials (RCTs) [23, 48, 49], one each of controlled-before [50] and after study, qualitative action research [51], population-based cross-sectional study [52], mixed methods [53] and art-based research design [54]. All 12 interventions included in the review were from high income countries (USA five, UK two, and one each from Italy, Canada, Japan, Taiwan, and Israel).

4.2.1 Study quality assessment

All included studies were assessed for their risk of bias and/or quality issues using the most appropriate tool for each study design. Generally, the majority of the studies (n=10) included in the review did not have a comparator group, which raises concerns about internal validity and trustworthiness of the studies across the included body of research. Appendix 1 provides details of the study quality assessment.

Of the two RCTs included in the review, one [23, 48] was judged as having no domains at high risk of bias. The second study [49] had one risk of bias. This was primarily as a result of lack of blinding of participants and personnel (performance bias) which may have resulted in reporting or social desirability biases. It must be noted however, that, due to the very nature of these types of health promotion interventions, is very difficult to mitigate this, although the use of objective measurement tools can help mitigate recall/reporting biases.

All the non-randomised trials were determined to be of serious-risk of bias [44, 46, 49, 50, 52, 55]. The main reasons for giving an overall assessment of serious-risk of bias related to selection bias, lack of adequate control of confounders or the use of subjective measurement of outcomes. Of the two mixed-methods studies, one was of moderate risk of bias [47] while other was of high risk of bias [53]. The main quality issue here concerned a lack clarity on integration, sample representativeness, and researcher influence. The qualitative study [51] included in the review was judged to be high credibility and dependability even though he philosophical underpinnings and the link to theory were unclear.

4.2.2 Characteristics of the intervention target groups
As shown in Appendix 2, a total of 2126 participants were involved in the twelve studies. Of these, 1153 were older people, 479 were caregivers, 255 were young adults and 238 were professionals/service providers. Six of the studies were targeted at older people [47, 51-55], four each focused on caregivers [23, 44, 50, 56] and young adults (or were intergenerational in nature) [46, 51, 52, 54], three were targeted at professionals/service providers [45, 49, 57], and one on dyads (caregivers and older adults with dementia) [47]. Five of the studies took place in institutional settings [44, 47, 49-51] while eight took place in community settings [23, 45, 46, 52, 54-56, 58].

4.3. The nature of included elder abuse interventions
Table 1 provides details of the nature and key components of the interventions included in the review.

4.3.1 Types of interventions
Of the 12 studies, the types of elder abuse primary (or secondary) prevention interventions identified included: intergenerational programs (n=4); educational/psychological interventions for caregivers (n=4); educational interventions for practitioners/professionals (n=2); and multidisciplinary team interventions (n=2). Three interventions directly focused on older people who were at risk of elder abuse [47, 55, 57]. We found only one macro/system level system level intervention (public anti-ageism campaigns targeted at the general public), which challenged stereotypes and focused on human rights and respect for older people [54]. We did not find any macro-level primary prevention strategies such as public information campaigns on elder abuse, which aim to raise awareness and knowledge of elder abuse in the general population and stimulate people to seek information and support services. The OPERA project in Australia, which was awaiting assessment as the full evaluation report was not ready at the completion of the literature search, aimed to create and evaluate a community-based intervention that could contribute to awareness and disruption of ageism and ageist behaviours.

4.3.2 Type of abuse addressed by interventions
Except for Murayama et al. [52] and Mills et al. [45], which focused largely on psychological and financial elder abuse respectively, all other interventions focused on multiple forms of abuse.
4.3.3. Drivers of abuse addressed by included studies

Five of the interventions focused on tackling caregiver risk factors for elder abuse [23, 44, 47, 50, 55, 56]. All four intergenerational interventions included in the review addressed ageism and social isolation [46, 51, 52, 54], with one having an intersectional focus on discrimination against LGBTI people [54]. Two interventions focused on addressing organisational-level risk factors for elder abuse (i.e. reducing the incidence of abusive care environments) [45, 49]. Three interventions focused on addressing risk factors for older people [47, 53, 55]. In line with the review’s conceptual framework, we did not find any interventions addressing elder abuse drivers such as gender inequality or other structural factors. We also did not find interventions targeted at advocacy or empowerment-based interventions.
Table 1: Description of primary (or secondary) prevention elder abuse interventions included in the review

<table>
<thead>
<tr>
<th>Country</th>
<th>Name of intervention</th>
<th>Implementation period/follow-up</th>
<th>Aim of intervention</th>
<th>Type of elder abuse intervention</th>
<th>Type of abuse</th>
<th>Drivers or risk factors addressed</th>
<th>Key features/components of intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drossel et al. 2011 USA</td>
<td>Dialectical Behavior Therapy (DBT) Skills Training Program</td>
<td>Not stated</td>
<td>To examine the impact of DBT on high risk caregivers for elder abuse when caring for a family member with dementia</td>
<td>Caregiver educational intervention</td>
<td>Multiple forms of elder abuse</td>
<td>Caregiver risk factors for elder abuse (depression, anger, carer stress and burden)</td>
<td>DBT skills group: A 9-week group (2.5-hour sessions) for caregivers of a family member with dementia. The group included skills in mindfulness, interpersonal effectiveness, emotional regulation, &amp; distress tolerance. Booster group sessions provided at the request of caregivers at 12 weeks. Intervention delivered by PhD students</td>
</tr>
<tr>
<td>Mills et al. 2012 USA</td>
<td>Elder Investment Fraud and Financial Exploitation (EIFFE) Educational Program</td>
<td>6-months follow-up</td>
<td>To raise awareness of the risk factors and warning signs of vulnerability to EIFFE among clinicians, clinical support staff, and family</td>
<td>Educational intervention</td>
<td>Financial mistreatment</td>
<td>Organisational level</td>
<td>Education presentation – 45 min PowerPoint session, designed to raise awareness about the prevalence and consequences of EIFFE. A clinician pocket guide – a quick reference for clinicians when suspicions arise that a patient may be vulnerable to EIFFE</td>
</tr>
<tr>
<td>Study</td>
<td>Description</td>
<td>Timeframe</td>
<td>Outcomes</td>
<td>Intervention Details</td>
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<tr>
<td>Hafford and Nguyen 2016 USA</td>
<td>Take AIM against Elder Abuse: The Abuse Intervention Model (AIM)</td>
<td>2014-2015 3 months follow-up</td>
<td>To address care recipients’ aggressive behaviour, resistance to care, and activities of daily living (ADLs) dependency due to dementia and caregivers’ anxiety, depression, and burden.</td>
<td>Educational</td>
<td>Multiple forms of elder abuse multiple forms of abuse, neglect, and exploitation and its co-occurrence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Livingston et al. 2013 UK</td>
<td>Strategies for Relatives (START) intervention</td>
<td>2009-2011 4 and 8 months follow-up</td>
<td>To examine the effectiveness of START at reducing abuse, anxiety, &amp; depression in caregivers</td>
<td>Educational</td>
<td>Multiple forms of elder abuse Caregiver risk factors for elder abuse (depression anger, carer stress and burden)</td>
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</table>

Patient education brochure for patients and their caregivers
Clinical and financial experts presented
A multi-component intervention focusing on care recipient/caregiver dyad

Intervention included baseline and follow-up risk assessments, linkages to existing services in the community to address identified needs and risks, and home visits over the course of three months.

Development and implementation of an assessment tool that generated a risk profile and a Toolkit of Existing Interventions that specifically addressed the identified risk factors.
<table>
<thead>
<tr>
<th>Study</th>
<th>Design</th>
<th>Timepoints</th>
<th>Interventions</th>
<th>Comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooper et al., 2016</td>
<td>Strategies for Relatives (START) intervention</td>
<td>4, 8, 12, and 24 months follow-up</td>
<td>Examined whether reductions in depression &amp; anxiety in family</td>
<td>Educational</td>
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<td>Same as Livingston et al. 2013</td>
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<td>Same as Livingston et al. 2013</td>
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Intervention sessions: psychoeducation about dementia, carers stress, and where to get emotional support; understanding behaviours of the family member being cared for, and behavioural management techniques; changing unhelpful thoughts; promoting acceptance; assertive communication; relaxation; planning for the future; increasing pleasant activities; and maintaining skills learnt. The intervention was delivered by supervised psychology graduates, and took place in carers homes.

TAU: Consisted of an assessment, diagnosis, information giving, risk assessment/management, drug treatment, practical support, etc.
<table>
<thead>
<tr>
<th>Authors</th>
<th>Title</th>
<th>Setting</th>
<th>Design</th>
<th>Methodology</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hsieh 2009</td>
<td>Educational support group intervention</td>
<td>Taiwan</td>
<td>Qualitative study</td>
<td>To examine the effectiveness of an educational support group in alleviating caregiver’s psychological abusive behaviour, reducing work stress and promoting knowledge of geriatric caregiving among a group of caregivers</td>
<td>The intervention consisted of eight 90-min teaching sessions: Five cohorts of educational-support group interventions from two facilities were held weekly; program covered the content of aging and associated problems related to managing residents’ health problems, institutional elder abuse, factors associated with caregivers’ abuse behaviour, relaxation and stress management etc. A trained graduate nurse serve as group facilitator. For each session, the lecture topic was given 30 for minutes, the following 40 minutes allowed for free sharing and mutual support among group members and last 20 minutes for integrative discussion. The health educational and skills-based programmes</td>
</tr>
</tbody>
</table>
were developed for the elderly and their families to provide them with the skills to communicate effectively, manage stress, resolve conflicts, and promote healthier relationships.

The control group did not receive any extra intervention.

<table>
<thead>
<tr>
<th>Santini et al. 2018 Italy</th>
<th>Intergenerational program (IGP)</th>
<th>Not stated</th>
<th>To create community spaces and activities in which adolescents, institutionalized older adults, and active older volunteers could meet and interact with each other.</th>
<th>Intergenerational</th>
<th>Multiple forms of elder abuse</th>
<th>Ageing</th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Program components: learning sessions based on manual arts; biographical self-narration; playing games; acting; music and choral activities; self-narration; and life stories</td>
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<table>
<thead>
<tr>
<th>Robson et al. 2018 Canada</th>
<th>Intergenerational program (IGP)-Raising Awareness and Addressing Elder Abuse in the LGBT Community project</th>
<th>To raise awareness of elder abuse as it exists in the LGBT community and to address gaps and silences in the public discourse about this topic.</th>
<th>Intergenerational</th>
<th>Multiple forms of elder abuse</th>
<th>Ageism Intersectionality of disadvantage LGBTI negativity</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Youth and elder adults created videos and poster/fact sheets to raise awareness of the issue of elder abuse in the LGBT community.</td>
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<tr>
<td></td>
<td>Program components: Education session for the youth and elders – on</td>
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</tbody>
</table>
To build capacity, agency, and understanding in the LGBT youth and elders who took part in the project and learned and applied skills of script writing, filming, acting, composition, directing, and editing as they worked together to produce the materials.

**Definitions of Elder Abuse**
- Forms of elder abuse
- Distinction between elder abuse and more generic forms of oppression that occur in the LGBT community

**Digital Arts Workshops and Process**
- The youth and elders co-constructed ideas and scenarios for videos and poster/fact sheets on the topic of elder abuse in the LGBT community.

**Capacity Building Workshops**
- Both youth and elders had opportunities to learn some of the basics of script writing, editing, concept design, direction, film editing, public speaking, and project management.

<table>
<thead>
<tr>
<th>Hayslip Jr. 2015</th>
<th>Elder Abuse Education</th>
<th>One-month follow-up</th>
<th>Intergenerational</th>
<th>Multiple forms of elder abuse</th>
<th>Ageism Social isolation</th>
<th>Intervention groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(a) Elder Abuse Education (58 participants)-participants received a handout on elder abuse and discussed the various definitions of elder abuse, viewed a firm on elder abuse, and analysed cases of elder abuse</td>
</tr>
<tr>
<td>Murayama et al. 2019</td>
<td>IGP - Research of Productivity by Intergenerational Sympathy (REPRINTS) program</td>
<td>2004-2015</td>
<td>To ascertain the degree to which intergenerational programs that take root in a community will affect the social capital of all generations in the community</td>
<td>Intergenerational</td>
<td>Psychosocial</td>
<td>Social isolation and lack of social networks among the elderly</td>
</tr>
</tbody>
</table>

(b) Aging Education (60 students) – participants received a handout on aging and discussed various definitions of aging; viewed and discussed a film on issues of aging.

(c) Family Education (58 students) consisting of lecture, group discussion, and a film on the roles of families.

(d) Pretest–Posttest Only (49 students).
<table>
<thead>
<tr>
<th>Authors</th>
<th>Title</th>
<th>Year</th>
<th>Objectives</th>
<th>Team Composition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alon &amp; Berg-Warman 2014</td>
<td>The Israeli Multisystem Model for The Treatment and Prevention of Elder Abuse in the Community</td>
<td>2005-2007</td>
<td>To raise awareness of elder abuse and neglect and to inform the target populations of the existence of support services at the social service department.</td>
<td>Multidisciplinary team intervention Multiple forms of abuse Multiple forms of drivers Three components to the model: (1) Unit dedicated to treatment &amp; prevention of elder abuse; (2) Paraprofessional (e.g. a social work assistant); (3) Multidisciplinary advisory team. Specialized Unit for the Prevention and Treatment of Elder Abuse (SUPTEA) engaged in the following activities: Community work – Seminars and workshops for professionals, and public education meetings for senior citizens. Other types of intervention in model include: Therapeutic Intervention: Individual counselling, support group, &amp; supportive services (medical &amp; nursing care, home care, day care center).</td>
</tr>
<tr>
<td>Mariam et al. 2015 USA</td>
<td>ECARE-Eliciting Change in At-Risk-Elders: An elder abuse intervention and prevention program</td>
<td>Not clear</td>
<td>To evaluate the effectiveness of a community-based elder abuse intervention program that assists suspected victims of elder abuse and self-neglect through a partnership with local law enforcement.</td>
<td>Social and psychological intervention</td>
</tr>
</tbody>
</table>
| Richardson 2002,2004 UK | Educational intervention | 10months | To compare the effectiveness of attending an educational course (Group 1) to printed educational material (Group 2) in improving management of abuse of older people | Educational intervention | Multiple forms of abuse | Intervention group attended an educational course commissioned by the employing NHS trust and local social services department. This educational course lasted for an hour. Those in the control group were given reading material with the same content as the course. The programs targeted identification and management of all types of abuse, and were based on the policy, practice guidance and procedures on responding to abuse and inadequate care of vulnerable adults which was operational in both health and social services.

Limited intervention – such as referral to a support group; 3 hrs and 10 mins of service for over 1 to 6 face-to-face meetings spanning 1 to 3 months (mode 1);

Full-Intervention: providing multiple services to meet extensive family needs; an average duration of 15 hrs and 5 min over 3 to 36 meetings across 3 to 18 months (mode = 5). |
4.5 Effects of interventions

Appendix 3 provides a summary of the main findings in relation to the effects of the interventions.

4.5.1 Intergenerational programs

Four articles examined the effects of intergenerational programs. In Italy, Santini et al. [51] evaluated an intergenerational program focusing on adolescents and older adults. The overall aim of this program was to create community spaces and activities in which adolescents, older adults living in residential aged care, and active older volunteers could meet and interact with each other. The study involved 25 14-year-old students (18 males and 7 females) and three teachers from a junior secondary school; 16 older residents (mean age: 83) and three social workers of a residential care facility for older people (hosting both a nursing home and a day-care centre); and 16 older volunteers (mean age: 70) from two different volunteers associations. The program components were learning sessions based on manual arts; biographical self-narration; playing games; acting; music and choral activities. The qualitative evaluation of the program showed that the program fostered interaction between adolescents and older adults, helped overcome age-related stereotypes, and improved older people’s mental well-being and older volunteers’ generativity.

Robson et al. [54] evaluated the effectiveness of an intergenerational arts project called Raising Awareness and Addressing Elder Abuse in the LGBT Community in Canada. This project had two main objectives. The first was to raise awareness of elder abuse as it exists in the LGBT community and to address gaps and silences in the public discourse about this topic. The second objective was to build capacity, agency, and understanding in LGBT youth and older people. In this project, younger people (n=12) and older adults (n=20) created videos and poster/fact sheets to raise awareness of the issue of elder abuse in the LGBT community. The videos and posters produced under the project were displayed in community centres and other public buildings and passed along by email and other forms of social media. Using an art-research design to evaluate the project, the authors showed that the project changed perceptions of LGBT younger and older people regarding elder abuse. It also increased younger and older adults’ knowledge and understanding of elder abuse in general – including its types, signs and symptoms, and systemic causes – as well as identifying unique ways it might manifest in the lives of LGBT individuals and be fostered by external and internalised homophobia. While the
impact of the project on the wider community was not formally assessed, the authors acknowledged the possibility of the project raising awareness of elder abuse in the LGBT community as the materials produced under the project reached a wide audience of key stakeholders.

The Research of Productivity by Intergenerational Sympathy (REPRINTS) program [52] in Japan, implemented over a 10-year period, aimed to ascertain the degree to which intergenerational programs that take root in a community will affect the social capital of all generations in the community. This program specifically addressed social isolation and lack of social networks as either drivers of or risk factors for elder abuse. The REPRINTS program focused on training senior volunteers to work in schools. Specifically, participants attended intensive weekly training seminars involving picture book reading for three months. Thereafter, they began reading picture books in elementary schools, kindergartens, and public childcare centers. A population-based, cross-sectional evaluation of the REPRINTS showed that the program had enhanced social capital among middle-aged and older local residents. The programs enhanced social capital in two ways: they benefited children and older people through the interventions themselves, and the community benefited through the presence of a long-term REPRINTS program. It was found that the duration of REPRINTS was a significant community-level indicator of neighbourhood trust, as was recognition of the program. Both increased neighbourhood trust, especially among older and middle-aged people who have stronger neighbourhood ties to the community.

In the USA, Hayslip Jr. [59] evaluated the effect of an elder abuse intergenerational education program focused upon examining the nature of interventions that might best minimise attitudes of tolerance and behavioural intentions of elder abuse among young adults. Participants in this program signed up to attend one of four evening education sessions that corresponded to one of four groups, and were blind to the content of the other interventions and to the design of the study. The intervention groups/components were (a) elder abuse education, (b) ageing education, (c) family education, and a (d) pre/post-test only. The findings showed that the elder abuse education component resulted in less tolerance and intentions for elder abuse among young adults at the immediate post-test, but the impact was not sustained at one-month follow-up. Further, the ageing education component was not more effective than the two control group treatments.
Cumulatively, the positive effects of the four intergenerational programs suggest that these programs hold promise for primary prevention of elder abuse by acting as anti-ageism campaigns, which promote stronger attitudinal and behavioural shifts among the younger generation towards older people. However, apart from Santini et al. [51], a qualitative study judged to be of high quality, the three other studies [52, 54, 59] had serious risk of bias.

4.5.2 Educational/psychological interventions for caregivers

Four articles examined the effects of educational/psychological interventions for caregivers taking care of dementia patients. Of these, two studies used pre-post quasi-experimental design [44, 47], and one each of RCT [23, 48] and controlled before-and-after study [50]. Each of the studies measured knowledge and reported that the interventions resulted in improved knowledge relevant to elder abuse among caregivers. Findings are summarised in Table 3: Summary of main findings.

The Dialectical Behaviour Therapy Skills Training Program (DBT) [44] examined the effect of DBT on high-risk caregivers for elder abuse when caring for a family member with dementia. The cognitive-behavioural DBT is a manualised skills training program developed for individuals with behavioural problems, with the aim to reduce harmful or interfering behaviours and increase adaptive behaviours that improve quality of life [44]. The DBT program was a tailor-made, group-based skill training opportunity for caregivers at risk for elder abuse and was conducted across eight sessions (with each lasting 2.5 hrs). The program was implemented in a community clinic setting and included skills in mindfulness, interpersonal effectiveness, emotional regulation, and distress tolerance. Booster group sessions were provided at the request of caregivers at 12 weeks. The post-intervention evaluation found statistically significant improvements in the measures of caregiver psychosocial functioning, particularly for problem-focused coping strategies (p < 0.005), emotional well-being (p < 0.004) and energy level (p < 0.001) [44]. The program further reduced depression among 40% of the caregivers. During the study, two caregivers were reported to the authorities for elder abuse, but there was no documented reduction of abuse.

The Take AIM against Elder Abuse: The Abuse Intervention Model [47] targeted older adults with dementia (but not living in 24-hour care) at risk for abuse and their primary caregivers. The program focused on dyadic relationships and elder abuse risk factors and addressed care
recipients’ aggressive behaviour, resistance to care, and activities of daily living dependency due to dementia and caregivers’ anxiety, depression, and burden. The intervention included baseline and follow-up risk assessments, linkages to existing services in the community to address identified needs and risks, and home visits over a three-month period. The post-evaluation of the intervention found that while care recipients’ sense of vulnerability and coercion fluctuated over the course of the dyadic intervention, perceived degree of social support remained the same among older adults and carers. The program was reported to be effective in reducing affective symptoms and case-level depression in carers of family members with dementia and improved the carers’ quality of life. The risk assessment component of the program was found to have prompted linking the dyads to community-based services to address identified needs such as financial planning and legal advice.

The START intervention [23, 48] was a RCT which randomised caregivers of family members with dementia to receive eight sessions of a manual-based coping strategy delivered over an eight- to 14-week period (n = 173) or usual care (n = 87). The START is a manualised psychological intervention developed to enhance coping skills and to promote the mental health of carers of family members with dementia [23, 48]. The program focused primarily on reducing the factors that influence elder abuse. The key program components were psychoeducation about dementia, carers’ stress and where to get emotional support; understanding behaviours of the family member being cared for, and behavioural management techniques including changing unhelpful thoughts; promoting acceptance; assertive communication; relaxation; planning for the future; increasing pleasant activities; and maintaining skills learnt. The START program consisted of eight customised sessions with the caregiver and care recipient in their preferred setting (generally homes) with a therapist and was informed by the United States program Coping With Caregiving program [23, 48].

Two articles evaluated the effects of START, with one focusing on the effectiveness of START at reducing abuse, anxiety, and depression in caregivers [23] and the other [48] using a longitudinal approach to examine whether reductions in depression and anxiety in family caregivers reduces abusive behaviours toward older people with dementia over a 2-year period. Livingston et al. [23], a high-quality study, found that at 8-months, the START intervention significantly reduced depression in carers in the intervention group compared to the control group (adjusted difference in means = -1.80 points; 95% CI= -3.29 – -0.31; P=0.02). Carers in
the intervention group were less likely to have depressive symptoms (OR 0.24, 95% CI=0.07-0.76) and there was a non-significant trend towards reduced anxiety (0.30, 95% CI= 0.08-1.05). START further improved the quality of life of carers in the intervention group (difference in means 4.09, 95% CI= 0.34 - 7.83) but had no effect on the care recipient (difference in means 0.59, 95% CI: –0.72 - 1.89). Carers in the intervention group reported less abusive behaviour towards the recipient of care compared with those in the treatment as usual group (OR 0.47, 95% CI= 0.18 - 1.23).

Cooper et al. [48] evaluated the long-term effects of the START intervention by analysing outcomes relating to abusive behaviours by caregivers using the Multiple Conflict Tactic Scale (MCTS). The authors found that there was no significant difference in abusive behaviour levels in carers in the intervention group compared to those in the control group at eight months (OR 0.48, 95% CI = 0.18 - 1.27) and at 24 months (OR 0.59, 95% CI = 0.27 - 1.28). While this study was of a high quality, the finding raises questions about the potential of the START intervention to translate into less abuse as occurrence was not reported.

The Educational support group intervention [50] was a controlled-before-and-after study, which examined the effectiveness of an educational support group in alleviating caregiver’s psychological abusive behaviour, reducing work stress, and promoting knowledge of geriatric care-giving among a group of caregivers. Fifty caregivers from two nursing homes in southern Taiwan attended eight group 90 minutes session over an eight-week period. Caregivers from two other nursing homes served as the control group. The program covered the content of ageing and associated problems related to managing residents’ health problems, institutional elder abuse, factors associated with caregivers’ abuse behaviour, relaxation and stress management among others. The outcomes measured in this study included the Caregiver Psychological Elder Abuse Behaviour (CPEAB) scale, the Knowledge of Gerontology scale (KGNS) and the Work Stressors Inventory (WSI). The intervention had significant effects in alleviating caregiver psychological abuse behaviour (CPEAB) and increasing care-giving knowledge (KGNS) in the intervention group relative to the control group (F= 4.02, P = 0.048 and 0.018, respectively), but had no measurable effect on work stress (WSI) (p = .66). While the results suggest a significant difference in the alleviation of caregiver psychological abusive behaviour and improvement in knowledge of elder care, the quality of evidence is low as both selection and detection bias were high in this study.
In summary, of the four educational interventions included in the review, only the START program evaluated by Cooper et al. [48] and Livingston et al. [23] was judged to be of high quality. Further, none of the four studies directly examined the association between caregiver knowledge and abusive behaviour and the incidence of elder abuse. It is thus uncertain if educational interventions for caregivers, which improve psychological outcomes, could translate into the reduction of elder abuse.

4.5.3 Educational interventions for health practitioners and other professionals

Two of the included studies investigated the effects of educational interventions for professionals working with older adults. Of these, one each was a RCT [49], and a quasi-experimental study (pre-post design) [45]. The programs targeted professionals from varied backgrounds including nurses, trainee psychiatrists, care assistants, social workers and first responders among others).

The intervention evaluated by Richardson et al. [49] aimed to determine the effectiveness of attending an educational course compared to printed educational material in improving the management of abuse of older people by nurses, care assistants and social workers. The program focused on organisational level professional care (i.e. reducing the incidence of abusive care environments). Program participants were randomised to receive either an educational course (n = 44) or reading material (comparison) (n = 42). The intervention group attended an educational course commissioned by the employing NHS trust and local social services department, which lasted for an hour while those in the control group were given reading material with the same content as the course. Outcomes were measured using a knowledge and management questionnaire based on vignettes of realistic or actual scenarios, given pre- and post-intervention (KAMA - Knowledge and management questionnaire), the Maslach Burnout Inventory (MBI), and the Attitude of Health Care Personnel towards Demented Patients (AHCPDP). At baseline, there was a significant difference between the two groups with the control group having significantly higher mean KAMA scores (p = 0.0001). However, post-intervention results showed a significant difference in the final KAMA score with the intervention group improving (M=3.7; SD=8.1), and the control group declining (M=-2.9; SD=10.0). The authors further observed that learning was highly associated with being randomised to intervention group (83.9%) compared to control group (15.2%) (chi square=11.7; P=0.001; OR=7.1 95% CI=2.2 – 23.0). Further, while most staff had a positive attitude towards people with dementia at baseline, this did not predict learning. There were no
statistically significant differences between groups on MBI or DHCPDP. This study was of moderate quality as two of the risk of bias items were judged to be of high risk.

The Elder Investment Fraud and Financial Exploitation (EIFFE) educational program [45] aimed to raise awareness of the risk factors and warning signs of vulnerability to EIFFE among clinicians, clinical support staff, and family. The program was targeted at physicians, nurses, occupational therapists, social workers, and physiotherapists. The outcomes measured to assess the effect of the intervention included self-assessed ratings of the program as well as the implementation of program material into practice 6 months post the intervention. Using descriptive statistics, the authors found a positive effect for the intervention with participants giving a high rating for the program. The findings showed that of the 35 participants completing the post-intervention questionnaire, 69% (n = 24) indicated use of the program materials in practice and also reported having identified 25 patients they felt were vulnerable to EIFFE.

Overall, the level of evidence reported by the two articles focusing on educational interventions for health professionals was weak. Only one of the studies employed a control group [49]. This notwithstanding, the findings suggest that with adequate education and awareness raising, health professionals working in diverse settings can be well equipped and positioned to identify clients vulnerable to abuse with the aim of referring them on appropriately.

4.5.4 Multidisciplinary team interventions

Two of the included studies focused on multidisciplinary team interventions [53, 55].

The Israeli Multisystem Model for the Treatment and Prevention of Elder Abuse in the community [53] aimed to raise awareness of elder abuse and neglect and to inform the target populations of the existence of support services at the social service department. This was a service model of community-based interventions implemented in three municipalities in Israel. The program established a Specialized Unit for the Prevention and Treatment of Elder Abuse (SUPTEA), which was overseen by a social worker and paraprofessional with an advisory multi-disciplinary team. The specific aspect of the program considered in this review is the community work component, which entailed seminars and workshops for professionals, and public education meetings for older people to raise awareness about elder abuse. A prospective mixed-methods evaluation of the program showed that this component resulted in increased collaboration among professionals for the prevention of elder abuse. For instance, interviews
with professionals participating in the program revealed that the project had raised their awareness of elder abuse and the problems of tackling it. A Police Officer participant of the program remarked: “The training programs helped me most. I gained a better understanding of the old people’s suffering . . . I wasn’t so aware of the problem before. Now, I take action immediately.”

The ECARE program by Mariam et al. [55] evaluated the effectiveness of a community-based psychological and social support intervention program targeted at older people at risk of abuse. The program was delivered primarily to vulnerable elders, and secondly to caregivers to minimise risk of elder abuse and was implemented by a multidisciplinary outreach team (psychologists, mental health specialists and a program coordinator). The program strategy was to mobilise the social and psychological resources of older people, which entailed building alliances with the elder and family members, connecting the older person to supportive services that reduce risk of further abuse, and utilising motivational interviewing-type skills to help older people overcome ambivalence regarding making difficult life changes. The outcome measures used were a problem checklist and Likert-scale tool to assess working alliance and dependency on harmful/inconsistent caregiver, and isolation from social support, as well readiness for change on the stages of change model. The authors reported significant effects (p < 0.01) of the ECARE intervention on scores associated with progression on the stages of change model and therapeutic working alliance, as well as a decrease in risk factors for finances/housing and dependency and isolation for older people.

The evidence from both studies is generally weak as none of them had a comparator group and there was also the issue of small sample size (n=55) and rater subjectivity in the case of Mariam et al. [55]. This notwithstanding, the findings suggest that multidisciplinary team interventions may be effective in building working alliances with older people and reducing risk factors for abuse.

4.6 Factors influencing the effectiveness of elder abuse interventions
We examined the implementation processes in delivering both primary and secondary prevention interventions to identify factors that may influence the effectiveness of elder abuse prevention programs. This included an examination of the approaches to implementation and identification of the implementation drivers that have influence upon program administration and outcomes [60]. Evidence on the development and implementation processes of
interventions is fundamental to understanding how and why interventions work or fail to work. Table 2 provides details of the factors influencing the implementation and effectiveness of elder abuse prevention interventions. A challenge encountered when reviewing the implementation processes was that most studies did not provide enough details about the intervention context, and the development and implementation process.

4.6.1 Approaches to implementation
The findings show that a wide range of approaches to implementation were used including collaborative partnership (i.e. collaborative support/partnership, n=7; inter-agency partnership, n=5), person centred care (n=4), co-design (n=3), self-directed/professional-led (n=2) and the use of volunteers (n=1) approaches (See Table 3). As shown in Table 2, some interventions used multiple approaches to implementation.

Collaborative partnership was largely used in implementing elder abuse primary and secondary prevention interventions. Among the interventions using collaborative partnership approach to implementation, five [47, 52-55] focused on partnership across organisations and sectors working together to achieve a common purpose. All other collaborative partnership approaches (n=7) involved either an alliance among professionals (consortia of health professionals), or alliance between health professionals, caregivers, and older people. While this indicates a limited focus on multi-sectoral collaboration in implementing healthy ageing interventions, the findings show that across all interventions, the use of collaborative partnership approaches enriched program implementation and optimised program effects. For instance, Hafford and Nguyen [47] found that grounding their intervention in strong partnerships with Adult Protective Services and community partners contributed to effective intervention planning and/or implementation and optimisation of program effects.
<table>
<thead>
<tr>
<th>Author (Year)</th>
<th>Theoretical framework</th>
<th>Mode of delivery</th>
<th>Implementation processes</th>
<th>Fidelity</th>
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<tbody>
<tr>
<td></td>
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<td></td>
<td>Approaches to implementation</td>
<td>Implementation drivers</td>
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<tr>
<td></td>
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<td>Inter-agency partnership</td>
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<tr>
<td>Hsieh 2009 Taiwan</td>
<td>Not stated</td>
<td>Group-based</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Santini et al. 2018 Italy</td>
<td>Not stated</td>
<td>Group-based</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Robson et al. 2018 Canada</td>
<td>Not stated</td>
<td>Group-based</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Hayslip Jr. 2015 USA</td>
<td>Theory of Planned Behaviour</td>
<td>Group-based</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Murayama et al. 2019 Japan</td>
<td>Not stated</td>
<td>N/A</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Alon &amp; Berg-</td>
<td>Not stated</td>
<td>Not stated</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>Study</td>
<td>Model</td>
<td>Setting</td>
<td>Individual</td>
<td>Stages of change/ transtheoretical model</td>
</tr>
<tr>
<td>-------</td>
<td>-------</td>
<td>---------</td>
<td>------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>Warman 2014 Israel.</td>
<td>Not stated</td>
<td>Individual</td>
<td>✓ ✓ ✓</td>
<td>Matching interventions with elders’ preferences and needs  Use of motivation interviewing  Alliance-building with participants  Long-term commitment of outreach team</td>
</tr>
<tr>
<td>Mariam et al. 2015 USA</td>
<td>Stages of change/ transtheoretical model</td>
<td>Individual</td>
<td>✓ ✓ ✓</td>
<td>Matching interventions with elders’ preferences and needs  Use of motivation interviewing  Alliance-building with participants  Long-term commitment of outreach team</td>
</tr>
<tr>
<td>Richardson 2002,2004</td>
<td>Not stated</td>
<td>Individual</td>
<td>✓ ✓ ✓</td>
<td>Tailoring educational courses to staff’s baseline knowledge  Fear of recrimination, and feelings of loyalty to colleagues</td>
</tr>
</tbody>
</table>
Alon and Berg-Warman’s [53] evaluation of the service model of community-based interventions in three municipalities in Israel found that inter-sectorial collaboration approach to elder abuse program development and delivery holds promise for sustained program impacts.

Three of the 12 interventions used some elements of a participatory co-design approach [45, 51, 54]. The use of co-design was thought to have ensured that the interventions suited participants’ idiosyncratic situations as well as contributing to empowering participants and giving them a voice in the program decision-making processes [45, 51].

Four of the interventions used a person-centred approach to program planning and implementation [44, 47, 49, 55]. The unique characteristics of interventions using this approach were ensuring active engagement and participation in program planning and/or implementation and factoring the concerns and priorities of participants into the program. The common theme across the interventions focusing on older people [47, 55], caregivers [44], and health professionals [49] working with older adults was that interventions work best by drawing upon the array of resources available to program participants, including their lived experiences and expertise, as well as social care and support.

Two interventions [46, 50] largely designed and led by health professionals showed mixed findings. While one intervention [51] made use of older people as volunteers as intervention participants, the unique contribution of the use of volunteers as an approach to program delivery was unclear.

Overall, the findings indicate that when used successfully, collaborative partnership, co-design, and person-centred approaches to implementation contribute to increased uptake of interventions and optimisation of program impacts. The factors identified to have influence upon the use of collaborative partnership, co-design, and person-centred approaches include participants’ motivation to participate, and the skill level of program implementation staff to use such approaches.

4.6.2 Implementation drivers (success in intervention process)

The core themes identified in relation to implementation drivers were the use of behavioural change techniques (motivational interviewing), tailoring of interventions, booster sessions, and a multi-professional team approach to intervention design and delivery.
Generally, implementation of interventions within a group context [44, 45, 47, 50, 54, 59] was found to be particularly useful in increasing participants’ (older people, caregivers, young adults and professionals) participation in interventions, which contributed to successful program implementation and achievement of intervention goals. A plausible mechanism for this could be the increased social interaction generated within a group context. Individual based interventions [53, 55] also demonstrated the potential of individual psychological support interventions in mitigating risk factors for elder abuse.

Four interventions [23, 44, 48, 49, 55] showed that tailoring of interventions through the provision of personalised strategies and services increases adherence and/or compliance to interventions. One intervention [44] showed that the use of booster sessions increased program adherence and uptake of interventions. Mariam et al. [55] evaluated an elder abuse intervention and prevention program focused upon eliciting change in older people and found that the use of motivational interviewing-type skills helped participants overcome ambivalence regarding making difficult life changes.

In several interventions [47, 50, 51], it was found that multi-component interventions contributed to the success of implementation, and improved program outcomes.

### 4.6.3 Intervention fidelity

Only two studies [47, 48] provided information relating to intervention fidelity, which was found to be high. This indicates an overall lack of attention to and reporting of intervention fidelity in elder abuse primary and secondary prevention interventions.

### 4.6.4 The use of theoretical frameworks

The majority of the interventions (n=10) did not use theoretical frameworks to inform program design and implementation. Of the two interventions using a theoretical framework, one used the stages of change model/trans-theoretical model [55], and the other the theory of planned behaviour [46]. The findings indicate that the use of models/theories enhanced program design and implementation by helping identifying levers of change and best practice methods for behaviour changes [46, 55].
5. Discussion
This review aimed to synthesise evidence on the effects of elder abuse primary and secondary prevention programs, and to identify the factors that influence the effectiveness of these interventions.

5.1 Summary of main findings – effects of interventions

Twelve studies evaluating the effects of elder abuse primary and secondary prevention interventions met the review inclusion criteria, two of which were randomised controlled trials. The review covered four types of elder abuse primary prevention interventions: intergenerational programs; educational/psychological interventions for caregivers; educational interventions for practitioners/professionals; and multidisciplinary team interventions. With the exception of the intergenerational programs which act as primary prevention strategies at the community/societal level, we did not identify any other primary prevention intervention focusing on more upstream/macro action. We also did not find any interventions addressing other drivers of elder abuse listed in the literature including gender inequality or other forms of marginalisation and discrimination, except in the case of one LGBT-focused program.

Intergenerational programs
While none of the previous reviews have included intergenerational programs [61], these provided the largest body of genuine primary prevention programs included in this review. All the intergenerational programs focused on fostering positive intergenerational relationships by addressing ageism as a driver of elder abuse. The evidence from the four intergenerational programs included in this review suggest that intergenerational programs can be effective elder abuse primary prevention strategies by acting as anti-ageism campaigns including overcoming age-related stereotypes in both community and institutional settings. The findings further show that intergenerational programs can reinforce neighbourhood trust among local residents, thereby strengthening a community’s intergenerational ties, building social capital and sustainable community, which can in turn prevent or reduce social isolation among older people, a known risk factor for elder abuse. These findings align with the extant literature that suggests that intergenerational programs are critical primary prevention interventions for the prevention of elder abuse [15, 26, 38]. Of note however, is that the quality of evidence of the
effects of intergenerational programs is generally weak, as none of the included studies had a comparator group.

**Caregiver interventions**
Similar to the findings of previous reviews [31, 62], the evidence from three caregiver interventions included in the review suggests that these interventions are a promising approach to the secondary prevention of elder abuse. While the quality of evidence is weak, care interventions included in the review were found to have had significant effects on increasing knowledge on ageing, and alleviating caregivers’ psychologically abusive behaviour as well as promoting healthier relationships between caregivers and older people [31, 50, 63].

**Educational interventions for practitioners/professionals**
The findings from two educational interventions for professionals suggest that with adequate education and awareness raising, health professionals working in diverse settings can be well equipped and positioned to identify clients vulnerable to financial elder abuse. This means that at the organisational level of professional care, prevention strategies such as awareness raising, and training programs have the potential to change the care environment and thus contribute to reducing elder abuse [64]. This finding is contrary to that of previous reviews which noted the uncertainty regarding the effectiveness of elder abuse educational interventions for practitioners [61].

**Multidisciplinary team interventions**
While low-quality evidence was found for multidisciplinary team interventions, the findings from the two included studies suggest that multidisciplinary team interventions (i.e. interagency coordinating mechanisms) may be effective in building working alliances with older people and in turn reducing risk factors for abuse. This is in line with the literature which suggests that effective prevention of elder abuse requires collaboration across sectors as well as a coordinated effort [63].

**5.2 Factors influencing the effectiveness/implementation of interventions**
The secondary aim of this review was to identify the factors that influence the implementation of evidence-based elder abuse primary and secondary prevention interventions. The nature of interventions, approaches to implementation, and implementation drivers were examined alongside intervention effectiveness. While implementation approaches varied, strong
evidence was found for the significant role of partnership across organisations, collaborative partnership (alliance among professionals, and alliance between health professionals, and older people and caregivers), co-design, and person-centred approaches in optimising programs’ impacts. In relation to the drivers of change that explain how and why interventions worked or failed to work, the most compelling evidence was for social interactions (largely in group-based interventions), multi-component interventions, tailoring of interventions, motivational interviewing, booster sessions, and multi-professional team approach to program design and delivery. In conjunction with the use of participatory approaches, the operation of these drivers of change played a key role in increasing program uptake and improving program effectiveness. These findings align with the extant literature on implementation science. For instance, a review by Roussos and Fawcett [65] concluded that collaborative partnership approaches are a promising strategy for engaging people and organizations around a common goal in implementing health promotion interventions at the community level.

With regard to co-design, there is evidence to support the effectiveness of this approach in the development of health promotion interventions that bring together health professionals and patients to design common solutions [66]. Co-design interventions also lead to sustainable implementation and outcomes [67]. A recent study by Gahan et al. [68] which described the use of a co-design approach to develop the Australian elder abuse screening instrument with frontline professionals showed that co-design approaches are effective in developing inter-professional and community-based solutions to the challenge of elder abuse. The OPERA intervention in Australia [43] which was awaiting assessment also used a co-design approach to intervention development. The evaluation of the co-design methodology showed that community co-design is a successful methodology for development of primary prevention interventions at the local level [43].

5.3 Gaps in the evidence
This systematic review conducted as part of a larger study focusing on primary prevention of elder abuse focused on synthesising the evidence on elder abuse primary and secondary prevention interventions, as well as the identification of the implementation factors that influence intervention effectiveness. From the evidence reviewed, it is evident that a number of gaps exit in the literature of elder abuse primary prevention specifically.

*Limited focus of interventions on macro/structural drivers of elder abuse*
This review identified only four interventions (all intergenerational programs) targeted at ageism as a driver of elder abuse. While caregiver interventions and educational programs for professionals are critical secondary prevention interventions [63], it has been observed that macro level primary prevention interventions such as policies fostering positive attitude to ageing, challenging stereotypes, changing community norms and attitudes towards older people, and interventions addressing gender inequality are fundamental for preventing elder abuse [38]. This means that attention should be paid to the design, implementation and evaluation of macro-level elder abuse primary strategies. Implementation of such universal interventions that target the whole population hold more promise in preventing the onset of elder abuse compared to secondary (often organisational and individual-level) interventions, which featured prominently in this review [1]. Further, interventions addressing elder abuse drivers such as gender inequality, other forms of discrimination and capitalism/neoliberalism should be explored in the designing of primary prevention elder abuse programs.

Limited elder abuse outcome measures
While intermediate outcome measures such as increased knowledge and awareness of elder abuse, positive caregiver behaviour and improved caregiver psychological health are key measures for the prevention of elder abuse, there is the need to establish the extent to which these measures result in long-term outcome measures including the prevention and/or reduction in the incidence of elder abuse. For instance, none of the caregiver psycho-educational interventions included in the review assessed the direct impact of the interventions on elder abuse. It is thus uncertain if educational interventions for caregivers, which improve psychological outcomes (and thus have the capacity to alleviate risk factors for perpetrators), could translate into the avoidance or a reduction of elder abuse. It is widely acknowledged that while community-based interventions such as awareness campaigns may contribute to increased awareness of elder abuse, and encourage respectful and dignified treatment of older people, the long-term impact of such awareness campaigns is yet to be established [38, 61]. There is also a limited focus on empowerment outcomes in terms of assessing the extent to which interventions equip older people to develop coping strategies and resilience to potential abusive behaviours.

Lack of quality evaluations and limited use of theoretical frameworks
In relation to quantitative evaluations, this review identified only two RCTs (level II) and one quasi-experimental study (level III-2) with a control group study out of a total of 12 identified
studies for inclusion. The paucity of rigorous evaluation designs poses a challenge to determining the effectiveness of programs and this challenge is clearly present in the field of elder abuse primary and secondary prevention evaluations. The majority of the included studies used a pre-post study design and had small numbers of participants. While this review included both quantitative and qualitative studies, only one high quality qualitative study, and one moderate quality mixed-methods study were included in the review. This points to the extremely limited use and application of rigorous qualitative evaluation design in evaluating elder abuse primary and secondary prevention interventions. It has been widely acknowledged that qualitative studies can provide evidence on program effectiveness, clarify the range and nature of program impacts/outcomes that cannot be readily measured quantitatively, and which groups experience these impacts [69, 70]. Qualitative evaluations can also help understand the effectiveness of interventions by unpacking how and why interventions work or fail to work [71-73]. Well-designed mixed methods studies that examine a range of outcomes and capture both quantitative and qualitative data are also required to better understand the effects of elder abuse primary and secondary prevention interventions.

Related to the quality of evaluation also is limited use and application of theoretical frameworks in the design and evaluation of primary prevention interventions. It has been acknowledged that the use of theoretical frameworks contributes to better program design, implementation and evaluation by helping to understand determinants of change, identification of program levers of change, and best practice methods for measuring program impacts [15, 31, 74, 75].

**Limited description of interventions**

In many studies, there was limited description of the intervention undertaken (e.g. intervention context, intervention development processes, and governance arrangements) and the implementation processes. Further, cultural adaptations of evidence-based mainstream programs were insufficiently detailed, making it difficult to replicate or adapt the interventions for another context. The effectiveness or otherwise of elder abuse interventions is in part contingent on the design and implementation processes of the interventions. As published articles are often constrained by word length limitations and this may restrict details on the implementation process, both the Consolidated Standards of Reporting Trials (CONSORT) [76] and the Transparent Reporting of Evaluations with Nonrandomized Designs (TREND) [77] recommend reporting some details about the intervention and implementation process. It
is thus important for elder abuse primary and secondary prevention studies to document the approach and process to intervention implementation and the drivers of implementation that influence intervention effectiveness.

5.4 Strengths and limitations

The strength of this systematic review lies in it being the first to comprehensively review the literature on primary prevention of elder abuse (including some secondary prevention studies), focusing on both the effectiveness of interventions and the identification of the factors that influence program implementation and impacts.

The main limitation of the review relates to the lack of available studies of primary prevention programs for elder abuse, leading to the necessity to include some early intervention or secondary prevention studies. This meant that we necessarily considered intervention impacts in terms of risk factors as well as drivers, and that some of the factors found to affect the successful implementation of secondary prevention interventions may not be entirely generalisable to primary prevention. However, in the absence of a suitable number of studies on primary prevention programs, these insights were considered worth capturing and documenting to guide best practice implementation.

Another limitation in assessing the impacts of both the primary and secondary prevention studies captured was the low quality of evidence due to methodological limitations (e.g., no control group) which affects generalisability and conclusiveness. However, this is not unique to this review, as past elder abuse systematic reviews [31, 32, 61] have raised similar concerns suggesting that quality evidence from elder abuse prevention and secondary intervention studies is generally lacking.

Further, despite the significant efforts made in identifying complementary studies that might have accompanied the intervention studies included in this review to tease out missing information on intervention characteristics and implementation processes, there were still difficulties in getting enough information on the implementation processes of some of the intervention studies included in this review. We therefore acknowledge the possibility of missing other important implementation drivers that explain the workings of the elder abuse primary and secondary prevention interventions included in this review. Further, while most of the interventions were multimodal, it was often not clear which intervention component was
more effective, and the factors accounting for this. These limitations of the included studies call for the need to comprehensively document the implementation processes in future implementation of elder abuse primary prevention interventions.

5.6 Conclusion
This review has shown that there is limited high-quality evidence regarding the implementation, evaluation and effectiveness of primary prevention interventions for elder abuse. The review has identified four primary or secondary prevention strategies which appear to have the potential for targeting the drivers and risk factors of elder abuse:

- Intergenerational programs
- Caregiver psycho-educational programs
- Educational programs for professionals, and
- Multi-sectorial/disciplinary team interventions

The review has also shown that the effectiveness of elder abuse interventions is contingent on a number of factors including the type of implementation approaches used, and the specific mechanisms that may be at play during the implementation process. The gaps in evidence identified in this review provide further direction to policy makers, researchers and evaluators regarding the development, adaptation, implementation and evaluation of elder abuse primary and secondary prevention interventions. Of importance to both elder abuse policy and practice is the need to pay attention to the development, implementation and evaluation of macro level primary prevention interventions such as programs fostering positive attitudes to ageing, challenging systemic forms of discrimination and marginalisation such as gender inequality, all of which are fundamental for preventing the onset of elder abuse.
References


Appendixes

Appendix 1: Study quality assessment

Summary quality assessment of RCTs (Cochrane Risk of Bias Tool)

<table>
<thead>
<tr>
<th>Study reference</th>
<th>Random sequence generation</th>
<th>Allocation concealment</th>
<th>Blinding of participants &amp; personnel</th>
<th>Blinding of outcome assessment</th>
<th>Incomplete outcome data</th>
<th>Selective reporting</th>
<th>Selective outcome data</th>
<th>Other bias</th>
<th>Overall assessment</th>
</tr>
</thead>
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<tr>
<td>Livingston et al.</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>?</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Cooper et al. 2016</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Richardson et al. 2002</td>
<td>+</td>
<td>x</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>x</td>
</tr>
</tbody>
</table>

Key: +, low-risk of bias; X, high-risk of bias; ?, unclear-risk of bias

Summary quality assessment of non-randomised trials (Risk of Bias in Non-Randomised Studies of Interventions)

<table>
<thead>
<tr>
<th>Study reference</th>
<th>Confounding</th>
<th>Selection of participants</th>
<th>Classification of interventions</th>
<th>Deviations from intended interventions</th>
<th>Missing data</th>
<th>Measurement outcomes</th>
<th>Selection of reported results</th>
<th>Overall assessment</th>
</tr>
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<tbody>
<tr>
<td>Drossel et al. 2011</td>
<td>x</td>
<td>x</td>
<td>+</td>
<td>NI</td>
<td>+</td>
<td>x</td>
<td>+</td>
<td>x</td>
</tr>
<tr>
<td>Hsieh 2009</td>
<td>-</td>
<td>X</td>
<td>+</td>
<td>NI</td>
<td>+</td>
<td>x</td>
<td>+</td>
<td>x</td>
</tr>
<tr>
<td>Hayslip Jr. 2015</td>
<td>+</td>
<td>x</td>
<td>+</td>
<td>NI</td>
<td>+</td>
<td>x</td>
<td>+</td>
<td>x</td>
</tr>
<tr>
<td>Murayama et al. 2019</td>
<td>x</td>
<td>x</td>
<td>+</td>
<td>NI</td>
<td>+</td>
<td>x</td>
<td>+</td>
<td>x</td>
</tr>
<tr>
<td>Mariam et al. 2015</td>
<td>-</td>
<td>x</td>
<td>+</td>
<td>NI</td>
<td>?</td>
<td>x</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

Key: +, low-risk of bias; -, moderate-risk of bias; X, serious-risk of bias; NI, no information provided
<table>
<thead>
<tr>
<th>Study reference</th>
<th>Sources of data appropriate</th>
<th>Data analysis appropriate</th>
<th>Considered context</th>
<th>Researcher influence</th>
<th>Sampling appropriate</th>
<th>Sample representative</th>
<th>Measures appropriate</th>
<th>Response rate (≥60%)</th>
<th>Relevant design</th>
<th>Integration appropriate</th>
<th>Limitations considered</th>
<th>Overall assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hafford and Nguyen 2016</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>Moderate</td>
</tr>
<tr>
<td>Alon &amp; Berg-Warman 2014</td>
<td>Y</td>
<td>Y</td>
<td>N</td>
<td>N</td>
<td>Y</td>
<td>N</td>
<td>?</td>
<td>?</td>
<td>Y</td>
<td>N</td>
<td>Y</td>
<td>High</td>
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</table>

Key: Y, Yes; N, No; ?, can’t tell

<table>
<thead>
<tr>
<th>Study reference</th>
<th>Philosophical and methodological congruence</th>
<th>Appropriate methodology</th>
<th>Appropriate methods of data collection</th>
<th>Appropriate analysis</th>
<th>Appropriate sampling</th>
<th>Link to theory</th>
<th>Reflexivity</th>
<th>Thick description</th>
<th>Ethical consideration</th>
<th>Congruence between conclusions and findings</th>
<th>Overall assessment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Santini et al. 2018</td>
<td>?</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>?</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
</tbody>
</table>

Key: +, low; -, High; ?, unclear
## Appendix 2: Summary of main characteristics of included studies

<table>
<thead>
<tr>
<th>Author (Year)</th>
<th>Country</th>
<th>Design</th>
<th>Sampling methods</th>
<th>Data collection method</th>
<th>Inclusion criteria</th>
<th>Setting</th>
<th>Participants</th>
<th>Sample size</th>
<th>Participating population characteristics (e.g. age, sex,)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drossel et al., 2011</td>
<td>USA</td>
<td>Pre–post experimental design</td>
<td>Caregivers were referred to DBT Skills by their individual therapists</td>
<td>Measures (questionnaires) used in the community clinic's routine program evaluation (e.g. CES-D, SF-36 &amp; ways of coping checklist)</td>
<td>Caregivers of older adults with dementia meeting at least one risk factor for elder abuse or neglect</td>
<td>Routine clinical setting offering services to individuals with dementia</td>
<td>Caregivers of older adults with dementia</td>
<td>24</td>
<td>79% female, 21% male; aged 38–87 years.</td>
</tr>
<tr>
<td>Mills et al., 2012</td>
<td>USA</td>
<td>Pre-post design</td>
<td>Administration of a post-program evaluation took place immediately following completion of the education program;</td>
<td>Completion of self-administered questionnaire</td>
<td>Not clear</td>
<td>Geographically diverse locations across Texas</td>
<td>clinicians comprising practicing primary care providers, Social workers and nurses with specializations in geriatrics, psychologists, psychiatrists, and neurologists</td>
<td>127</td>
<td>Not stated</td>
</tr>
<tr>
<td>Study</td>
<td>Design</td>
<td>Description</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hafford and Nguyen 2016 USA</td>
<td>Pre-post design</td>
<td>Rolling enrolment of participants (76 dyads) Administration of the VASS screening tool</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Livingston et al. 2013 UK</td>
<td>RCT</td>
<td>One hundred and seventy-three caregivers were randomized to the START condition and 87 were assigned to treatment as usual (TAU), which consisted of standard practices of dementia care and carer support</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cooper et al., 2016 UK</td>
<td>RCT</td>
<td>Same as Livingston et al., 2013</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>

**Mixed-methods**

**Dyads:** Caregivers and older adults with dementia

**Primary care setting**

Older adults with dementia aged 65 at risk for abuse, and their primary caregivers

**Care recipients:**

Mean age: 80.8

55% male; 45% female;

91% Caucasian, 7.5% Asian/Pacific Islander, and 1.5% African American.

START (Treatment): N = 173 caregivers (33% male; 67% female; age 62.0 ± 14.6). TAU N = 87 caregivers (29% male; 71% female; age 56.1 ± 12.3).

START: N = 173 patients (41% male; 59% female; age 79.9±8.3 years).

TAU: N = 87 caregivers (28.7% male; 71.3% female; age 56.1 ± 14.6 years); N = 173 patients (41% male; 59% female; age 79.9±8.3 years).
<table>
<thead>
<tr>
<th>Study</th>
<th>Design</th>
<th>Sampling Method</th>
<th>Data Collection</th>
<th>Participants</th>
<th>Setting</th>
<th>Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hsieh 2009</td>
<td>quasi-experimental design: controlled before-and-after study</td>
<td>Facility control sampling</td>
<td>Data collected from self-administered questionnaire. Participants recruited from four officially registered nursing homes located in southern Taiwan</td>
<td>Caregivers who had a Caregiver Psychological Elder Abuse Behavior Scale (CPEAB) score greater than 20; were employed; were at least 20 years of age; were Taiwanese citizens; and had not participated in a similar group activity.</td>
<td>Nursing homes in southern Taiwan</td>
<td>Caregivers: 112</td>
</tr>
<tr>
<td>Santini et al. 2018</td>
<td>Qualitative action research</td>
<td>Purposive sampling</td>
<td>Interviews and focus groups</td>
<td>Users of residential and day-care services adolescents and older adult volunteers</td>
<td>Institutionalised care setting</td>
<td>25 14-year-old students; 25 adolescents; 16 older persons; 16 older adult volunteers; 3 teachers and 3 social workers</td>
</tr>
<tr>
<td>Robson et al. 2018</td>
<td>Arts-based research design</td>
<td>Purposive sampling</td>
<td>Surveys/Case studies/stories</td>
<td>Older adults identified as LGBT and/or queer, and youth willing to</td>
<td>Community setting</td>
<td>Older adults: 60 and 84 years of age; Youth: 13 to 24 yrs of age</td>
</tr>
<tr>
<td>Country</td>
<td>Study Design</td>
<td>Sample Details</td>
<td>Methodology</td>
<td>Population Type</td>
<td>Setting</td>
<td>Number</td>
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<td>Canada</td>
<td>Pre–post experimental design with comparison group</td>
<td>Participants signed up to attend one of four evening sessions that corresponded to one of four groups and were blind to the content of the other interventions and to the design of the study.</td>
<td>Questionnaire administration</td>
<td>Young adults</td>
<td>Community setting</td>
<td>Youth 12</td>
</tr>
<tr>
<td>USA</td>
<td>Murayama et al. 2019 Population-based cross-sectional study</td>
<td>Residents between the ages of 20 and 84 years randomly selected from the basic resident register</td>
<td>Questionnaire administration</td>
<td>Volunteers over the age of 60</td>
<td>Community setting</td>
<td>N/A</td>
</tr>
<tr>
<td>Japan</td>
<td>Alon &amp; Berg-Warman 2014 Mixed-method prospective evaluation</td>
<td>Purposive sampling</td>
<td>Interviews</td>
<td>Service providers included professional personnel from banks, hospitals, health clinics, and homecare agencies, as well as police officers, legal advisers, and volunteers</td>
<td>Community setting</td>
<td>N/A</td>
</tr>
<tr>
<td>Mariam et al. 2015</td>
<td>pre–post experimental design</td>
<td>Referrals of suspected elder and dependent adult abuse from local law enforcement</td>
<td>Questionnaire administration</td>
<td>Suspected elder and dependent adult abuse referred from local law enforcement aged over 55, and elders speaking a language known to outreach staff</td>
<td>Community setting</td>
<td>Older people and caregivers</td>
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<tr>
<td>Richardson 2002</td>
<td>RCT</td>
<td>Individuals were randomly assigned using computer-generated numbers to either intervention or control group.</td>
<td>Self-report questionnaire pre- and post-interventions</td>
<td>Eligible participants were all those employed by the local community health trust/social services who worked with older people and who had not yet attended a course on managing abuse of older people.</td>
<td>Nursing homes</td>
<td>Health personnel working with older people comprising nursing staff, care assistants, care managers and social workers</td>
</tr>
</tbody>
</table>
### Appendix 3: Summary of main findings of interventions

<table>
<thead>
<tr>
<th>Author (Year)</th>
<th>Country</th>
<th>Outcome measures</th>
<th>Results</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drossel et al. 2011 USA</td>
<td>Center for Epidemiological Studies Depression Scale (CES-D) Caregiver Burden Inventory (CBI) Medical Outcome Studies Short-Form Health Survey (SF-36) Ways of Coping Checklist (Revised) (WoC-R,) Maslach Burnout Inventory (MBI)</td>
<td>After the intervention: 6 participants ↓CES-D at least 6 points; 5 participants ↓ 5 points or less &amp; 2 participants stayed the same. Problem focused coping↑; social support &amp; avoidant coping remained unchanged. Improvements in emotional well-being; energy/ fatigue; social functioning; emotional problems.</td>
<td>During the study, individual therapists reported 2 of the 16 caregivers to the authorities for elder neglect. It is however, unclear if this was associated with the intervention. Follow-up data from the booster groups suggest that to maintain treatment gains, high-risk caregivers may require continuing support.</td>
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<td>Mills et al. 2012 USA</td>
<td>Clinician behaviour in identifying and handling EIFFE</td>
<td>Participants gave high ratings for the program; At 6-month follow-up, 35 respondents returned a completed questionnaire, with 69% (n = 24) indicating use of the program materials in practice and also reporting having identified 25 patients they felt were vulnerable to EIFFE.</td>
<td>Evidence-based outcomes of the educational program, including implementation of the materials in practice and changes in clinician behaviour in identifying and handling suspected cases of EIFFE were not assessed</td>
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<tr>
<td>Hafford and Nguyen 2016 USA</td>
<td>Identification of high-risk of abuse at early stages Enhanced caregiver coping skills and confidence Reduced behavioural manifestations (agitation) Increased knowledge of disease process Increased access to social resources</td>
<td>Perceived degree of social support remained constant among older adults</td>
<td>A manual based coping strategy was effective in reducing affective symptoms and depressive symptoms in carers of family members with dementia. The carers’ quality of life also improved</td>
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<tr>
<td>Livingston et al. 2013</td>
<td>Affective symptoms (hospital anxiety and depression total score);</td>
<td>Baseline MCTS: - START: 2.5 (2.9); 49% have MCTS ≥2 for at least 1 item. - TAU: 2.7 (3.1); 44% have MCTS ≥2 for at least 1 item.</td>
<td>The intervention was clinically effective for the impact on carers</td>
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</table>
| UK | depression and anxiety as judged on the hospital anxiety and depression scale; quality of life of both the carer (health status questionnaire, mental health) and the recipient of care (quality of life-Alzheimer’s disease); and potentially abusive behaviour by the carer towards the recipient of care (modified conflict tactics scale). | Four Months:  
- START: 36% have MCTS ≥2 for at least 1 item.  
- TAU: 41% have MCTS ≥2 for at least 1 item.  
Eight Months:  
- TAU: 36% have MCTS ≥2 for at least 1 item.  
- START: 33% have MCTS ≥2 for at least 1 item.  
Anxiety and depression ↓ (OR = 0.24, 95% CI= 0.07– 0.76)  
Quality of life (mental health) ↑ (difference in means 4.09, 95% CI= 0.34 to 7.83) but not for the recipient of care (difference in means 0.59, −0.72 to 1.89)  
Caregiver abusive behaviour ↓ (OR= 0.47, 95% CI= 0.18 to 1.23) | in the short term. However, the study was not powered to find a significant change in elder abuse. |
| Cooper et al. (2016) | Multiple Conflict Tactic Scale (MCTS). | No significant effects were found for abusive behaviours by caregivers at 12 or at 24 months post-intervention.  
A quarter of carers still reported significant abuse after two years, but those not acting abusively at baseline did not become abusive. | There was no evidence that START, which reduced carer anxiety and depression, reduced carer abusive behaviour. However, abusive behaviour reported by carers did not increase over time suggesting that talking about abusive behaviour and offering support may help carers accept rather than act on negative feelings within caring relationships. For ethical reasons, the authors frequently intervened to manage concerning abuse reported in both groups, which may have disguised an intervention effect. The authors recommended that future dementia research should include elder abuse as an outcome and consider carefully how to manage detected abuse. |
<p>| Hsieh 2009 Taiwan | Caregiver Psychological Elder Abuse Behaviour (CPEAB) Scale | The intervention had significant effects in alleviating caregiver psychological abuse behaviour and increasing care-giving knowledge in the experimental group (p = .048; .018); there was no measurable effect on work stress (p = .66) | The findings show that group intervention using a multi-component approach is necessary for caregivers to help prevent abusive behaviour while improving their care-giving knowledge. |</p>
<table>
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<tr>
<th>Study</th>
<th>Intergenerational activities</th>
<th>Findings</th>
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<tr>
<td>Santini et al. 2018 Italy</td>
<td>Intergenerational relationships</td>
<td>Prior to the intervention, students described the relationship between young and elderly people essentially as a “conflict of interests”. However, 6-months into the program, students changed their opinions on older people and overcame the stereotypes on ageing. At the end of the program, the older adults felt that the young were ready to listen and to help them and that there could be a friendship between the young and the old, based on closeness, intimacy, and confidence. Intergenerational programs foster the interaction between different ages, help overcome age-related stereotypes, and improve older people’s mental well-being and older volunteers’ generativity. The authors recommend that intergenerational activities should be integrated in the daily routine of nursing homes, acting as useful tools for fostering older residents’ capability of reacting to dependency and social isolation.</td>
</tr>
<tr>
<td>Robson et al. 2018 Canada</td>
<td>Intergenerational relationships and solidarity</td>
<td>The project increased youth and older adults’ knowledge and understanding of elder abuse in general—including its types, signs and symptoms, and systemic causes—as well as identifying unique ways it might manifest in the lives of LGBT individuals and be fostered by external and internalized homophobia. <em>Raising Awareness and Addressing Elder Abuse in the LGBT Community</em> offers a useful and transferable model of arts-based research with a clear critical agenda to increase knowledge and understanding of elder abuse in the LGBT community.</td>
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<tr>
<td>Hayslip Jr. 2015 USA</td>
<td>Kogan’s Attitudes Toward Old People Scale</td>
<td>The elder abuse education component resulted in less tolerance and intentions for elder abuse among young adults at the immediate post-test, but the impact was not sustained at 1-month follow-up. The findings suggest that elder abuse education rather than general information about aging provided at the community level, may promote stronger attitudinal and behavioural shifts among young adults. Further, booster educational efforts over time may be necessary to sustain intervention-specific gains in intentions and behaviours particular to elder abuse.</td>
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<td>Personal Anxiety Toward Aging Scale</td>
<td>The aging education component was not more effective than the two control group treatments.</td>
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<td>Elder Abuse Attitudes and Behavioral Intentions Scale—Revised (EAABIS-R)</td>
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<td>Marlowe-Crowne Social Desirability Scale</td>
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<tr>
<td>Murayama et al. 2019</td>
<td>Social capital</td>
<td>REPRINTS was found to enhance social capital among middle-aged and older local residents. The findings show that intergenerational programs can reinforce neighbourhood trust among local residents, thereby strengthening.</td>
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</tbody>
</table>
Japan

The intervention programs enhanced social capital in two ways: they benefited children and senior citizens through the interventions themselves, and the community benefited through the presence of a long-term REPRINTS program.

Duration of programs was a significant community-level indicator of neighbourhood trust, as was recognition of the program. Both increased neighbourhood trust, especially among older and middle-aged people who have stronger neighbourhood ties to the community.

A community’s intergenerational ties, building social capital and sustainable community which will prevent or reduce social isolation among older people.

Alon & Berg-Warman 2014 Israel.

Awareness raising

Interviews with professionals participating in the program revealed that the project had raised their awareness of elder abuse and the problems of tackling it and informed them that they could consult with the SUPTEA and refer older adult victims.

The program resulted in increased collaboration among professionals for the prevention of elder abuse.

“The training programs helped me most. I gained a better understanding of the old people’s suffering . . . I wasn’t so aware of the problem before. Now, I take action immediately.” (Quote from Police Officer).

Strengthening cooperation among professionals from different disciplines and different organizations hold the premise for elder abuse prevention.

Mariam et al. 2015

Problem checklist for identification of risk factors for abuse or poor health

Likert-type measures of Working Alliance and Dependency and Isolation

Elder readiness for change on the stages of change model

Results provided for only the full-intervention.↓ in overall risk factors for elder abuse (p < .001);↓ in abuse risk factors associated with economic & housing; social/community (p < .001) & dependency/isolation (p < .003).

No change in risk factors related to physical & mental health, or independent living.

About 70.9% of participants moved at least one stage (p < .001) on the stages of change model.

The findings indicate that working alliances can be forged with ambivalent older people, and that risk factors of elder abuse can be reduced through eliciting change in social and psychological functioning.

Richardson et al. 2002, 2004

Knowledge and management questionnaire (KAMA)

Maslach Burnout Inventory (MBI)

Statistically significant difference between groups on KAMA scores with those in intervention group improving and those in control group deteriorating (p = 0.000).

The intervention resulted in a significant positive effect on healthcare providers’ knowledge and management of abusive scenarios.
Learning was highly associated with being randomized to intervention group (83.9%) compared to control group (15.2%) (chi square=11.7; P=0.001; OR=7.1 95% CI=2.2–23.0)

No statistically significant differences between groups on MBI or DHCPDP