IMPRoving Outcomes for children exposed to domestic ViolencE (IMPROVE): A scoping study

Study Protocol

1. Project title

An overview of interventions aimed at improving outcomes for children exposed to domestic violence: systematic review, evidence synthesis and research recommendations

2. Background:

2.1 Existing research

The extent of children's exposure to Domestic Violence and Abuse (DVA) in the UK

DVA is physical, sexual, emotional and other forms of violence or abuse between partners, ex-partners or adults in a household or family. A recent large scale study carried out by the National Society for the Prevention of Cruelty to Children (NSPCC) estimates that 15% of children have *witnessed* at least one form of DVA at some point in their childhoods, with 3.1% having witnessed an incident in the last year (Radford et al, 2011). While the most frequent type of reported DVA entailed one parent throwing or breaking things in the context of an argument, 3.8% of children surveyed had witnessed severe abuse (kicking, choking, beating up). A national study of children's mental health indicates that exposure to severe abuse is the most frequently reported type of childhood trauma (Meltzer et al, 2009). These figures probably underestimate the number of children potentially affected by DVA when one considers that children can be exposed to domestic abuse in diverse forms (e.g. Holden, 2003) and do not have to directly witness violent acts to experience adverse consequences (e.g. Jouriles et al, 1998).

Exposure to DVA and adjustment across the lifespan

DVA is associated with significant direct risk to children's safety. Serious case file reviews both in the UK and the US highlight that domestic violence was noted between a third to a half of cases where children were killed or seriously harmed (Brandon et al, 2010; Jaffe & Juodis, 2006). Domestic violence is associated with higher levels of physical maltreatment of children (Appel & Holden, 1998), as well as other forms of child abuse, including sexual abuse (e.g. Saunders, et al., 2002). Whilst the risk of maltreatment increases with the severity of abuse, even lower level forms of violence (e.g. pushing and shoving) increase risk (Tajima, 2002).

More recently there has been growing recognition that inter-parental violence, even if a child is not the direct target, may have profound consequences for children's psychological health (Evans, Davies, & DiLillo, 2008; Kitzmann, et al., 2003; Wolfe, et al., 2003). Several meta-analyses have shown a significant association, independent of other risk factors, between children's exposure to inter-parental violence and adjustment problems (Kitzmann, et al, 2003; Wolfe et al, 2003) including internalising symptoms, externalising problems, as well as poor peer relationships, low academic attainment and engagement in risky health behaviours. There is also some evidence to suggest that children exposed to violence may show higher rates of physical ill health, and poor quality sleep (El-sheikh et al., 2006; El-Sheikh, 2008) and have unmet health needs (Webb et al, 2009).

Further, exposure to DVA in childhood is associated with negative outcomes in adulthood such as mental health problems, conduct disorder and criminal behaviour as well as DVA victimisation and perpetration. (Fergusson & Horwood, 1998; Russel, Springe & Greenfield, 2010). A prospective longitudinal study of 213 individuals followed from adolescence into adulthood showed that exposure to physical and verbal aggression at age 12-14 were each positively associated with perpetration of abuse and victimisation at age 32 (Cui et al, 2010), even after taking into account the

effects of maltreatment by a parent in childhood. These findings are consistent with larger longitudinal studies using retrospective accounts of DVA exposure (Ehrensaft et al, 2003; Whitfield, Anda, Dube & Felitti, 2003).

Surveys documenting the number of children exposed to domestic abuse and evidence of the impact that exposure may have across the lifespan makes clear the need for effective interventions to prevent and ameliorate negative outcomes in childhood and beyond. However, not all children exposed to DVA exhibit problems during childhood, and most do not experience of perpetrate violence in their adult relationships (Grych, Jouriles, Swank, McDonald & Norwood, 2000; Heyman & Smith-Slep, 2002), Therefore, there is need to appropriately tailor the type and amount of intervention that children receive, based on the risk of harm and the type of problem with which children present.

Interventions for children exposed to DVA: International evidence and UK practice

The most effective way of preventing the negative consequences for children associated with DVA is by preventing or ending the violence itself (MacMillan et al., 2009). Whilst systematic reviews highlight the lack of evidence for effective interventions to prevent the initiation of intimate-partner violence and therefore to prevent children's exposure to it (e.g. Wathan & MacMillan, 2003), there is some evidence that community based advocacy is a promising strategy for reducing frequency and severity of DVA (especially physical violence) once it has taken place (Ramsay et al, 2009). However, few studies examining the effectiveness of advocacy quantify the effects of reduced DVA on children's health and well-being, and those which do show modest or no difference in the adjustment of children whose mothers received intervention vs. treatment as usual (McFarlane, Groff, O'Brien & Watson, 2005; Sullivan, Bybee & Allen, 2002).

In addition to these adult focussed strategies, a range of child focussed interventions exist which explicitly aim to prevent or ameliorate negative consequences for children exposed to DVA. Three models of intervention dominate the field: (i) parenting programmes, (ii) interventions targeting parents and children, (iii) child psychotherapy. Programmes have proliferated over the past 20 years, but studies to evaluate their effectiveness have not kept pace. A handful of good quality studies identified in our previous reviews indicate promising practice. (Feder et al, 2009; MacMillan et al, 2009; Stanley, 2011).

Parenting programmes target the parenting practices of the non abusing parent as a mechanism for reducing children's externalising problems. This approach is founded on the model of coercive family process which draws on social learning and socialisation perspectives to explain how, in the context of DVA, the family environment as a whole may become characterised by hostile and coercive interactions (Patterson, 1982). A randomised controlled trial to assess the effectiveness of parent skills training for mothers of exposed children presenting with clinical level behaviour problems demonstrated that at 16 month follow up, there were significantly greater reductions in mothers' negative parenting practices and mental health symptoms as well as children's conduct problems in the intervention arm relative to a control group receiving monthly telephone support and signposting to community services Jouriles, et al 2009). Similarly, evaluation of 'errorless compliance training', aiming to increase children's compliance through the use of non-coercive parenting techniques, demonstrated reductions in maternal reports of children's internalising and externalising symptoms, increased child compliance and reductions in maternal parenting stress, although this study did not utilise an experimental design (Ducharme, Atkinson & Poulton, 2000). Parenting programmes have been widely implemented in the UK and include children and families experiencing domestic violence among their target groups, although to date there has been limited investigation of their efficacy in improving outcomes for this group specifically. A recent innovation in the UK is programmes for perpetrators of DVA that focus on their fathering (Scott &Crooks 2007) and in our proposed review we will consider what evidence is available on the impact of such programmes.

Intervention programmes targeting both parents and children offer a second approach that aims to enhance the quality of the attachment relationship between the non abusing parent and child by promoting regulation of affect

and adaptive, age appropriate interactions between parents and children. Lieberman, Van Horn & Ghosh-Ippen (2006) conducted a randomised controlled trial to assess the effectiveness of child–parent psychotherapy in mother–preschooler dyads where the mother was a victim of intimate-partner violence and had confirmed that the child had exposure. The child–parent psychotherapy group showed a significant improvement over time compared with controls, including fewer children meeting the diagnostic criteria for traumatic stress disorder. These effects persisted at 6 months' follow-up. Graham Bermann, Lynch, Banyard, DeVoe and Halabu (2007) assessed the efficacy of the Kids Club, a 10 week programme for parents and children combining a parenting intervention and children's support group; in contrast to the psychotherapy programme described above, intervention was delivered to parents and children independently, rather than conjointly. Evaluation demonstrated a reduction in children's clinical level internalising and externalising symptoms, as well as rates of PTSD, relative to waiting list controls, and those receiving the child-only intervention, with some evidence of sustained benefits to children over the medium term.

There has been considerable enthusiasm in the UK for the implementation of programmes comprising simultaneous intervention for parents and children although as yet, there is no evidence on the effectiveness of such interventions on child outcomes in the UK context. Process evaluations highlight the acceptability of this type of intervention for both mothers and children (e.g. Sharp, Jones, Netto & Humphreys, 2011).The *Stronger Families* service was established in the London Borough of Sutton in 2004 and has since been replicated in other London boroughs and in Nottingham. Scottish Women's Aid is currently working with the Scottish Government to implement the Cedar Project which utilises the same model in three local authorities in Scotland. The DART programme, developed by the NSPCC from a model piloted in UK refuges (Humphreys, Thiara, Mullender & Skamballis, 2006), includes both separate and joint sessions for mothers and children. The programme has been implemented in five UK cities and is currently being evaluated.

Child psychotherapy includes Individual trauma focussed cognitive behavioural therapy (TF-CBT), developed to ameliorate children's trauma symptoms in the wake of sexual abuse and is also shown to be effective for exposed children exhibiting PTSD symptoms relating to their exposure to DVA. A recent randomised controlled trial showed that children accessing specialist domestic violence services with their mothers and who received 8 sessions of TF-CBT exhibited significantly greater improvements in PTSD symptoms and anxiety compared to children receiving child centered therapy, a less structured and more child directed intervention offered as usual care by specialist DVA services in the US (Cohen, Mannarino & Iyengar, 2011).

Refuge services for children typically include play and leisure opportunities and interventions aimed at maintaining children's links with school, health services and local communities, rather than individualised psychotherapy as described above. In England and Wales, psychotherapeutic interventions with children experiencing DVA are mostly delivered by Child and Adolescent Mental Health Services (CAMHS). Health, education and social care practitioners regularly refer children exposed to DVA to this service (Radford et al 2011). The CAMHS mapping exercise for 2008-09 (Barnes et al 2010) reported that 320 of the services responding described themselves as providing targeted services for children experiencing DVA. The government's response (Department for Children, Schools and Families and Department of Health 2010) to the Independent Review of CAMHS identified children experiencing domestic violence as a vulnerable group at whom services should be targeted. However, in a recent review (Stanley 2011), we uncovered little published evidence relating to CAMHS interventions in this field. Our proposed evidence synthesis offers the opportunity to identify such literature.

Although we have highlighted promising programmes for exposed children, globally there is a paucity of evidence about their effectiveness, even in the short term. In the UK there has been little evaluative research on these programmes and even less published in the peer reviewed literature. Current evidence about effectiveness of interventions for children exposed to domestic violence is undermined by a range of methodological shortcomings (Graham Bermann & Hughes, 2003), although the handful of good quality studies cited above indicate potential

effectiveness of the interventions. Nevertheless, most of these studies are north American, with no large-scale or controlled studies testing the validity of these findings in the UK context. Evaluation of UK programmes has focussed more heavily on the process of service delivery and the acceptability of programmes to service users. Whilst these are important research questions, the lack of robust outcome focussed evaluation leaves significant gaps in our understanding of what works in a UK context to reduce the risk of adverse outcomes following exposure to DVA.

2.2. Rationale for current study

There is strong epidemiological evidence that exposure to DVA is damaging to children in the short and longer term. A range of interventions have been developed to improve outcomes for children. The rationale for the proposed review and evidence synthesis is to clarify current evidence for the effectiveness and cost-effectiveness of those interventions. We will then engage service providers and users to consider the evidence and bring their own experiences to bear, informing the next phase of experimental research in this field and the commissioning of new studies to strengthen the evidence base, particularly in the context of UK health and social care.

2.3. Risks and benefits

The reviews and evidence synthesis are secondary research and therefore does not have research participants. In the context of stakeholder consultation, we are consulting women and young people with potential past or current exposure to DVA about our findings. Disclosure of abuse as part of this consultation process is a potential risk, which will be managed through guidance on confidentiality to the stakeholder groups, and access to support from the agencies hosting the groups: Cardiff Women's Aid and Bristol Next Link for the women and the NSPCC for the young people.

3. Research objectives

The aim of our project is to produce recommendations for future research evaluating interventions for children exposed to domestic violence and abuse (DVA).

Objective 1: Conduct systematic reviews of existing studies evaluating the acceptability and short term benefits of interventions targeted at children exposed to domestic violence.

Objective 2: Estimate the potential medium to longer term clinical benefits of interventions tested in randomised controlled trials.

Objective 3: Estimate the cost-effectiveness of selected interventions

Objective 4: Calculate the expected value of partial perfect information to help identify research priorities for future trials of these interventions

Objective 5: Formulate recommendations for further research in consultation with survivors of DVA, young people and service providers.

4. Research design:

4.1 Systematic review of randomised and controlled studies evaluating interventions for children exposed to domestic violence

Citation

Theresa Moore, Emma Howarth, Gene Feder. Interventions for children exposed to domestic violence: systematic review. PROSPERO 2013:CRD42013004348 Available

from http://www.crd.york.ac.uk/PROSPERO/display_record.asp?ID=CRD42013004348

Review question(s)

To assess the effects of interventions targeted at children exposed to domestic violence.

Searches

We will use MeSH and text word terms for <Children and adolescents> combined with MeSH and text word terms for <domestic violence>. These will then be combined with text word terms for <exposure of children to domestic violence or witnessing or growing up with domestic violence>.

We will search for literature in MEDLINE, CINAHL, PsycINFO, EMBASE, Cochrane Central Database of Controlled Trials (CENTRAL), Applied Social Science and Abstracts Index (ASSIA), International Bibliography of the Social Sciences (IBSS), Social Services Abstracts, Social Care Online , Sociological Abstracts, Social Science Citation Index, WHO trials portal and clinical trials.gov, Science Citation Index, ERIC - British Education Index.

All databases will be searched from inception.

We will not use a filter to limit the search by study methodology. We will not use date or language limits. We will exclude letters and editorials and records for which there is no abstract. We will exclude conference proceedings for which there are no full text papers.

Link to search strategy

http://www.crd.york.ac.uk/PROSPEROFILES/4348_STRATEGY_20130629.pdf

Types of study to be included

RCTs and CCTs controlled studies. Parallel group before and after studies in which one of the groups is a control.

Condition or domain being studied

The population of interest are children exposed to domestic violence, outcomes of interest are psychological (depression, anxiety, PTSD) and behavioural and educational.

Participants/ population

Children (< 18 years) exposed to DVA. If the population is mixed, including children not exposed to DVA, the study will only be included if outcomes for exposed children are reported. Parents or caregivers of children exposed to DVA.

Intervention(s), exposure(s)

Any programme or intervention with the explicit aim of improving behavioural, psychological or mental health outcomes for children exposed to DVA. Interventions may include those delivered to parents only, children only or both parties provided that child-focussed outcomes are reported and that the intervention has a child focus. Any duration of intervention will be included. Any setting will be considered.

Exclusion criteria: Studies which do not have a control.

Comparator(s)/ control

Control groups and other interventions.

Context

All settings considered.

Outcome(s)

Primary outcomes

1. Child behaviour:

a. Child behaviour disorders e.g. Child's oppositional defiant disorder;

b. Child behaviour symptoms e.g. (e.g. Child Behaviour Check List).

2. Mental Health (Depression, Anxiety, Self Harm, PTSD).

Secondary outcomes

School attainment.

School attendance.

Competence(e.g. self perception profile for children).

Self esteem.

Abuse (in child or adolescents own relationships).

Children's happiness/ Social relationships (e.g. Gesten?s Health Resources Inventory).

Child quality of life (e.g. KINDL, PEDSQL, KIDSCREEN-52, Child health and illness profile - child edition (CHIP-CE), Pediatric quality of life inventory).

Intervention of social services (children taken into care, child protection services, care conferences etc).

Data extraction, (selection and coding)

Two reviewers (EH and TM) will independently screen the titles and abstracts of all references identified by the search strategy. Clearly irrelevant references will excluded. In order to be selected, abstracts must clearly identify an appropriate population and intervention and report one or more of the outcomes described above.

Full-text reports of all potentially relevant trials will be obtained and assessed independently for eligibility, based on the defined inclusion criteria, by two reviewers independently (EH or TM).

An "eligibility form" will be developed from the inclusion and exclusion criteria and used for screening titles and abstracts and full text papers. Cases of disagreement will be resolved by a third reviewer (GF).

Risk of bias (quality) assessment

Risk of bias will be assessed by examining the quality of the random sequence generation and allocation concealment, description of drop-outs and withdrawals (including analysis by intention-to-treat), blinding (participants, personnel and outcome assessment) and selective outcome reporting (Higgins 2011). If there are specific aspects of an intervention that may give rise to bias, we may add that item to our risk of bias domains. The risk of bias in included studies will be assessed independently by two reviewers (EH TM) with recourse to a third (GF) to resolve disagreements.

Strategy for data synthesis

We will develop a system to categorise studies so that meaningful narrative syntheses and meta-analyses, if data are available, can be constructed to answer the following questions: 1) What is the direction of treatment effect, 2) What is the size of the effect, 3) Is the effect common across all studies, 4) What is the strength of evidence for the effect. Meta-analyses are appropriate if it is possible to consider that the data in the different studies could be from the same population. The use of meta-analyses to describe the size of effect may not be meaningful if the implementations are so diverse that an effect estimate cannot be interpreted in any specific context (Deeks et al., 2011). Therefore care will be taken to draw up a categorization of studies for which meaningful synthesis of evidence - either narrative or meta-analysis - can be drawn.

These are likely to be based on the paradigms of treatment such as psychotherapy, play-based interventions, parenting interventions, peer support interventions. Within these broad domains secondary groupings would be appropriate for subgroup analyses such as to whom the intervention delivered child, parent, parent and child, age of child, and setting (school, refuge, healthcare setting) and variations in intervention (e.g. type of psychotherapy).

The decision of the final taxonomy/hierarchy for synthesis will be undertaken by the academic team once the studies have been identified. We have decided upon this post-hoc method of categorising studies because we are unclear what range of interventions, setting and participants we will identify and it is important to consider them all as we develop a taxonomy.

If there are sufficient data (e.g. data on the same outcome from at least three studies of the same design, intervention and population) we will consider pooling the data in a meta-analysis to allow quantification of the direction of treatment effect and consistency of treatment effect. In those cases where suitable numerical data are not available for pooling, or if pooling considered inappropriate we will look at treatment effect direction and consistency by providing a systematic summary of the evidence narratively using a structured summary of the evidence (Tables and descriptive text) from the studies.

Measures of treatment effect:

Data will be processed in accordance with the Cochrane Handbook for Systematic Reviews of Interventions (Higgins and Green, 2011).

Dichotomous data

Numbers in each treatment group experiencing the event will be extracted, together with the total number in each group for whom data on the outcome are available. Risk ratios will be calculated and a random effects model used. Mantel-Haenszel method as featured in RevMan.

Continuous data

- Mean and standard deviation will be extracted for each treatment group for each time point. If data are reported as a change from baseline, these will be extracted instead.
- For studies with more than one treatment arm that only report the mean difference between arms, these data will be extracted.
- Where data are not reported as a mean and standard deviation (e.g. median and inter-quartile range used) we will extract these data instead.

For continuous outcomes net changes will be compared (i.e. intervention group minus control group differences). For outcomes which have been measured using the same scales we will use a weighted mean difference (WMD) and 95% CIs calculated for

each study. If the same outcome has been measured using many different scales we will calculate Standardised Mean Difference (SMD) using the Inverse variance method as described in RevMan.

Analysis of subgroups or subsets

We will only consider a sensitivity analysis if we have a suitable number of studies. In such a case we will assess the effect of risk of bias on treatment effects by removing all those studies that are at high risk of bias.

We will only consider a subgroup analysis if we have a suitable number of studies. In such a case we will examine treatment effect differently for: gender, characteristics of abuse, age, whether abuse is historic or ongoing.

Dissemination plans

Outputs will include reports to funders and relevant agencies.

4.3 Estimating the cost-effectiveness of interventions for children exposed to domestic violence

In the course of phase 1 we will search for any economic evaluation of interventions for children exposed to domestic violence. From our knowledge of the literature, we think it is unlikely that we will find any. Therefore, the 3rd phase of this project will aim to construct a cost-effectiveness model of at least one intervention. Choice of the intervention will be informed by the systematic reviews of short term effectiveness of interventions and the extrapolation of childhood to adult benefits, in particular the potential effect on domestic violence perpetration or victimisation, as this is the key outcome specified in this research call.

The cost-effectiveness model will have three components: (i) short term outcomes in childhood; (ii) extrapolation to adult states; (iii) a Markov model to describe the long-term progression and consequences of the adult states.

4.3.1 Attributing costs

Data requirements fall into the following categories: intervention costs, cost and health-related outcomes associated with each childhood and adult state, initial state probabilities, and transition probabilities. Primary studies in this (and indeed most) fields generally do not report the costs of the interventions they are evaluating. In the context of the research call, we are particularly interested in estimating the potential cost effectiveness of the interventions if delivered in the UK in health, social care or 3rd sector settings. Therefore, in the course of identifying evaluations of UK programmes in the grey literature, we shall request costs of the intervention from service providers. We are aware that this may not be straightforward, as some providers may consider this information commercially sensitive. If this is a concern, we will endeavour to establish safeguards via anonymisation so that the information can be released. Consequential costs of the intervention will require identifying health, social care and educational costs of behavioural and mental health disorders in childhood and adolescence, as well as costs of domestic violence in adulthood. The projected reduction in those costs will be calculated using the actual and projected effect size(s) of the trials. The societal domestic violence costs have been estimated and recently updated by Walby (2009) and were the basis of those parameters in our cost-effectiveness models of domestic violence interventions for women in primary care. (Norman et al 2010, Devine et al in press)

It is uncertain whether we can attribute utilities to all the states of the model in relation to the range of outcomes. Utilities can be estimated for some child and adolescent outcomes such as PTSD(NICE, 2005), behaviour disturbance, truancy, school exclusion sociability, and academic attainment (e.g. Cummings et al, 2007) but this will be more problematic for long term adult outcomes.

4.3.2 Estimating initial state and transition probabilities

We will draw on results reported from the primary intervention studies we have reviewed, using data from the prospective longitudinal studies we used in phase 2 to extrapolate from the trials. We may have to recourse to retrospective studies to populate some of the transition probabilities (Heyman & Smith-Slep, 2002; Whitfield et al, 2003). We will integrate the trial and epidemiological data and, if there is sufficient evidence, use Bayesian multi-parameter evidence synthesis to estimate the transition probabilities jointly (Welton & Ades, 2005; Price, Welton & Ades, 2011) These methods capture correlations between parameters; allowing uncertainties in the current

evidence to be correctly propagated through the cost-effectiveness model that underpins the Expected Value of Information analyses (EVI).

4.3.3 Economic modelling

We will build a Markov model to estimate lifetime quality-adjusted life-years (QALYs) and costs from a UK national health service/social/3rd sector care and from a societal perspective for any intervention for which there is some trial evidence for effectiveness. Markov modelling is a technique for estimating the costs and outcomes in a hypothetical cohort of children exposed to domestic violence. To construct the Markov model, we will define a set of mutually exclusive and exhaustive states experienced by people in relation to childhood DVA exposure and adult victimisation or perpetration, described by a matrix of transition probabilities reflecting the likelihood of moving from each state to every other state within each discrete time period. We will use a 20 year time horizon and future costs and outcomes will discounted at 3.5% (The Greenbook, 2003). We will take a probabilistic approach by specifying appropriate distributions for each variable to reflect the uncertainty in the model parameters based on values from the literature. Where no data is available to inform model parameters, we will perform sensitivity analysis to a range of assumed values. We will use Monte Carlo simulation to estimate the long-term costs and benefits for UK-representative children with and without the intervention and use the differences between the two simulations to calculate the incremental costs and outcomes associated with the intervention. We will report our findings in terms of costs, QALYs, incremental costs per QALY gained, expected net-benefit, and the probability that the intervention is cost-effective across a range of willingness-to-pay per QALY. If it proves impossible to derive or credibly assume utilities for the different states of the model, we will confine our analysis to a more conservative cost-benefit rather than cost-utility model, reporting results as cost per change in outcome (e.g. cost per reduction in time spent in DVA state)

4.4 Calculating Expected Value of Information (EVI)

An EVI analysis can tell us whether it is sensible to collect more data before deciding whether to adopt an intervention, and also which data are needed. For example, it may be that more data is needed on the behavioural outcomes and future domestic violence victimisation/perpetration consequences of interventions offered to children exposed to DV, or it may be that more data is needed on methods of identifying the highest risk children so that treatment can be offered (e.g. Rivett & Kelly, 2006).

The cost-effectiveness model will be the basis for an expected value of partial perfect information (EVPPI) analysis to assess the need for further research (Felli & Hazen, 1998; Welton, Ades, Caldwell & Peters, 2008). While the cost-effectiveness analyses will identify the optimal intervention as the one that produces the greatest net benefit, *on average*, based on current evidence, there may be considerable uncertainty in a decision to adopt that intervention (Claxton & Posnett, 1996). EVPPI identifies which subsets of parameters are responsible for uncertainty in the optimal policy decision. The EVPPI analysis will directly inform recommendations on the need for further research, for example whether specific interventions should be further tested in a randomised controlled trial, which outcomes should be measured, and/or if other research designs (e.g. longitudinal studies) may be value. If appropriate, an expected value of sample information analysis will be performed to identify the optimal design of further research (Claxton & Posnett, 1996). It is possible, but unlikely, that some of the interventions should be implemented without further research. If a Bayesian evidence synthesis is possible, then Markov Chain Monte Carlo methods will be used, otherwise Monte Carlo simulation will be used to evaluate EVPPI. Because we expect the available evidence to be scarce, we may have to make some assumptions as to relationships between reported outcomes, and relationships between different types/classes of interventions. We will perform sensitivity analysis to these assumptions.

4.5 Systematic review of qualitative studies

Citation

Theresa Moore, Emma Howarth, Gene Feder, Ali Heawood. Children's experiences of interventions following their exposure to domestic violence and the experiences of parents and stakeholders: a protocol for a qualitative meta-synthesis. PROSPERO 2013:CRD42013004349 Available fromhttp://www.crd.york.ac.uk/PROSPERO/display_record.asp?ID=CRD42013004349

Review question(s)

To explore parent, child and stakeholder perceptions of child focussed intervention programmes aimed at reducing the risk of negative child outcomes (Mental health outcomes such as PTSD, anxiety and depression: And behavioural outcomes e.g. child conduct disorder) following exposure to domestic abuse, to highlight which programmes are perceived by parents and children as acceptable and effective, as well as highlighting key factors that are perceived to be of value.
To identify the types of child focussed support/intervention parents and children perceive as beneficial following children's exposure to domestic abuse
To highlight key factors within and across programmes which are perceived to be of value to parents and children
To identify the mechanisms (as perceived by parents and children) by which interventions affect outcomes (Child behaviour and child mental health outcomes).
To identify barriers and facilitators to the uptake and engagement with different types of child focussed intervention programmes

Searches

We will use MeSH and text word terms for <Children and adolescents> combined with MeSH and text word terms for <domestic violence>. These will then be combined with text word terms for <exposure of children to domestic violence or witnessing or growing up with domestic violence>.
We will search for literature in MEDLINE, CINAHL, PsycINFO, EMBASE, Cochrane Central Register of Controlled Trials (CENTRAL), Applied Social Science and Abstracts Index (ASSIA), International Bibliography of the Social Sciences (IBSS), Social Services Abstracts, Social Care Online , Sociological Abstracts, Social Science Citation Index, WHO trials portal and clinical trials.gov, Science Citation Index, ERIC - British Education Index.
All databases will be searched from inception.

Link to search strategy

http://www.crd.york.ac.uk/PROSPEROFILES/4349_STRATEGY_20130629.pdf

Types of study to be included

Empirical qualitative studies (stand alone or discrete components of mixed method studies) employing qualitative methods for data collection and analysis.
Studies of individuals exposed to domestic abuse or those involved in the delivery of interventions for exposed groups.
Studies focussing on children's, parents' or stakeholders' views of the types of interventions/support that would be welcomed following experience of domestic abuse or studies focussed on experiences of receiving particular interventions/support. Types of studies may include interviews (one on one interviews, focus groups), observation, document analysis
We will make final decisions about which kinds of studies to synthesise on the basis of the results of a process of systematic description of the studies based on whose views are being sought in the paper, context (e.g. DV, child protection concerns) and whether the review focuses on children. A second stage of screening may need to be undertaken if a large number of studies are found that meet the inclusion criteria listed above.

Condition or domain being studied

We are looking into the barriers and facilitators of interventions aimed at improving the outcomes of children exposed to domestic violence. These children may go on to develop mental health problems (PTSD, anxiety and depression) and behavioural problems. We are asking the children and mothers who care for them what they feel works for them and what helps and hinders them in engaging in interventions that are aimed at reducing mental health and behavioural outcomes.

Participants/ population

Inclusion:
Children who have been exposed to domestic abuse.
Parents of children exposed to domestic abuse who themselves have experienced abuse.
Stakeholders involved in developing and/or delivering interventions to children exposed to domestic abuse.

Intervention(s), exposure(s)

Interventions:

Intervention programmes delivered to children and/or parents who have experienced/been exposed ti domestic abuse, which have the explicit aim of improving child outcomes (either directly or indirectly via changes to the child's developmental context). Interventions targeted at parents without the express aim of improving outcomes for children will not be included in this review. Where child exposure to abuse is confirmed by the presence of abuse against a parent. Children are considered exposed even if child and/or parent denies exposure (i.e. the children were unaware of abuse taking place).
Where the intervention has been delivered to parents and/or children experiencing multiple adverse experiences (e.g. direct maltreatment, exposure to parental mental health problems) that may or may not include domestic abuse, the views of parents/children experiencing domestic abuse must be reported separately from the larger sample
Phenomena of interest:
Parent, child or stakeholder views of what interventions would be beneficial following exposure.
Parent, child or stakeholder perceptions of the effectiveness of specific intervention programmes upon receipt of the programme.
Parent, child or stakeholder perceptions of barriers and facilitators to uptake and compliance with programmes.

Comparator(s)/ control

Not applicable.

Context

Any setting considered.

Outcome(s)

Primary outcomes

Phenomena of interest:
Parent, child or stakeholder views of what interventions would be beneficial following exposure.
Parent, child or stakeholder perceptions of the effectiveness of specific intervention programmes upon receipt of the programme.
Parent, child or stakeholder perceptions of barriers and facilitators to uptake and compliance with programmes aimed at improving the child's mental health outcomes (e.g. PTSD, depression, anxiety) and behavioural outcomes.

Secondary outcomes

None.

Data extraction, (selection and coding)

Two reviewers (TM, EH) will independently asses titles and abstracts of identified records to determine eligibility using pre-specified inclusion and exclusion criteria. Those titles that are irrelevant will be discarded. Full text articles of potentially relevant references (as deemed by at least one reviewer) will be retrieved.
The retrieved full text articles will be assessed independently by two reviewers (TM, EH) based on pre-stated inclusion criteria. Following work by Malpass et al 2009 and Campbell et al 2003, for each study we will also apply two initial screening criteria to determine 'Is this qualitative research?' and 'Is this paper relevant to the meta-ethnography?' Using an iterative approach papers will be read and re-read to determine if they contain data useful to the aims of this review. Disagreements between reviewers will be resolved by discussion. If reviewers are unable to resolve disagreements they will seek the opinion of the reviews' principle investigator (GF).
We will include studies if they contain some data or quotations from child, parent or stakeholder that could lead to a development or a comment on interventions and implementation of interventions for children exposed to domestic violence
Data extraction and management:
Two reviewers (TM, EH) will independently extract study data using a standardised data extraction form. Any differences in data extraction between reviews will be resolved through discussion. We will extract two types of data:
1. the understandings and any theories described directly by the children, parents or stakeholders about their experiences that are relevant to interventions for children exposed to domestic violence as reported in the study (1st order constructs).
2. interpretations or conclusions of the papers' authors (2nd order constructs) representing their theorization across the participants in their study.

Risk of bias (quality) assessment

Feder et al (2006) found that a system of weighting the CASP scoring and then ranking the studies by score was relatively insensitive to which of the four weighting systems used. Based on this we will simply score the studies using the 10 point CASP and rank according to score

Strategy for data synthesis

We will synthesise studies using the approach described by Feder et al (2006) as meta-analysis. This is based on a meta-ethnography/meta-analysis method of Noblit and Hare (1988) and used in several systematic reviews with the aim of deriving new interpretations and conceptual insights (Malpass et al., 2009, Atkins et al., 2008, Britten et al., 2002, Noblit and Hare, 1988). In order to active this we will construct first, second and third order constructs.
First order constructs: Parents', children's or stakeholders' views of what type of support would be useful in the wake of experiencing domestic abuse and accounts of receiving or delivering particular types of interventions.
Second order constructs: Authors' views and interpretations of parents', children's and stakeholders' views on desirable support and experiences of receiving interventions.
Third order constructs: The views and interpretations of the synthesis team.

Analysis of subgroups or subsets

None planned.

Dissemination plans

Outputs will include reports to funders and relevant agencies.

4.6 Consultation with stakeholders

The study will benefit from the involvement of three groups of stakeholders (experts in the field, young people using DVA services and parents of children exposed to DVA) whose views and expertise will inform the reviewing process and the interpretation of the review findings. This will allow the review to take account of the current UK service context and to ensure that recommendations reflect the experience of children and their parents. These groups have commented on and contributed to the development of this proposal.

The NSPCC (National Society for Prevention of Cruelty to Children) is one of the largest children's charities in the UK, campaigning at national and local levels to improve the lives of vulnerable children. It provides a range of services across the UK to children and families, including interventions for children exposed to domestic violence and its ChildLine service is heavily used by children experiencing domestic violence in the home. The NSPCC has commissioned and carried out an extensive programme of research examining the impact of domestic violence on children and it has academic centres in the four countries of the UK. The organisation will use its well developed links with researchers, practitioners, policy makers to assemble and manage the consultation process with a group of national experts able to describe current service provision and to comment on the review findings. This group will also meet twice in the course of the study, once at the outset and towards the end to comment on findings.

The review will also be informed by the views of young people who have themselves experienced domestic violence. A group of young people aged 14 years and over with previous experience of being consulted on domestic violence will be convened by Hyndburn and Ribble Valley Domestic Violence Team (HARV) in East Lancashire which provides a range of support services for children and young people experiencing domestic violence. This group of 6-10 young people will be recruited from HARV's peer educators who advise the organisation and provide youth-led support to young people over 12. This group have been involved with the project for over two years and are no longer living with domestic violence but continue to require support for behaviour and additional needs associated with their experiences of domestic violence. These young people will draw on their own experience of using domestic violence services to inform the design and analysis of the review. This group will be convened twice in the course of the study, first to guide the review process, and second to comment on emergent findings.

Age appropriate information about the study will be provided for the young peer educators and informed consent procedures will used. HARV staff will be available to address any distress which might arise as a consequence of participating in this group but the likelihood of any new disclosures occurring in the context of this consultation group is low as these young people will already be in receipt of a supportive service addressing their experience of domestic violence. Ethical approval will be sought from the University of Bristol's Ethics Committee in relation to this aspect of the study.

Adult survivors of domestic violence who are parents and able to comment on their children's needs and experiences of services will also contribute to the review. Hosted by Cardiff Women's Aid and Bristol Next Link, these groups were initially established to support PROVIDE (http://www.provide.ac.uk/), an NIHR applied research programme. The groups, each numbering 6-10 women, will inform the detailed design of the synthesis, comment on the findings of the review and aid us in developing recommendations and a dissemination strategy. These groups will bring their previous experience of consultation and their established relationships with the research team to the task of interpreting evidence on the relevance, availability and accessibility of interventions for children and young people. At the outset of their involvement in the consultation process, women will be informed that disclosure of any current risks to their children's safety will be shared with the host agency, which will be responsible for reporting new information to the relevant agencies.

4.7 Mapping of UK models of targeted intervention for children exposed to DVA

The aim of this study component is to provide an overview of the models of targeted intervention delivered in a UK setting. This will provide a lens through which to view findings derived from international evidence and critically will provide insight into the feasibility of trialling and potentially rolling out particular models. Understanding what is already happening will be particularly important if we identify a number of best bet models and need to make decisions about which model to prioritise for further evaluation.

We will focus the search for grey (unpublished literature) on UK literature only. We will browse the websites of relevant UK government departments and charities, write to key researchers for their knowledge of research in this topic area and consult with our expert stakeholder group described above to locate programme descriptions and where possible evaluation reports pertaining to specific programmes. We will extract information about the nature of the intervention and population to which it is delivered and where possible details of evaluation methodology and key findings.

4.8 Final formulation of research recommendations and dissemination of findings

The main aim of this evidence synthesis is to inform future research on interventions to improve outcomes for children exposed to domestic violence, including risk of domestic violence perpetration and victimisation. The main output will be recommendations and a provisional research specification on the most appropriate intervention (or interventions) that could be trialled. We will contextualise the results of the review of evaluations and the EVI model with the views of ours stakeholder groups to ensure that the research recommendations fit with their priorities. The final list of research recommendations and priorities will be based on a combination of the review and EVI output and stakeholder views. We will include a narrative on the concordances and differences between researcher and stakeholder perspectives. We will present those research recommendations in the final report to the PHR and present them at a domestic violence research conference. Another output is the review of trials and other evaluative studies of interventions for children exposed to domestic violence, as well as the cost-effectiveness and EVI models. We will present these to relevant conferences and submit our findings for publication in peer-reviewed journals.

5. Study population

As the reviews and evidence synthesis are based on secondary data, we are not specifying the study populations in any detail, other than the absolute inclusion criterion of children exposed to DVA. If study populations include children not exposed to DVA, then outcomes need to be reported separately for exposed children to be included in our review. There will be no geographical or language restrictions.

6. Socioeconomic position and inequalities

Although socioeconomic status (SES), ethnicity and gender of the child is a potential moderator of the effect of exposure on domestic violence on childhood and adult outcomes (Erensaft et al., 2003), and the majority of

epidemiological DVA impact studies measure a proxy for SES, most do not incorporate this into their analysis of risk. By the same token, although trials of interventions may characterise their sample by SES, ethnicity, age and gender (e.g. Lieberman et al., 2005), these characteristics are not reported by arm of the trial. In our review of trials and other evaluations we will incorporate any demographic data from the primary studies to assess the applicability of the interventions to specific populations. We acknowledge the gender inequalities underpinning DVA. We will highlight any evidence relating to the experience of particular Black and Minority Ethnic groups of children and young people who often encounter particular barriers to accessing services. In articulating recommendations for future trials we will endeavour to propose interventions that are appropriate for a range of socioeconomic strata and diverse populations in the UK and, in relation to parenting interventions will include those focused on fathers as well as mothers.

7. Planned interventions:

The intervention or interventions that we will propose for further evaluation will be based on the findings of our reviews and evidence synthesis including the views of stakeholders.

8. Proposed outcome measures:

We will include interventions that are targeted at children and/or parents, although we will only consider studies that have directly measured child outcomes. We will widen the brief beyond consideration of adult perpetration and victimisation to examine the impact of interventions on behavioural functioning (e.g. aggression) and psychological (e.g. depression) symptoms in the short to medium term, as well as children's attitudes and attributional processes. Reduction of childhood distress is important in and of itself. Further, studies cited above showing the role of these outcomes in mediating the association between exposure in childhood and perpetration and/or victimisation in adulthood, indicates that these outcomes are appropriate targets for early intervention to reduce the risk of adult perpetration or victimisation.

The specific outcomes to be considered are as follows:

(i) controlled studies and programme reports: child behaviour; (e.g. Child Behaviour Check List); recurrence of abuse (e.g. Composite Abuse Scale); Child's oppositional defiant disorder and conduct disorder symptoms (e.g. DSM-IV diagnostic criteria); children's happiness/social relationships (e.g. Gesten's Health Resources Inventory); Children's traumatic stress disorder (e.g. DM-IV diagnostic criteria); Psychiatric symptoms (e.g. Symptoms Checklist-90 Revised for >12 year olds), Child's self competence (e.g. self perception profile for children)

(ii) epidemiological studies linking child to adult outcomes: experience and perpetration of DVA, educational attainment, employment status, psychiatric symptoms

(iii) qualitative studies: expectations and experiences of programme providers and of children, young people, parents and programme providers.

9. Assessment and follow up

Not applicable to secondary research

9.1. Assessment of efficacy/effectiveness

In the context of our proposed systematic reviews, we are dependent on the assessment, recording and analysis of efficacy or effectiveness (explanatory or pragmatic trials respectively) reported by the authors. As part of our quality appraisal of primary studies and the strength of evidence we will make a judgement about the strength of the study design vis a vis assessment of efficacy/effectiveness.

9.2. Assessment of harms

We will scrutinise all primary studies and programme evaluations in our review for assessment of harms and will summarise these by type of intervention.

	2012-2013				2013-2014	
Objective	Nov- Jan	Feb - April	May-July	Aug -Oct	Nov - Jan	Feb-April
Systematic review of intervention evaluations						
Modelling medium to long term benefit						

10. Proposed sample size

Not applicable for secondary research.

11. Statistical analysis

We will initially perform a narrative synthesis of the primary studies. We will group the findings of the primary studies by type of intervention (parenting practice programmes, mother-child dyad psychotherapy, TF-CBT and any others that emerge from primary studies that we include in the review.) If papers report similar interventions and comparable outcomes, we will pool those outcomes in meta-analyses to estimate an effect size for that intervention and outcome. We will assess heterogeneity by inspecting between study variance, and reporting I^2 , and by comparing fixed and random effect models. Meta-analyses will be carried out in Stata and results presented as forest plots, together with effect-sizes and 95%confidence intervals. We anticipate that different outcomes will be reported in different trials. If it is possible to map between these outcomes (i.e. if correlations/ reliability measures are available either from internal or external data sources), then we will attempt to pool results using these mappings. Where reported we will extract results broken down according to subgroups, including age, gender, ethnicity and SES

12. Ethical arrangements

There are no ethical issues associated with the secondary research we propose. On the other hand, our stakeholders include victims who have survived DVA and young people who have witnessed domestic violence. The organisations hosting these groups (Bristol Next Link, Cardiff Women's Aid, the NSPCC and HARV respectively) have procedures in place to support these stakeholders if they are disturbed by participation in meetings. We will consult our local NHS research ethics service about whether we need to gain approval for consultation with stakeholders as part of this evidence synthesis.

13. Research Governance:

The University of Bristol will be the research sponsor.

14. Project timetable and milestones:

Estimating cost effectiveness of interventions						
Modelling expected value of information						
Stakeholder consultation						
Formulation of recommendations and report writing						

15. Expertise:

Professor Gene Feder: primary care health services researcher and trialist with extensive experience of systematic reviewing, quantitative and qualitative evidence synthesis, and economic modelling in the field of domestic violence; experience of HTA and programme grant commissioning of research. Currently chairs NIHR applied research programme sub-panel, the NICE domestic violence public health programme development group and the WHO domestic violence guidelines group. Gene will be responsible for project management and will lead on the evidence synthesis and formulation of research recommendations.

Professor Marianne Hester: leads Centre for Gender Violence Research at University of Bristol. Has extensive experience of researching domestic violence, has directed key studies on children and domestic violence exposure, was commissioned by Department of Health to develop research overview and training on this topic, experience of systematic reviewing, quantitative and qualitative evidence synthesis. Marianne will serve as a member of the project steering group with specific oversight of grey literature review and policy formulation.

Dr. Emma Howarth: doctoral research examining the role of children's appraisals of parental behaviour in mediating the longitudinal association between exposure to hostile and violent inter-parental conflict and negative child outcomes. She has undertaken a large scale evaluation of specialist DV services and is currently working on an RCT to test the effectiveness of a psychological intervention to enhance mental health outcomes for women experiencing DV. Emma will serve as a member of the project steering group with specific oversight of the review of psychological interventions.

Professor Harriet MacMillan: extensive experience as a clinician scientist (paediatrician and psychiatrist) conducting family violence research, including systematic reviews on the topic of prevention of child maltreatment and domestic violence, population-based surveys of child maltreatment as well as randomized controlled trials evaluating approaches to family violence prevention. Also directs a Canadian Institutes of Health Research (CIHR) Centre on Research Development in Gender, Mental Health and Violence across the Lifespan (PreVAiL) based on McMaster University. Harriet will serve as a member of the project steering group with specific oversight of methodological quality of primary studies and extrapolation of effects.

Professor Nicky Stanley: has managed studies on the service response to children experiencing domestic violence in England and on interventions for both children and perpetrators of domestic violence. She has conducted a range of reviews for health and social care commissioners and recently published a practitioner-focused review on children experiencing domestic violence. Nicky will serve as a member of the project steering group with specific oversight of the consultation process.

Dr. Nicky Welton: has extensive experience in methodology for multi-parameter evidence synthesis, cost-effectiveness modelling and value of information (VOI) analyses. She holds an MRC Methodology Research Fellowship to study methods for evidence synthesis and VOI, and is co-lead of the Evidence Synthesis and VOI theme of the MRC ConDuCT Hub for Trials Methodology Research. Nicky will serve as a member of the project steering group and will manage development of cost effectiveness and expected value of information modelling.

NSPCC: The organisation will use its well developed links with researchers, practitioners, policy makers to assemble and manage the consultation process with a group of national experts able to describe current service provision and to comment on the review findings. This group will also meet twice in the course of the study, once at the outset and towards the end to comment on findings.

Hyndburn and Ribble Valley Domestic Violence Team (HARV): HARV will assemble and host a group of young people from their existing group of peer educators who will inform the design and analysis of the review. This group will be convened twice in the course of the study, first to guide the review process, and second to comment on emergent findings.

Bristol Next Link and Cardiff Women's Aid: These agencies will host survivor consultation groups that will inform the detailed design of the synthesis, comment on the findings of the review and aid us in developing recommendations and a dissemination strategy. These groups will bring their previous experience of consultation and their established relationships with the research team to the task of interpreting evidence on the relevance, availability and accessibility of interventions for children and young people. The host agencies will also directly contribute to the stakeholder consultation.

16. Members of the Public

See 4.5 above describing extensive stakeholder consultation. The Next Link and Cardiff Women's Aid patient and public involvement groups were consulted at the design stage of this proposal and contributed to the decision to address outcomes additional to victimisation and perpetration in adulthood.

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