

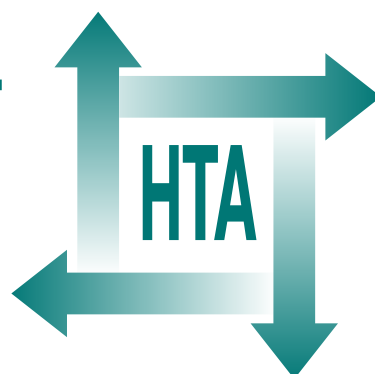
How far does screening women for domestic (partner) violence in different health-care settings meet criteria for a screening programme? Systematic reviews of nine UK National Screening Committee criteria

G Feder, J Ramsay, D Dunne,
M Rose, C Arsene, R Norman,
S Kuntze, A Spencer, L Bacchus,
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Abstract

How far does screening women for domestic (partner) violence in different health-care settings meet criteria for a screening programme? Systematic reviews of nine UK National Screening Committee criteria

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Objectives: The two objectives were: (1) to identify, appraise and synthesise research that is relevant to selected UK National Screening Committee (NSC) criteria for a screening programme in relation to partner violence; and (2) to judge whether current evidence fulfils selected NSC criteria for the implementation of screening for partner violence in health-care settings.

Data sources: Fourteen electronic databases from their respective start dates to 31 December 2006.

Review methods: The review examined seven questions linked to key NSC criteria: QI: What is the prevalence of partner violence against women and what are its health consequences? QII: Are screening tools valid and reliable? QIII: Is screening for partner violence acceptable to women? QIV: Are interventions effective once partner violence is disclosed in a health-care setting? QV: Can mortality or morbidity be reduced following screening? QVI: Is a partner violence screening programme acceptable to health professionals and the public? QVII: Is screening for partner violence cost-effective? Data were selected using different inclusion/exclusion criteria for the seven review questions. The quality of the primary studies was assessed using published appraisal tools. We grouped the findings of the surveys, diagnostic accuracy and intervention studies, and qualitatively analysed differences between outcomes in relation to study quality, setting, populations and,

where applicable, the nature of the intervention. We systematically considered each of the selected NSC criteria against the review evidence.

Results: The lifetime prevalence of partner violence against women in the general UK population ranged from 13% to 31%, and in clinical populations it was 13–35%. The 1-year prevalence ranged from 4.2% to 6% in the general population. This showed that partner violence against women is a major public health problem and potentially appropriate for screening and intervention. The HITS (Hurts, Insults, Threatens and Screams) scale was the best of several short screening tools for use in health-care settings. Most women patients considered screening acceptable (range 35–99%), although they identified potential harms. The evidence for effectiveness of advocacy is growing, and psychological interventions may be effective, but not necessarily for women identified through screening. No trials of screening programmes measured morbidity and mortality. The acceptability of partner violence screening among health-care professionals ranged from 15% to 95%, and the NSC criterion was not met. There were no cost-effectiveness studies, but a Markov model of a pilot intervention to increase identification of survivors of partner violence in general practice found that such an intervention was potentially cost-effective.

Conclusions: Currently there is insufficient evidence to

implement a screening programme for partner violence against women either in health services generally or in specific clinical settings. Recommendations for further research include: trials of system-level interventions and of psychological and advocacy interventions; trials to test theoretically explicit interventions to help understand

what works for whom, when and in what contexts; qualitative studies exploring what women want from interventions; cohort studies measuring risk factors, resilience factors and the lifetime trajectory of partner violence; and longitudinal studies measuring the long-term prognosis for survivors of partner violence.

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*Due to the extensive nature of the appendices, these are available only in electronic format. The PDF file of the full report is available at www.hta.ac.uk/1501. It will also be available on *HTA on CD* (see the inside front cover for full details).



Glossary and list of abbreviations

The primary studies included in the review come from a range of disciplines and countries. Inevitably this means that different terms are used sometimes to denote a similar organisation or service. Where this occurs we have amended these to reflect general usage in the UK.

Glossary

Accident and emergency (A&E)

department Hospital department providing emergency care.

Advocacy Advocacy generally refers to the provision of support and access to resources in the community. In the UK, advocates tend to be employed outside the health system and are not qualified professionals. In the USA, advocates may be employed in health and community settings and are often qualified social workers.

Counselling A form of psychological treatment, using a range of models. In the UK, this term is more generally used to denote formal psychological treatment provided by a qualified professional. In the USA, counselling may refer to empathetic support in the context of education and referrals (what would be termed 'advocacy' in the UK), or formal psychological treatment.

Emergency department (ED) Non-UK term for accident and emergency department (see above).

Integrative review Integrative reviews summarise past research and draw overall conclusions from the body of literature on a particular topic. They can include editorials and letters in addition to journal articles. They tend not to conduct secondary statistical analyses on identified studies.

Matched, yoked and randomised

design Design of a trial in which participants are matched (or yoked) together on specified

variables (such as age), then one member of each grouping is randomly assigned to the intervention group and the other acts as a control.

Nursing studies Studies published in nursing journals or studies whose authors have nursing credentials.

Refuge A safe house where women experiencing domestic abuse can live free from violence.

System-centred interventions Interventions that are designed to improve the response of the organisations and professionals that come into contact with abused women. The ultimate goal of these interventions is to improve outcomes for abused women, although such outcomes may not be measured directly. They include staff training interventions and the provision of more resources.

Survivors of domestic violence Women who have experienced or are currently experiencing physical, sexual or emotional abuse from a husband or partner or ex-husband or ex-partner.

Trauma centre A non-UK term for accident and emergency department (see above).

Woman-centred interventions Interventions that are targeted directly at abused women with the aim of reducing abuse or improving the health of the women. They include advocacy and psychological interventions, including all forms of therapy and counselling.

List of abbreviations

AAS	Abuse Assessment Screen	ESID	Experimental Social Innovation and Dissemination
ANOVA	analysis of variance	GP	general practitioner
ARI	Abuse Risk Inventory	GSI	Global Severity Index
ASI-A	Addiction Severity Index Alcohol composite score	HARK	Humiliation, Afraid, Rape and Kick Screening Tool
ASI-D	Addiction Severity Index Drug composite score	HCP	health-care professional
AUC	area under curve	HEVAN	Health Ending Violence and Abuse Now
BDI	Beck Depression Inventory	HITS	Hurts, Insults, Threatens and Screams scale
BRFSS	Behavioural Risk Factor Surveillance Survey	HMO	health management organisation
BSI	Brief Symptom Inventory	HSQ	Health Screening Questionnaire
CAPS	Clinician Administered PTSD Scale	ICER	incremental cost-effectiveness ratio
CAS	Composite Abuse Scale	IPA	intimate partner abuse
CASP	Critical Appraisal Skills Programme	IPC	Internal-Powerful Others-Chance
CBCL	Child Behaviour Checklist	IPV	intimate partner violence
CBT	cognitive behavioural therapy	ISA (ISA-P, ISA-NP)	Index of Spouse Abuse (Index of Spouse Abuse Physical and Non-Physical subscales)
CES-D	Center for Epidemiologic Studies Depression Scale	ISEL	Interpersonal Support Evaluation List
CME	continuing medical education	ITT	intention to treat
CPP	child-parent psychotherapy	JCAHO	Joint Commission on the Accreditation of Healthcare Organizations
CRC	Community Resources Checklist	LBW	low birth weight
CSEI	Coopersmith Self-esteem Inventory	LR	likelihood ratio
CTS (CTS2)	Conflict Tactics Scale (Conflict Tactics Scale-Revised)	MMPI-PTSD	Minnesota Multiphasic Personality Inventory-Post-traumatic Stress Disorder
DAS	Danger Assessment Scale	MMTP	Methadone Maintenance Treatment Programme
DC 0-3 TSD	Diagnostic Classification 0-3 Traumatic stress disorder	MOOSE	Meta-analysis of Observational Studies in Epidemiology
DOR	diagnostic odds ratio	NICE	National Institute for Health and Clinical Excellence
DSM-IV	<i>Diagnostic and Statistical Manual of Mental Disorders IV</i>	NPV	negative predictive value
DV	domestic violence	NSC	National Screening Committee
ED	emergency department	ONS	Office of National Statistics
EFI	Enright Forgiveness Inventory	OR	odds ratio
EHQ	Employment Harassment Questionnaire	OVAT	Ongoing Violence Assessment Tool
EMS	emergency medical services		
EMT	emergency medical technician		
EOR	effectiveness in obtaining resources		
EPDS	Edinburgh Postnatal Depression Scale		

PCL-S	PTSD Checklist Stressor Specific version	S&S	support and survival
PCT	primary care trust	SAFE	Stop Abuse for Everyone
PHC	primary health care	SAMHSA	Substance Abuse and Mental Health Services Administration
PHN	public health nurse		
PPV	positive predictive value	SCL-90-R	Symptoms Checklist-90 Revised (psychiatric symptoms)
PreDoVe	Prevention of Domestic Violence study		
PSAI	Perinatal Self-Administered Inventory	SD	standard deviation
PSS	Post-traumatic Stress Disorder Symptom Scale	SE	standard error
PTSD	post-traumatic stress disorder	SES	socioeconomic status
PVI	Partner Violence Interview	SF-36	Short Form (36) Health Survey
PVS	Partner Violence Screen	SRBQ	Sexual Risk Behaviour Questionnaire
QALY	quality-adjusted life-year	STAI	State-Trait Anxiety Inventory
QUADAS	Quality Assessment of Diagnostic Accuracy Studies	STaT	Slapped, Threatened or Thrown scale
QUORUM	Quality of Reporting of Meta-analyses of Randomised Controlled Trials (criteria)	STROBE	Strengthening the Reporting of Observational Studies in Epidemiology
RADAR	Routine screening; Ask direct questions; Document your findings; Assess patient safety; Review patient options and referrals (project)	SVAWS	Severity of Violence Against Women Scale
RAST	Rape Aftermath Symptom Test	SWA	Salford Women's Aid
RCT	randomised controlled trial	TANF	Temporary Assistance for Needy Families
ROC	receiver operating characteristic	USPSTF	United States Preventative Services Task Force
RPRS	Relapse Prevention and Relationship Safety Programme	VAWA	Violence Against Women Act (of 1994)
RR	relative risk	WAST	Woman Abuse Screening Tool
RSEI	Rosenberg Self-esteem Inventory	WCDVS	Women, Co-occurring Disorders and Violence Study
		WEB	Women's Experience with Battering scale
		WHO	World Health Organization

All abbreviations that have been used in this report are listed here unless the abbreviation is well known (e.g. NHS), or it has been used only once, or it is a non-standard abbreviation used only in figures/tables/appendices, in which case the abbreviation is defined in the figure legend or in the notes at the end of the table.



Executive summary

Background

Partner violence against women is physical, sexual or emotional abuse with coercive control of a woman by a man or woman partner or ex-partner. It is a common problem, with a detrimental effect on health and well-being. Although there is a consensus that health services need to respond to partner violence, there is uncertainty whether screening for partner violence in health-care settings is effective and appropriate.

Objectives

This review has two specific aims:

- To identify, appraise and synthesise research across a range of study designs that are relevant to selected UK National Screening Committee (NSC) criteria for a screening programme in relation to partner violence.
- To make a judgment on whether current evidence is sufficient for fulfilment of selected NSC criteria for the implementation of screening for partner violence in health-care settings.

The research questions

There are seven review questions (linked to key NSC criteria):

- Question I: What is the prevalence of partner violence against women and what are its health consequences? (NSC criterion 1)
- Question II: Are screening tools valid and reliable? (NSC criteria 5 and 6)
- Question III: Is screening for partner violence acceptable to women? (NSC criterion 7)
- Question IV: Are interventions effective once partner violence is disclosed in a health-care setting? (NSC criteria 10 and 15)
- Question V: Can mortality or morbidity be reduced following screening? (NSC criterion 13)
- Question VI: Is a partner violence screening programme acceptable to health professionals and the public? (NSC criterion 14)

- Question VII: Is screening for partner violence cost-effective? (NSC criterion 16)

Methods

Data sources

Fourteen electronic databases from their respective start dates to 31 December 2006.

Study selection

Different sets of inclusion/exclusion criteria were required for the seven review questions. All criteria were applied independently by two reviewers, and disagreements were adjudicated by a third reviewer.

Data extraction and assessment of quality

Data were extracted onto electronic forms and ordered into summary tables including the results of quality appraisal. These tables formed the basis of our narrative synthesis of the primary studies. The quality of the primary studies was assessed using published appraisal tools in accord with the different review questions and the study designs: STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) for observational studies; QUADAS (Quality Assessment of Diagnostic Accuracy Studies) for diagnostic accuracy studies; CASP (Critical Appraisal Skills Programme) for qualitative studies and reviews; USPSTF (United States Preventative Services Task Force) criteria for intervention studies; and the Jadad score for randomised controlled trials.

Data synthesis

We grouped the findings of the surveys, diagnostic accuracy and intervention studies and qualitatively analysed differences between outcomes in relation to study quality, setting (country, type of health-care facility), populations (if available, ethnicity, socioeconomic status, method of identification/disclosure) and, in the case of intervention studies, the nature of the intervention. For review questions III and VI we combined the findings of qualitative

and quantitative studies. We also used the results from qualitative studies of survivors of partner violence to comment on the scope of our review. We systematically considered each of the selected NSC criteria against the review evidence.

Results

- Question I: The prevalence in the UK of partner violence against women and the magnitude of health sequelae vary with study design and population. In samples drawn from the general population, lifetime prevalence ranged from 13% to 31%, and in samples from clinical populations it ranged from 13% to 35%. One-year prevalence ranged from 4.2% to 6% in the general population studies. Even the lower estimates for prevalence, morbidity and mortality show that partner violence against women is a major public health problem and potentially an appropriate condition for screening and intervention.
- Question II: Several short screening tools are relatively valid and reliable for use in health-care settings. The HITS (Hurts, Insults, Threatens and Screams) scale had the best predictive power (sensitivity ranged from 86% to 100%, specificity ranged from 86% to 99%), concurrent and construct validity (r ranged from 0.75 to 0.85, $p < 0.001$) and reliability (Cronbach's alpha ranged from 0.61 to 0.80), with a suitable cut-off score.
- Question III: Most women patients considered screening acceptable (range 35–99%), although they identified potential harms, particularly with regard to stigmatisation and breach of confidentiality. Informants thought that, besides identifying women experiencing partner violence, the aims of screening should also include information giving and signalling willingness for clinicians to talk about partner violence.
- Question IV: Effect sizes for post-traumatic stress disorder (PTSD) ranged from 0.10 (an individual psychological intervention) to 1.23 (an individual psychological intervention); depression ranged from 0.16 (an individual psychological intervention) to 1.77 (an individual psychological intervention); self-esteem ranged from 0.10 (an individual psychological intervention) to 2.55 (an individual psychological intervention); and physical abuse ranged from 0.02 (advocacy) to 0.48 (advocacy). The evidence for effectiveness of advocacy is growing, particularly for

women who have actively sought help or are in a refuge. The two studies of advocacy interventions in women identified through screening in health-care services were based in antenatal clinics. Psychological interventions and work with survivors and their children may be effective, but not necessarily for women identified through screening.

- Question V: There were no trials of screening programmes measuring morbidity and mortality. The proxy outcome measure of referral rates ranged widely from a difference of 4% to 67% between control and intervention sites. The proxy outcome measure of identification showed little change, ranging from 25% to 3% between control and intervention sites. Studies using proxy outcome measures generally had weak designs and execution.
- Question VI: There was heterogeneity in the outcomes of qualitative and survey studies about the acceptability to health-care professionals of partner violence screening. The acceptability of partner violence screening among health-care professionals ranged widely from 15% to 95%, but overall the evidence showed that this NSC criterion is not met.
- Question VII: There were no cost-effectiveness studies of partner violence screening interventions. A Markov model of a pilot intervention to increase identification of survivors of partner violence in general practice found that such an intervention was potentially cost-effective.

Conclusions

Implications for health care

Currently there is insufficient evidence to implement a screening programme for partner violence against women either in health services generally or in specific clinical settings. It may be inappropriate to judge a policy of routine enquiry about partner violence by the NSC criteria, particularly as women perceive other valid purposes of screening besides identification. Even if the scope of routine enquiry is wider than screening, it is debatable whether that policy would be justified within health services.

Recommendations for research

1. Trials of system-level interventions to improve the response of health services to survivors of partner violence. These may incorporate

- routine or selective enquiry and, potentially, could compare differences in outcomes between the two policies.
2. Trials of psychological and advocacy interventions after disclosure, in health-care settings, of partner violence. Such trials would measure quality of life, mental health and further abuse.
 3. Trials to test theoretically explicit interventions to help understanding of what works (or does not work) for whom, when and in what contexts.
 4. Qualitative studies exploring what women want from interventions after disclosure of partner violence.
 5. Cohort studies measuring risk factors, resilience factors and the trajectory of partner violence through the life course.
 6. Longitudinal studies measuring the long-term prognosis for survivors of partner violence after their identification in health-care settings.

Programmes addressing these six research questions need to have the resources and expertise to include participants from majority and ethnic minority communities in the UK.

Chapter I

Background

Aims of the review

This review has two aims:

- to identify, appraise and synthesise research across a range of study designs that are relevant to selected UK National Screening Committee (NSC) criteria for a screening programme in relation to domestic (partner) violence
- to make a judgment on whether current evidence is sufficient for fulfilment of selected NSC criteria for the implementation of screening for domestic (partner) violence in health-care settings.

Previous systematic reviews of partner violence studies

Screening

Our previous systematic review,^{1,2} based on an evaluation of quantitative studies that addressed the NSC criteria, concluded that these criteria were not fulfilled and that implementation of a screening programme was not justified. Contemporaneous reviews by North American colleagues have come to similar conclusions.³ The Canadian Task Force on Preventive Health Care used a broad analytic framework but only critically appraised intervention studies; its conclusion, that no recommendation could be made for or against screening, was based largely on those studies.⁴ The US Preventive Task Force included and critically appraised assessment as well as intervention studies and concluded that there was insufficient evidence for a screening programme.⁵ The main findings from these reviews are detailed in Appendix 1. The most recent systematic reviews evaluating the effectiveness of screening included studies published up until December 2002. No previous reviews have included qualitative studies to address any of the review questions.

The effectiveness of screening may vary between different health-care settings because of variation in prevalence of partner violence in different groups of patients, across the life course, and because of differences in acceptability within different health-care settings and between groups

of health-care practitioners. Previous reviews of screening have not addressed this potential heterogeneity. Therefore it is possible that criteria for screening may be fulfilled in some settings with specific groups of patients but not in others. Our previous review evaluating the effectiveness of screening¹ included three studies from primary care – community health centres, an internal medicine practice, and HMO (health management organisation) primary care clinics – two studies from antenatal settings and four from accident and emergency (A&E) departments.

Interventions after screening

A key element in the justification for a screening programme is an effective intervention or interventions following a positive screening test. In addition to reviews specifically designed to inform policy about screening, since 1998 there have been six systematic reviews of partner violence intervention studies relevant to health-care settings: Chalk and King,⁶ Abel,⁷ Hender,⁸ Cohn and colleagues,⁹ Klevens and Sadowski,¹⁰ and Ramsay and colleagues.² The most recent review of intervention studies, commissioned by the Department of Health's policy research programme,¹¹ included studies cited on the source bibliographic databases before October 2004.

This is a growing research field, and new studies may change the overall negative conclusion about the appropriateness of screening based on previous reviews.

Use of the term 'partner violence'

A variety of terms are in current use to denote domestic violence perpetrated against an intimate partner, such as 'partner violence', 'intimate partner violence' (IPV), 'spouse abuse', 'partner abuse' and 'battering'. There is still no international, or even national, consensus about the most appropriate term to use for this form of domestic violence. However, many experts in the field believe that 'domestic violence' is a misleading term because 'domestic' implies that the violence

always happens within the home. Similarly, many see 'IPV' as inappropriate, as there is nothing 'intimate' about an abusive relationship. In this review we use the term 'partner violence' as this better reflects the nature of the problem. However, although this is our preferred term, when citing other sources we have retained their terminology where appropriate. We define partner violence against women as physical, sexual or emotional abuse with coercive control of a woman by a man or woman partner who is, or was, in an intimate relationship with the woman. In the US research literature 'battered women' is a common term; in this review we have consistently replaced this term with 'survivors of partner violence'.

What about male survivors of partner violence?

Our overall review question is restricted to screening for partner violence perpetrated against women. Partner violence against men in heterosexual or same sex relationships is a social problem with potential long-term health consequences for male survivors,¹² but is not the focus of this review. Although some population studies suggest that the lifetime prevalence of physical assaults against a partner is comparable between genders, even those studies report that violence against women is more frequent and more severe, and that women are three times more likely than men to sustain serious injury and five times more likely to fear for their lives.¹³

Definitions of screening and routine enquiry

Screening, as defined by the NSC, is a public health service in which members of a defined population, who do not necessarily perceive they are at risk of, or are already affected by a disease or its complications, are asked a question or offered a test, to identify those individuals who are more likely to be helped than harmed by further tests or treatment to reduce the risk of a disease or its complications.¹⁴

Routine enquiry, as it pertains to partner violence, refers to 'asking all people within certain parameters about the experience of domestic violence, regardless of whether or not there are

signs of abuse, or whether domestic violence is suspected.'¹⁵

The use of the term 'screening' as defined by the NSC refers to the application of a *standardised* question or test according to a procedure that does not vary from place to place, and that is how we use the term in this report. We acknowledge that many understand the term in a more general sense than this definition. To avoid confusion it is preferable to use the term routine enquiry where procedures are not necessarily standardised, but where question(s) are asked routinely, for example at every visit within time-specific or other parameters. Although there is not always a clear distinction between routine enquiry and screening, there is a flexibility of application in the former that is absent in the latter; a policy of routine enquiry does not necessarily have to fulfil the criteria for a screening programme.¹⁶ Our review focuses on the criteria for *screening*, but in our final chapter we discuss the limitations of the screening model in relation to partner violence.

Extending the scope of previous reviews

We extended the scope of previous reviews in three ways. First, earlier reviews did not include a full assessment of the test characteristics of screening tools. We therefore aimed to evaluate the predictive properties of screening tools that could be used in clinical practice. Second, previous reviews have generated a vigorous correspondence,¹⁷ including an oft-repeated criticism that restriction to quantitative studies omits important evidence about the acceptability and value of screening or routine enquiry about partner violence in health-care settings. We therefore have included qualitative evidence in this review when it helped to answer a specific review question. Third, no previous review has addressed the economic costs related to the provision of services for abused women. We therefore searched for studies that evaluated the cost or cost-effectiveness of interventions for partner violence relevant to health-care settings and have also reported the economic modelling of a primary care partner violence intervention.

Chapter 2

Objectives and the review questions

There are seven review questions. We have linked each of these to key NSC criteria for a screening programme. The figure in Appendix 2 places the criteria we are reviewing in an analytic framework for research on partner violence and health, and is adapted from a framework used by the Canadian Preventive Task Force.¹⁸

Question I: What is the prevalence of partner violence against women and its health consequences?

NSC criterion 1: The condition should be an important health problem

There is no longer any debate about the public-health impact of partner violence, although prevalence rates and the magnitude of health sequelae vary depending on population and study design. But even the lower estimates for prevalence, morbidity and mortality make partner violence a potentially appropriate condition for screening and intervention. To answer this question we systematically searched for reviews from 1990 onwards on the health impact of partner violence, and summarised these along with prevalence data from individual studies from the UK published from 1995 onwards.

Question II: Are screening tools valid and reliable?

NSC criterion 5: There should be a simple, safe, precise and validated screening test

We reviewed the predictive properties and validity of current partner violence screening questions where they are evaluated against a standard criterion, such as the Conflict Tactics Scale.^{19,20} We also summarised more general information about the screening tools, such as the number of items asked and the length of time required to administer the tool.

Specific questions:

- Can screening efficiently and accurately identify women at risk of or experiencing partner violence?
- Does accurate identification differ as a function of the number of items asked or the setting in which the tool is administered?

NSC criterion 6: The distribution of test values in the target population should be known and a suitable cut-off level defined and agreed

The distribution of test values in women experiencing partner violence was extracted and analysed.

Question III: Is screening for partner violence acceptable to women?

NSC criterion 7: The test should be acceptable to the population

We reviewed acceptability of screening for partner violence by searching for quantitative surveys and qualitative studies eliciting the views of women. Findings from the different study designs were triangulated.

Specific review questions:

- Is screening generally acceptable to women?
- Do women's views about screening differ as a function of previous exposure to screening?
- Do women's views about screening differ as a function of abuse status?
- Are there any other factors associated with acceptability/non-acceptability?
 - age and ethnicity
 - health-care setting
 - mode of screening.
- What harms do women report associated with screening for partner violence (qualitative studies only)?

Question IV: Are interventions effective once partner violence is disclosed in a health-care setting?

NSC criterion 10: There should be an effective treatment or intervention for patients identified through early detection, with evidence of early treatment leading to better outcomes than late treatment

We reviewed quantitative studies of interventions that are relevant to women identified through screening procedures. This included studies of interventions initiated as a direct result of screening by health professionals, or interventions conducted outside of screening that nevertheless show what could be achieved if a woman's abuse status was ascertained. We endeavoured to identify any evidence for a differential effect of early treatment on outcomes. We extended our previous systematic review,¹¹ which included studies cited on the source bibliographic databases before October 2004.

Specific review questions:

- Is there an improvement in abused women's experience of abuse, perceived social support, quality of life and psychological outcome measures as a result of interventions accessed or potentially accessible as a result of screening (quantitative studies only)?
- Is there an improvement for abused women's children in terms of quality of life, behaviour and educational attainment following their mothers' participation in programmes accessed or potentially accessed as a result of screening (quantitative studies only)?
- What are the positive outcomes that abused women want for themselves and their children from programmes that include screening or other health-care-based interventions (qualitative studies only)?

NSC criterion 15: The benefit from the screening programme should outweigh the physical and psychological harm (caused by the test, diagnostic procedures and treatment)

We considered direct and indirect harms of whole screening programmes, where reported, by reviewing evidence from the intervention studies and qualitative studies.

Question V: Can mortality or morbidity be reduced following screening?

NSC criterion 13: There must be evidence from high quality Randomised Controlled Trials that the screening programme is effective in reducing mortality or morbidity. Where screening is aimed solely at providing information to allow the person being screened to make an 'informed choice' (e.g. Down's syndrome, cystic fibrosis carrier screening), there must be evidence from high quality trials that the test accurately measures risk. The information that is provided about the test and its outcome must be of value and readily understood by the individual being screened

We searched for evidence from randomised controlled trials (RCTs) and reviewed these if available. We also included other controlled studies of interventions that implemented screening programmes or included partner violence screening as an aim in educational interventions for health-care professionals.

Specific review questions:

- What are the changes in identification, information giving and referrals (made and attended) from screening and other system-based interventions in health-care and community/voluntary sector settings?
- Is there evidence from RCTs and other controlled studies that there is a cessation or reduction in abuse following abused women's participation in programmes including screening (quantitative studies only)?
- Are there any measured harms from screening interventions (quantitative studies only)?

Question VI: Is a partner violence screening programme acceptable to health professionals and the public?

NSC criterion 14: There should be evidence that the complete screening programme (test, diagnostic procedures, treatment/intervention) is clinically, socially and ethically acceptable to health professionals and the public

We reviewed quantitative and qualitative studies of acceptability to health professionals.

The issue of whether the test is acceptable to the public is addressed in question III, albeit only from the perspective of women. We did not address the issue of whether the programme is acceptable to male members of the general public.

Specific review questions:

- Is screening for partner violence generally acceptable to health professionals?
- Do health professionals' views about screening differ as a function of previous experience of screening?
- Do health professionals' views about screening differ as a function of their role (e.g. physician, nurse, psychiatrist) or the setting in which they work (e.g. family practice, A&E, antenatal, dental practice)?
- Are there any other factors associated with acceptability/non-acceptability?
 - age and ethnicity
 - training on partner violence.

Question VII: Is screening for partner violence cost-effective?

NSC criterion 16: The opportunity cost of the screening programme (including testing, diagnosis, treatment, administration, training and quality assurance) should be economically balanced in relation to expenditure on medical care as a whole (i.e. value for money)

We reviewed studies evaluating the cost-effectiveness of screening. We complemented this with a cost-effectiveness model based on a pilot study of a primary care-based intervention that aimed to improve the identification of women patients experiencing partner violence.

NSC criteria not addressed by this review

NSC criterion 2: The epidemiology and natural history of the condition, including development from latent to declared disease, should be adequately understood and there should be a detectable risk factor, disease marker, latent period or early symptomatic stage

We did not address this criterion because of its problematic application to the issue of partner violence: partner violence is not a condition in the disease model sense, and screening is not limited to detection of early stages of abuse.

NSC criterion 3: All the cost-effective primary prevention interventions should have been implemented as far as practicable

In terms of partner violence, primary prevention interventions are largely in educational and media settings and we did not review these. This criterion is not relevant to a decision to implement a screening programme in health-care settings.

Review of evidence for criteria 8, 9 and 12 were part of our original proposal. Below we explain why we did not include them in the final review.

NSC criterion 8: There should be an agreed policy on the further diagnostic investigation of individuals with a positive test result and on the choices available to those individuals

Further 'diagnostic investigation' is not relevant to the care of women who are identified in partner violence screening programmes.

NSC criterion 9: There should be agreed evidence-based policies covering which individuals should be offered treatment and the choices available to those individuals

Although some primary studies in our review discussed choices available to women disclosing abuse, there are no 'evidenced-based policies' for these treatment choices and, in the context of our resources for the reviews, we judged this criterion of secondary importance compared with those we did review.

The following criteria need to be based on audit and policy research. They only need to be considered once the evidence-based criteria are met:

NSC criterion 12: Clinical management of the condition and patient outcomes should be optimised by all health-care providers prior to participation in a screening programme.

NSC criterion 17: There should be a plan for managing and monitoring the screening programme and an agreed set of quality assurance standards.

NSC criterion 18: Adequate staffing and facilities for testing, diagnosis, treatment and programme management should be available prior to the commencement of the screening programme.

NSC criterion 19: All other options for managing the condition should have been considered (e.g. improving treatment, providing other services), to ensure that no more cost effective intervention

could be introduced or current interventions increased within the resources available.

NSC criterion 20: Evidence-based information, explaining the consequences of testing, investigation and treatment, should be made available to potential participants to assist them in making an informed choice.

NSC criterion 21: Public pressure for widening the eligibility criteria for reducing the screening interval, and for increasing the sensitivity of the testing process, should be anticipated. Decisions about these parameters should be scientifically justifiable to the public.

Chapter 3

Review methods

Inclusion and exclusion criteria

The generic criteria that applied to all seven questions are listed in *Tables 1* and *2*.

Further question-specific criteria are listed below. All criteria were applied independently by two reviewers and disagreements were adjudicated by a third reviewer.

Question I: What is the prevalence of partner violence and its health consequences?

- Primary studies of prevalence restricted to UK populations from 1995 onwards.
- Review of health consequences restricted to systematic reviews from 1990 onwards.

Question II: Are screening tools valid and reliable?

- Included study designs had to be validation studies, i.e. they evaluated a screening tool against a standard criterion/comparator.
- The comparator had to have high sensitivity and specificity.
- The comparator could have any number of items, but the index screening tool had to comprise 12 items or fewer. The rationale behind this postprotocol decision was the requirement for screening tools to be used in a clinical, not research setting. Long screening tools would be unsuitable due to the time needed to complete them, and we chose 12 items as an arbitrary cut-off. This reduced the number of screening tools reviewed but improved the clinical applicability of our findings.
- Studies were excluded if non-standardised clinical interviews were used as the comparator.

Question III: Is screening for partner violence acceptable to women?

- Studies only reporting women's perceived barriers to disclosure but not their views about the acceptability of screening were excluded.

Question IV: Are interventions effective once partner violence is disclosed in a health-care setting?

- Intervention studies on co-morbid populations were included if all the participants had

experienced partner violence or if the outcome data for those who had experienced partner violence were reported separately.

- Studies of interventions with children were included if the mothers were also involved; either the mothers received their own interventions or they played a role in interventions targeted at their children.

Question V: Can mortality or morbidity be reduced following screening?

- Studies that measured mortality, morbidity or quality of life outcomes for women were included.
- Studies of screening intervention studies that measured proxy measures that were potentially associated with decreased morbidity and mortality were included, particularly documentation of abuse or referral to expert partner violence services.
- Studies where documentation was limited to recording the disclosure of abuse, without recording more detailed information (about, e.g., context, safety and, perhaps, the perpetrator), were excluded.
- Studies reporting changes in identification rates with no other outcomes were excluded.
- Studies that only reported one proxy outcome were excluded, unless this was referral to expert partner violence services.

Question VI: Is a partner violence screening programme acceptable to health professionals and the public?

- In addition to survey studies, intervention studies reporting attitude change were included and the before and after data reported separately.
- We did not include studies addressing the issue of whether screening is acceptable to male members of the public.
- Papers that only reported on the perceived barriers to screening were excluded.
- Studies were excluded if they only measured screening behaviour without reporting attitudes towards screening for partner violence.

TABLE 1 Inclusion criteria for primary studies ordered by review questions

Inclusion criteria	Review questions ^b						
	QI	QII	QIII	QIV	QV	QVI	QVII
Participants							
Women aged over 15 years	✓	✓	✓	✓	✓	×	✓
Women that report a lifetime experience of partner violence	✓	×	✓	✓	✓	×	✓
Settings							
Health-care settings – no restrictions on geographical/national setting	✓	✓	✓	✓	✓	✓	✓
Primary studies conducted in services outside health-care systems to which referral can be made from a health-care setting	✓	✓	✓	✓	✓	×	✓
Study designs							
Randomised controlled studies, non-randomised parallel group studies, interrupted time series studies, before-and-after studies ^a	✓	×	✓	✓	✓	✓	×
Cohort studies	✓	×	✓	✓	×	✓	×
Case-control studies	✓	×	✓	✓	✓	×	×
Cross-sectional studies	✓	×	✓	×	×	✓	×
Clusters of case studies	×	×	✓	×	×	✓	×
Prevalence studies	✓	×	✓	×	×	×	×
Qualitative designs	×	×	✓	×	×	✓	×
Questionnaire surveys	×	×	✓	×	×	✓	×
Studies where verbal interaction (researcher–participant) aids results' formulation	×	×	✓	×	×	✓	×
Studies where abused women's views discussed separately	×	×	✓	×	×	×	×
Studies evaluating a screening tool against a standard criterion	×	✓	✓	×	×	×	×
Economic evaluations of screening interventions	×	×	✓	×	×	×	✓
Aims of studies included							
Interventions aimed at reducing abuse or improving the health of the women	✓	×	×	✓	✓	×	×
Interventions aimed at training staff	×	×	×	×	×	×	×
Interventions aimed at providing more organisation/system resources	×	×	×	×	×	×	×
Studies determining effectiveness of screening interventions	×	×	×	✓	×	×	×
Studies determining prevalence of partner violence	✓	×	×	×	×	×	×

Inclusion criteria	Review questions ^b						
	QI	QII	QIII	QIV	QV	QVI	QVII
Studies determining validity and reliability of screening	X		X	X	X	X	X
Studies determining cost-effectiveness of screening	X	X	X	X	X	X	X
Studies determining acceptability of screening to women	X	X		X			X
Studies determining harms associated with screening	X	X	X	X	X	X	X
Studies determining acceptability of screening to health professionals and public	X	X	X	X	X		X
Included outcomes							
Incidence of abuse (physical, sexual, psychological, emotional, financial)	✓	X	X	✓	✓	X	✓
Physical ^c and psychosocial ^d health	✓	X	X	✓	✓	X	✓
Proxy measures ^e	X	X	X	✓	✓	X	✓
Measures of validity and reliability of screening tools	X	✓	X	X	X	X	X
Degree of acceptability of screening amongst women	X	X	✓	X	X	X	X
Degree of acceptability of screening to health professionals	X	X	X	X	X	✓	X
Cost of providing screening	X	X	X	X	X	X	✓
Changes in identification, information giving and referrals from screening	X	X	X	X	✓	X	X
Included reporting formats							
Studies published in peer-reviewed journals and in books by academic publishers	✓	✓	✓	✓	✓	✓	✓
Funder-published research reports	✓	✓	✓	✓	✓	✓	✓
Studies reported in European languages ^f	✓	✓	✓	✓	✓	✓	✓
Reviews, from 1990, on the health impact of partner violence	✓	X	X	X	X	X	X
Studies, from 1995, reporting prevalence data for partner violence from the UK	✓	X	X	X	X	X	X

✓ = inclusion criterion; X = not an inclusion criterion.
 a Either women in the 'before' group act as the comparison group (historical controls) or women receiving intervention act as their own controls.
 b QI: What is the prevalence of partner violence and its health consequences? QII: Are screening tools valid and reliable? QIII: Is screening for partner violence acceptable to women?
 QIV: Are interventions effective once partner violence is disclosed in a health-care setting? QV: Can mortality or morbidity be reduced following screening? QVI: Is a partner violence screening programme acceptable to health professionals and the public? QVII: Is screening for partner violence cost-effective? For QI, QII and QVII we only included quantitative data; for QIII, QIV, QV and QVI we included both qualitative and quantitative data.
 c Physical health includes deaths, physical injuries, including harm, chronic health disorders, sexual health, general measures of physical health.
 d Psychosocial health includes depression, anxiety, post-traumatic stress, self-efficacy, self-esteem, quality of life, perceived social support.
 e Proxy measures include socioeconomic measures (income, housing, employment), the use of safety behaviours, the use of refuges/shelters, the use of counselling, calls to police, police reports filed, protection orders sought, referral or information-giving by professionals.
 f We restricted our choice of language to European languages from Western Europe, North America and Australasia – i.e. locations considered to be culturally equivalent to the UK.

Table 2 Exclusion criteria for primary studies ordered by review questions

Exclusion criteria	Review questions ^a						
	QI	QII	QIII	QIV	QV	QVI	QVII
Participants							
Female survivors of partner violence aged under 15 years	✓	×	✓	✓	✓	×	×
Female survivors of other (non-partner) abuse (e.g. stranger rape, adult survivors of child abuse, elder abuse)	✓	×	✓	✓	✓	×	×
Male survivors of partner abuse of any age	✓	✓	✓	✓	✓	✓	✓
Children of abused women, abused children, and the perpetrators of abuse	✓	×	✓	✓	✓	×	✓
Participants with no previous history of partner violence	✓	×	×	✓	✓	×	×
Settings							
Studies conducted in non-health-care settings that are not considered relevant to health-care policy	✓	✓	✓	✓	✓	✓	✓
Study designs							
Single case studies	✓	✓	✓	✓	✓	✓	✓
Study aims excluded							
Interventions targeted at perpetrators of partner violence	✓	✓	✓	✓	✓	✓	✓
Studies reporting joint treatments, such as couple and family therapy (even if the therapy was administered separately to women)	✓	✓	✓	✓	✓	✓	✓
Interventions aimed at helping the survivors of child or elder abuse	✓	✓	✓	✓	✓	✓	✓
Intervention studies initiated to help the survivors of abuse committed by other family members (such as in-laws)	✓	✓	✓	✓	✓	✓	✓
Interventions targeted directly at helping children of women being abused by intimate partners	✓	✓	✓	✓	✓	✓	✓
Interventions aimed at abused men	✓	✓	✓	✓	✓	✓	✓
Studies determining the acceptability of screening that have not distinguished the perspectives of male and female members of the public	×	×	✓	×	×	✓	×
Community and societal interventions conducted with the aim of increasing public awareness of the problem of partner abuse	✓	✓	×	✓	×	×	✓
Criminal justice interventions	✓	✓	✓	✓	✓	✓	✓

Exclusion criteria	Review questions ^a						
	QI	QII	QIII	QIV	QV	QVI	QVII
Excluded outcomes							
Studies that do not report outcomes relating to abuse	✓	✓	✓	✓	✓	✓	✓
Studies that do not report outcomes relating to at least one of: physical and psychosocial health, socioeconomic indicators and other proxy measures	✓	×	×	✓	✓	×	✓
Primary studies that only measure change in knowledge or attitudes of professionals about partner abuse	✓	✓	✓	×	✓	×	✓
Studies that only measure identification of abused women or documentation or safety assessments	✓	×	✓	×	×	✓	✓
Excluded reporting formats							
Self-published research reports	✓	✓	✓	✓	✓	✓	✓
PhD theses, masters' and undergraduate dissertations	✓	✓	✓	✓	✓	✓	✓
Papers published in non-European languages	✓	✓	✓	✓	✓	✓	✓
Conference abstracts	✓	✓	✓	✓	✓	✓	✓
Reviews, before 1990, on the health impact of partner violence	✓	×	×	×	×	×	×
Prevalence data for partner violence from the UK reported before 1995	✓	×	×	×	×	×	×

✓ = exclusion criterion; × = not an exclusion criterion.

^a See footnote a in Table 1.

Question VII: Is screening for partner violence cost-effective?

- Studies had to include an analysis of costs of a health-care-based partner violence intervention or screening programme.

Identification of primary studies

We systematically searched for relevant studies using strategies that combined content terms and study designs (search strings available from authors). Searches were made of the international literature for published peer-reviewed studies. The following sources were used to identify studies.

Electronic databases

1. Cochrane Collaboration Central Register (CENTRAL/CCTR)
2. Biomedical sciences databases:
 - i. MEDLINE
 - ii. EMBASE
 - iii. CINAHL (Cumulative Index to Nursing and Allied Health Literature)
 - iv. Database of Abstracts of Reviews for Effectiveness (DARE)
 - v. National Research Register (NRR)
 - vi. Health Management Information Consortium (HMIC)
 - vii. MIDIRS (Midwives Informatin and Resource Service)
 - viii. British Nursing Index (BNID)
 - ix. NHS Economic Evaluation.
3. Social sciences databases:
 - i. Social Science Citation Index (SSCI)
 - ii. International Bibliography of the Social Sciences (IBSS)
 - iii. PsycINFO
 - iv. Applied Social Sciences Index and Abstracts (ASSIA).

Searches of these databases included all studies referenced from their respective start dates to 31 December 2006. In addition to original research papers, we also searched for any relevant review articles.

In the case of Question I, we only searched for review articles in six of the electronic databases: MEDLINE, EMBASE, CINAHL, DARE, British Nursing Index and Social Science Citation Index. We also used backward and forward citation tracking to identify other studies and we scrutinised papers in the reference lists of included studies.

Other sources

1. Personal communication with the first or corresponding authors of all included articles.
2. Consultation with members of partner violence organisations/research networks in the UK, Western Europe, North America and Australasia.

We did not hand search any journals.

Selection of studies

Two reviewers independently selected studies for inclusion in the review. Where possible, disagreement between the two reviewers was resolved by discussion. If agreement could not be reached then a third reviewer adjudicated. Agreement rates across all databases ranged from 70% to 98%, the average inter-rater agreement being 88%. If additional information was needed to resolve a disagreement, then this was sought either from the first or corresponding author of the study in question.

Data extraction and methodological appraisal by reviewers

Data from included studies were extracted by one reviewer and entered onto electronic collection forms. All of the extractions were independently checked by a second reviewer. Again, where possible, any disagreements between the two reviewers were resolved by discussion. If this was not possible, then a third reviewer adjudicated and all such decisions were documented. Where necessary, the first authors of studies or the correspondence authors were contacted to assist in resolving the disagreement. One reviewer appraised study quality and strength of design in relation to the review questions.

Analysis of primary data extracted

The data extraction forms were used to compile summary tables of the data and quality classification. These formed the basis for our narrative synthesis of the primary studies. We grouped the findings of the primary studies and analysed differences between studies in relation to setting (country, type of health-care facility), populations (ethnicity, socioeconomic status,

method of identification/disclosure) and, in the case of intervention studies, the nature of the intervention. We performed narrative sensitivity analysis for each question, testing whether the overall findings persisted when the poor-quality studies were excluded. When effect sizes were not reported, we calculated Cohen's *d* if the mean changes and standard deviations were reported in the papers or were available from the authors. For the quantitative studies, after consideration of the heterogeneity of interventions and outcomes and the overall purpose of this review – assessing the extent to which criteria for a screening programme were fulfilled – we chose not to pool the data from different studies.

Application of the appraisal criteria to our reviews

We appraised our reviews of intervention studies (Questions 4 and 8) using the Quality of Reporting of Meta-analyses of Randomised Controlled Trials (QUORUM) criteria.²¹ We appraised our review of prevalence studies using the Meta-analysis of Observational Studies in Epidemiology (MOOSE) criteria.²²

Synthesis of the qualitative data

There is no standard method for combining qualitative studies. We therefore used a type of qualitative meta-analysis.²³ We drew on Schutz's framework of constructs²⁴ and on the metaethnographic method articulated by Britten and colleagues,^{25,26} although we prefer the term 'meta-analysis' as the studies analysed were not ethnographies. The analysis started with two parallel strands: (1) identification and examination of first- and second-order constructs in the primary studies, and (2) methodological appraisal. These strands were brought together in the formulation of third-order constructs expressing the conclusions of the meta-analysis.

First-order constructs were based on results in the primary studies relevant to the review question. Second-order constructs were the interpretations or conclusions of the primary investigators that related to the review question. These constructs were identified and grouped from data on the extraction forms, referring back to the original papers when necessary. For identification of second-order constructs, where the investigators only presented recommendations, we interpreted

these as the authors' conclusions. We intended to examine three different types of relationship between the constructs extracted from the studies:

1. constructs that were similar across a number of studies (reciprocal constructs) and, through a process of repeated reading and discussion, would yield third-order constructs that would express our synthesis of findings that were directly supported across different studies
2. constructs that seemed in contradiction between studies; we planned to explain these contradictions by examining factors in the studies and, where there was a plausible explanation, to articulate these as third-order constructs
3. unfounded second-order constructs; i.e. conclusions by primary study authors that did not seem to be supported by first-order constructs.

This method allows generalisations to be made that are not possible from individual qualitative studies.

Further details of the analysis by review question are given below.

Question I: What is the prevalence of partner violence against women and its health consequences?

We summarised the prevalence data reported in primary studies and the evidence for health consequences in systematic reviews. We plotted incidence and prevalence with 95% confidence intervals and tested the effect on variation of type of population (clinical versus community) and types of violence with logistic regression models. For health consequences, when we cited primary studies this was for illustrative purposes only.

Question II: Are screening tools valid and reliable?

In our narrative analysis of the results of these studies we evaluated the effectiveness and accuracy of the screening tools in terms of: test sensitivity and specificity, test positive and negative predictive values, positive and negative likelihood ratios, and the diagnostic odds ratio. Where feasible, we had also planned to pool results from primary studies of the same screening tool that were graded good or fair and that had comparable effect measures (e.g. sensitivity/specificity, predictive values, risk estimates).²⁷ However, no meta-analyses of the screening tool evaluations were possible because of the heterogeneity of the index tools used in the primary studies. Some of the primary studies did not fully report diagnostic accuracy, but did report the numbers of true positives, false positives, true negatives and false negatives for both the index

and comparator tools. In those cases we calculated the diagnostic accuracy of the index tool. If the raw data were not available, we requested it from the authors. Reliability was judged by Cronbach's alpha, coefficient alpha or Cohen's kappa.

Question III: Is screening for partner violence acceptable to women?

In addition to summarising the data in terms of the acceptability of screening to women, we also examined if attitudes varied as a function of women-related variables (such as age, ethnicity, abuse status, educational status), demographic features (such as the country where the study was conducted, the setting in which the women were recruited) and features relating to the screening process (such as the questions asked and who asked them). In a synthesis of the interview- and focus group-based qualitative and questionnaire-based quantitative studies, we explored whether and how these factors are associated with women's positive attitudes towards partner violence screening. We did not perform a meta-regression of the surveys because of the heterogeneity of the clinical settings, of the demographic data collected from the informants, and the measures of acceptability.

Question IV: Are interventions effective once partner violence is disclosed in a health-care setting?

We calculated effect sizes where means and standard deviations were reported or were obtainable from the authors of studies. Meta-analyses of the studies were planned, but the data could not be pooled because of the heterogeneity of settings, demographics of the women participants, study designs (including the duration of follow-up) and the outcomes measured. It was not possible to construct funnel plots to investigate potential publication bias.

Question V: Can mortality or morbidity be reduced following screening?

Where data were reported, we calculated confidence intervals for differences in identification and referrals between intervention and control groups. Pooling of data to calculate an overall effect size was not feasible because of the weak study designs: there was only one RCT.

Question VI: Is a partner violence screening programme acceptable to health professionals and the public?

These data were summarised in terms of the acceptability of screening to health professionals (women's views are given above and we did not seek to include studies examining the views of

male members of the public). We also analysed if attitudes varied as a function of individual health professional-related variables (such as age, ethnicity, previous training on partner violence, personal experience of caring for abused patients), demographic features (such as the country where the study was conducted, the occupation of the health professional) and features relating to the screening process (such as the questions asked, who should ask the questions, where the screening should occur, barriers to screening). By examining these factors we explored whether and how these factors interact to increase or decrease health professionals' positive attitudes towards screening women for partner violence.

Question VII: Is screening for partner violence cost-effective?

In anticipation of a paucity of cost-effectiveness (or any economic) studies of screening for partner violence in health-care settings, we modelled the impact of an intervention in general practice to increase identification and referral of women experiencing partner violence. We used real cost data from a pilot study (PreDoVe, Prevention of Domestic Violence) we completed in three east London practices.²⁸ This model allowed us to link intermediate outcomes such as referrals and levels of abuse, to medium- and longer-term outcomes and costs such as abuse measures, quality of life, employment, housing and civil justice. We combined our data with secondary sources to estimate the impact on outcomes and costs that could not be measured within the pilot study. The model estimated the cost-effectiveness of the intervention and gave special attention to the following aspects:

- Micro-level data collection – PreDoVE collected detailed resource use by women data, and we have combined these with unit cost data available from the NHS and relevant studies.²⁹
- Confidence intervals around the estimates – we estimated the distribution of costs and outcomes of partner violence. This allowed us to investigate the probability that the intervention is cost-effective and to establish a confidence interval around the cost-effectiveness estimate.
- Sensitivity analyses – we varied all costs and outcomes by 25% in univariate analyses.
- The time lag between cause and effect – the study captured the extent to which women access services over time, including periods of time when the women choose to delay seeking additional help.

Appraisal of methodological quality

The quality of the primary studies was assessed using appraisal tools in accord with the different review questions and the nature of the data collected.

Question I: What is the prevalence of partner violence against women and its health consequences?

The papers reporting the prevalence studies were appraised using the current version of the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) checklist.³⁰ In assessing the studies for inclusion, the following methodological issues were considered: selection, confounding and measurement bias. In this review, for each item in the checklist a score of zero or one was assigned. The maximum total score was 22. Although this tool focuses on reporting rather than the quality of the primary studies *per se*, it does discriminate between studies of better or worse quality. We appraised the methodological quality of reviews with the Critical Appraisal Skills Programme (CASP) systematic review appraisal tool³¹. The scores for individual items informed a judgment about whether the review was high, medium or low quality. This judgment was made independently by two reviewers who did not disagree.

Question II: Are screening tools valid and reliable?

The papers reporting the validation of screening tools were appraised using the 14-item Quality Assessment of Diagnostic Accuracy Studies (QUADAS).³² The tool allows studies to be rated for bias (eight items), variability (one item) and reporting (five items); these include patient spectrum, selection criteria, reference standard, disease progress, partial verification, differential verification, incorporation, test execution, blind analysis, interpretation, indeterminate results and study withdrawals (see Appendix 3.1). The QUADAS does not have a scoring system and the outputs are narrative results relating to the various sources of bias rather than a single score. This is an advantage in assessing diagnostic accuracy studies, as total scores tend to ignore the importance of individual items and do not take account of the direction of bias under different contexts. We used the QUADAS to assess both within-study bias (the level of methodological quality of each primary study) and between-study bias (the proportion of studies that have not accounted for a particular bias) to give an overall picture of the quality of the validation studies in this field.

Question III: Is screening for partner violence acceptable to women?

Quantitative studies that examined women's attitudes towards screening for partner violence were appraised using the STROBE³⁰ checklist (see Question I above). In addition to scoring the individual primary studies, we ranked all the studies and carried out a sensitivity analysis by comparing results for those studies in the top quartile with the results for all the studies.

We appraised the methodological quality of qualitative studies for this question with the CASP qualitative appraisal tool.³¹ The tool has 10 questions that address three broad issues: rigour (has a thorough and appropriate approach been applied to key research methods in the study?); credibility (are the findings well presented and meaningful?); and relevance (how useful are the findings?). In this review, for each item in the checklist a score of zero or one was assigned and a maximum score of 41 was possible. As for the quantitative studies, the resulting scores of the primary studies were ranked and those in the upper quartile were used for a sensitivity analysis. We have shown in a previous study that ranking of CASP scores for qualitative studies is a relatively robust method for ranking them by quality.³³

Question IV: Are interventions effective once partner violence is disclosed in a health-care setting?

The United States Preventative Services Task Force (USPSTF)³⁴ quality appraisal framework was used to assess the primary intervention studies included in the review. This tool rates the internal validity of a study (in terms of good, fair or poor) and its external validity, as well as the quality of execution of the study and its study design. The overall strength of evidence for each type of intervention could then be determined on the basis of the following criteria: the suitability of study design (greatest, moderate and least); the quality of execution of the study (based on the internal validity of the primary studies); the number of studies that fulfilled minimum suitability and quality criteria; and the size and consistency of reported effects. The combination of these factors determined the final score for evidence of effectiveness for each category of interventions (strong, sufficient or insufficient). For studies that used an RCT design, we also applied the Jadad score³⁵ to obtain a further assessment of quality. Trials with lower Jadad scores are associated with overestimates of treatment effect. For further details of the USPSTF and Jadad quality appraisal methods, see Appendices 3.2 and 3.3.

Question V: Can mortality or morbidity be reduced following screening?

These studies were also appraised using the USPSTF quality appraisal framework³⁴ and the Jadad score.³⁵

Question VI: Is a partner violence screening programme acceptable to health professionals and the public?

In accordance with our assessment of the methodological quality of studies included under Question III, we once again used the STROBE checklist³⁰ to appraise the quality of the quantitative studies and the CASP tool³¹ to appraise the qualitative studies we included. Sensitivity analyses of those studies that ranked in the upper quartiles for methodological quality were also performed.

Question VII: Is screening for partner violence cost-effective?

We did not find any studies that fulfilled our inclusion criteria.

Application of review evidence to National Screening Committee criteria

Once the review was completed, its findings were summarised in relation to NSC criteria. The research group systematically considered each of these criteria against the review evidence using informal consensus to judge the extent to which the criteria were fulfilled. As noted in our proposal, the timescale of the review did not allow engagement with an external reference group. We did present our initial findings to a meeting of the National Domestic Violence and Health Research Forum. These findings and the design of the reviews were discussed by the Forum. There were no specific suggestions for further searching or analysis; comments on the questionable applicability of the NSC criteria to domestic violence screening informs our discussion of this issue in Chapter 11. We approached Health Ending Violence and Abuse Now (HEVAN), the domestic violence practitioners' forum (Lorraine Bacchus was secretary of the group), but no meeting was possible within the timescale of the review.

Chapter 4

What is the prevalence of partner violence against women and its impact on health? (Question 1)

Prevalence of partner violence against women in the UK

One of the prerequisites for an effective screening programme in clinical settings, and the first NSC criterion, is that the condition is an important health problem. Two dimensions of importance are prevalence and health impact. In this section we review prevalence studies in England, Wales, Scotland and Northern Ireland.

Methodological challenges

Measuring the prevalence of partner violence is problematic; studies employ different definitions, use different questions, and examine different populations and time frames. Additionally, there are various methods of administering questions, for example self-completed or researcher-completed, which may affect responses.³⁶

The most common definition of partner violence used in UK prevalence studies only includes physical violence. More recent studies have broadened the definition to include emotional, sexual, psychological and financial abuse, as well as stalking. Others, although making reference to emotional and sexual violence in the definition of partner violence, only report the prevalence of physical violence. Even with this restricted focus, there are disparities: some researchers include *threats* of physical violence, others include only severe physical violence. The number and content of questions used to measure prevalence vary between studies. An additional obstacle to comparing studies is the modification of instruments without detailing how, or if, the instrument in its adapted format has been validated. Prevalence rates are reported over differing time frames. Reporting lifetime prevalence rates may suffer from the problem of recall bias. However, reporting 1-year prevalence (abuse in the past year) may under-represent the problem as women may not yet have had sufficient

time to acknowledge or identify their experiences as partner violence. These disparities go some way to accounting for the varying prevalence rates.

Prevalence studies are likely to under-represent the extent of the problem, as violence may not be disclosed to the researcher. Furthermore, it is likely that some women experiencing partner violence are beyond the reach of epidemiological studies as their abusive partners may not allow them to speak to a researcher alone, or may not even allow them to leave the house.

Results

Sixteen studies (reported in 18 papers) met our inclusion criteria. Lifetime prevalence ranged from 13% to 31% in the five community-based samples (general population) and from 13% to 41% in the 11 studies of women recruited in health service settings (clinical populations). One-year prevalence ranged from 4.2% to 6% in the general population studies and from 4% to 19.5% in the clinical population studies. For details of study design, study results and quality appraisal, see Appendix 4.1.

General population

A study by Dominy and Radford³⁷ reported a 31% lifetime prevalence of physical, emotional, sexual and psychological abuse in women living in Surrey. A random sample of 484 women in shopping malls and markets was administered a questionnaire. The sample was intended to be representative of the population of married women or those with long-term partners. However, the venues and timing of the sampling meant that women in full-time employment or education were likely to be under-represented. Women isolated by their partner or having their movements closely monitored by a partner were also likely to be under-represented. For these reasons, both the prevalence cited for partner isolation and the overall prevalence of partner violence may be an underestimate.

Walby and Allen³⁶ measured the prevalence of physical and sexual violence in England and Wales. The study recruited a sample of 22,463 people, weighted to ensure that it was nationally representative. A lifetime prevalence of 25.9% and 1-year prevalence of 6%* were found for female respondents reporting physical, emotional and financial abuse, threats or force. Lifetime prevalence of sexual assault was estimated at 16.6% and 2.1%. These figures may be an underestimate as only people living in private households were included in the sampling frame, so women staying in refuges or with relatives were not included. The study found that younger women and those who were separated were at greater risk of violence.

An updated version of the above study³⁸ used a computerised self-completion method to estimate the prevalence of physical, emotional and financial abuse, threats or force amongst a nationally representative sample of 24,498 men and women. Prevalence figures were adjusted to make them comparable with figures from the above study. The adjusted lifetime prevalence was 25.4% and the 1-year prevalence was 4.7%. The lifetime prevalence of sexual assault was 22.7% and the 1-year prevalence was 2.7%.

A study by Carrado³⁹ used sampling quotas to ensure the sample of 971 women asked about partner violence was representative of the general population with regards to age, socioeconomic group, relationship status and geographical region. The questions relating to violence were administered as a self-completion questionnaire, part of a regular commercial bimonthly survey. The questions were derived from the Conflict Tactics Scale.¹⁹ The study found a 13% lifetime prevalence of physical assault and 1-year prevalence of 5%. It also reported a higher prevalence in women who are young and single.

Mirrlees-Black and Byron⁴⁰ used a representative sample of 6098 women to estimate the prevalence of partner violence (defined as physical assault) in 16–59-year-olds in England and Wales. They found a lifetime prevalence of 22.7% and 1-year prevalence of 4.2%. They also found that prevalence decreased with age.

Clinical populations

General practice

A study by Richardson *et al.*⁴¹ measured the prevalence of partner violence in 1207 women attending a general practice, finding a 41% lifetime prevalence and a 17% 1-year prevalence of physical abuse by a partner. Prevalence was higher among women who were divorced or separated, and amongst women aged 16–24 years, and lower in women born outside the UK.

Antenatal/postnatal care

We found five papers (four studies) that estimated the prevalence of partner violence in women attending antenatal or postnatal clinics in the UK.

Bacchus and colleagues⁴² measured the lifetime prevalence and 1-year prevalence of physical, sexual and emotional abuse in a cohort of 892 women attending maternity services in south London; they asked about partner violence at booking, at 34 weeks of gestation and postpartum. The study reported a lifetime prevalence of 13% and prevalence (during the pregnancy) of 6.4%.

A second study conducted by Bacchus and colleagues^{43,44} measured a 23.5% lifetime prevalence of partner violence (physical, sexual and psychological) from a sample of 200 women receiving antenatal or postnatal care at a south London hospital.

In a study based on a cohort of 7591 women from 18 weeks' gestation to 33 months postpartum, Bowen and colleagues⁴⁵ found that the prevalence (during pregnancy and a 33-month postpartum period) of partner violence steadily increased through the second half of pregnancy and after delivery. At 18 weeks' gestation, 5.1% of the women experienced some form of abuse (physical, sexual or emotional) and this increased to 11% at 33 months after the birth. However, this study had substantial limitations, including a high attrition rate (45%), which may result in an underestimated prevalence, because those experiencing partner violence were more likely to be lost to follow-up. Moreover, the questionnaires were posted to women, which may have discouraged some respondents from reporting abuse if they were still living with the abuser. A further complication of this study is that the women who completed the study differed from those lost to follow-up: they were more likely to have attended higher education, have fewer children, be married, be at

*The figures reported here are those recalculated by Finney³⁸ (and presented in Table A.5 of that report) so as to enable comparisons with the 2001 findings.³⁶

least 25 years old when their first child was born, and be homeowners.

A questionnaire survey by Johnson and colleagues⁴⁶ of 500 consecutive women in an antenatal booking clinic in a hospital in the north of England found a 17% lifetime prevalence of physical, sexual and emotional abuse in pregnant women. Abuse was most prevalent in women aged between 26 and 30 years.

Thus lifetime prevalence of partner abuse in women receiving antenatal or postnatal care in the UK ranges from 13% to 24%. One-year prevalence was estimated at 6.4% or 11% depending on the type of study and the stage of pregnancy at which women are asked about abuse.

Accident and emergency departments

We found three primary studies that measured the prevalence of partner violence in women attending accident and emergency departments in the UK.

In a study by Boyle and Todd,⁴⁷ using randomly allocated time blocks, complete data were collected from 256 patients attending the emergency department of a Cambridge hospital. The study reported a 22.1% lifetime prevalence of physical, sexual and emotional abuse.

Sethi and colleagues^{48,49} purposefully sampled 22 nursing shifts, representative of day, night and weekend shifts. A questionnaire was administered to 198 women attending an inner city accident and emergency department. The study found a 34.8% lifetime prevalence of physical abuse. Prevalence was highest in women aged 30–39 and not in paid employment. A 6.1% 1-year prevalence of physical abuse in the past year was also reported. Neither this nor the Cambridge study reported which specific instrument was used to measure the rate of violence, so the difference in prevalence between the two studies might also be due to the use of different instruments in addition to population differences.

Wright and Kariya⁵⁰ sought to ask consecutive assault victims attending a Scottish accident and emergency department over a 2-month period about partner violence. The paper reported that 41% of the 46 women asked had experienced partner violence in the past 2 months and that 63% of the women who were survivors of partner

violence had experienced previous incidents. The paper did not define types of assault and probably only measured physical assault.

Among women attending accident and emergency departments in the UK, the prevalence of partner violence has been estimated between 22% and 35% depending on the definition adopted.

Gynaecology clinics

We found one study that examined the prevalence of partner violence in women attending gynaecology clinics in the UK. The study, by John and colleagues,⁵¹ reported a 21% lifetime prevalence of physical violence and a 1-year prevalence of 4%, with most abuse being perpetrated by ex-husbands or ex-boyfriends (32% and 29% respectively). Prevalence was highest in women aged 31–40 years.

Pregnancy counselling

A study by Keeling⁵² of women attending pregnancy counselling when seeking a termination reported a 35.1% lifetime prevalence for physical and emotional abuse, with 19.5% of the women having experienced abuse in the past year.

Family planning

A study by Keeling and Birch⁵³ of women attending family planning clinics reported a 34.9% lifetime prevalence of physical, sexual, emotional and financial abuse, with a 1-year prevalence of 14%. Higher prevalence rates were observed in women aged 35–39 years and 45–49 years.

Figures 1 and 2 display the 1-year and lifetime prevalences (with 95% confidence intervals) of partner violence reported in the primary studies, in order of standard error. *Table 3* lists the studies and the definitions of intimate partner violence (IPV) used.

Table 4 shows the results of a logistic regression model testing whether the definition of IPV used in the studies or type of population (community versus clinical) is associated with variation in prevalence. We found that community populations have significantly lower prevalence, but there was no consistent relationship between the number of different types of IPV measured and the reported prevalence.

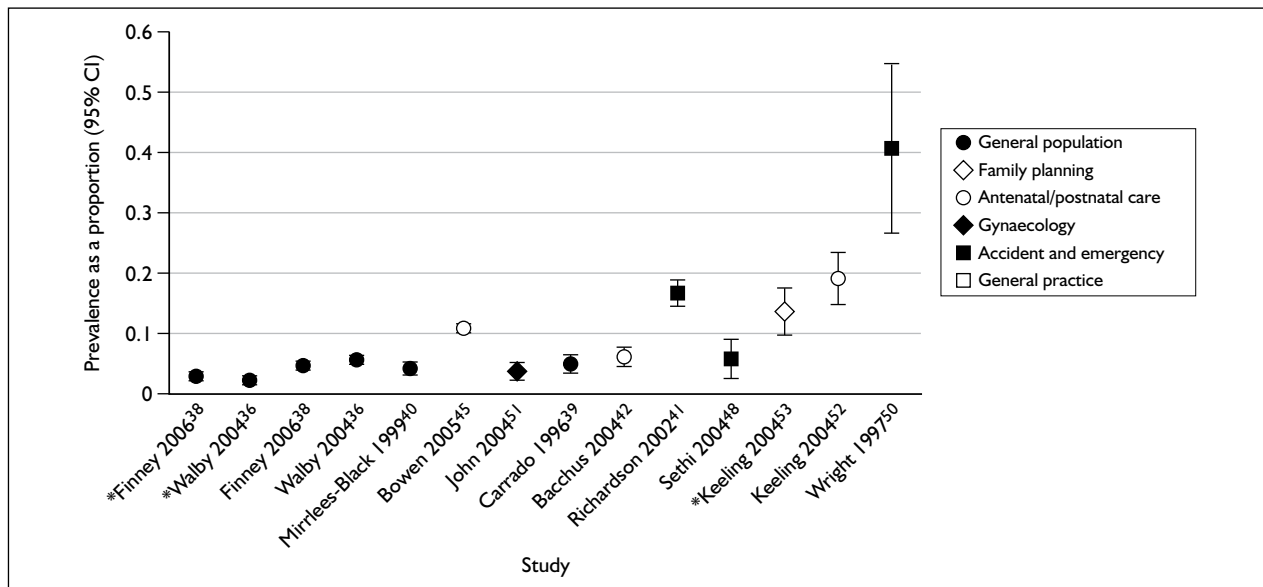


Figure 1 Plot of 1-year prevalence of partner violence with 95% confidence intervals. *See Table 3 for definitions of IPV used in these studies. Note: Bowen 2005⁴⁵ – 18 weeks’ gestation to 33 months’ postnatal prevalence; Wright 1997⁵⁰ – 2-month prevalence.

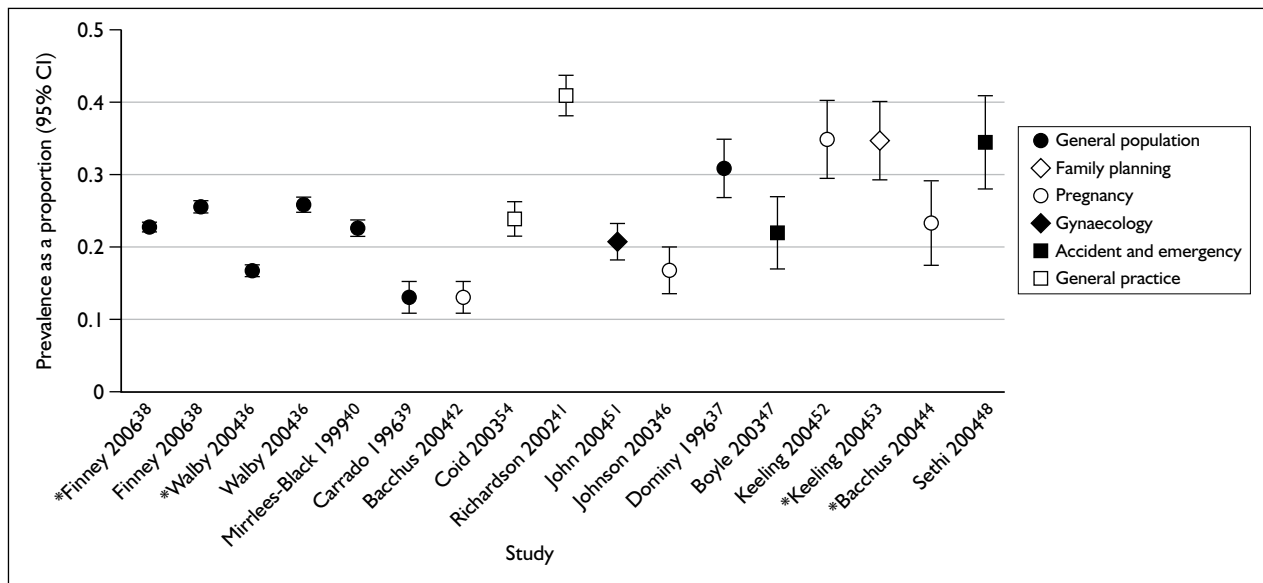


Figure 2 Plot of lifetime prevalence of partner violence with 95% confidence intervals. *See Table 3 for definitions of IPV used in these studies.

Discussion

Estimates of prevalence based on community samples can underestimate the extent of partner violence,⁵⁶ and estimates of prevalence in clinical samples will overestimate population prevalence, as survivors of partner violence are more likely to need health care than the general public (see below). Both types of studies are useful, however. Community samples will give a better estimate of population prevalence, and clinical samples are essential for understanding the impact of partner violence on health services. Several studies excluded non-English speakers, which may affect

the generalisability of results, particularly in UK urban areas.

Those general population studies that scored most highly on the STROBE^{36,39} assessment tool (see Appendix 4.1) had estimates of prevalence that differed from the lower quality studies; however, there was similar variation in prevalence rates *between* high-quality studies, so this variation cannot be accounted for by study quality (see Appendix 4.2). It was difficult to compare the clinical population studies due to the heterogeneity of settings, age of the women and the definition of partner violence, but again study quality

Table 3 Definitions of intimate partner violence (IPV) used in studies in Figures 1 and 2

Study	Definition of IPV	Study	Definition of IPV
Bacchus <i>et al.</i> , 2004 ⁴²	Physical, sexual, emotional	Johnson <i>et al.</i> , 2003 ⁴⁶	Physical, sexual, emotional
*Bacchus <i>et al.</i> , 2004 ⁴⁴	Physical, sexual, psychological	Keeling, 2004 ⁵²	Physical, emotional
Bowen <i>et al.</i> , 2005 ⁴⁵	Physical, sexual, emotional	*Keeling and Birch, 2004 ⁵³	Physical, sexual, emotional, financial
Boyle and Todd, 2003 ⁴⁷	Physical, sexual, emotional	Mirrlees-Black and Byron, 1999 ⁴⁰	Physical
Carrado, 1996 ³⁹	Physical	Richardson <i>et al.</i> , 2002 ⁴¹	Physical
Coid <i>et al.</i> , 2003 ⁵⁴	Sexual	Sethi <i>et al.</i> , 2004 ⁴⁸	Physical
Dominy and Radford, 1996 ³⁷	Physical, emotional, sexual and psychological	Walby and Allen, 2004 ³⁶	Physical, emotional, financial and threats
*Finney, 2006 ³⁸	Physical, emotional, financial and threats	*Walby and Allen, 2004 ³⁶	Sexual
*Finney, 2006 ³⁸	Sexual	Wright and Kariya, 1997 ⁵⁰	Physical
John <i>et al.</i> , 2004 ⁵¹	Physical		

Table 4 Logistic regression of population (community vs clinical) and definition of intimate partner violence (IPV; physical, emotional/psychological, threats, sexual and/or financial) in relation to prevalence

Comparison	Incidence rate ratio	95% Lower confidence limit	95% Upper confidence limit	p-Value
Lifetime prevalence				
Setting: community vs clinical	0.77	0.73	0.82	< 0.001
Count of 2 vs 1	1.22	1.18	1.25	< 0.001
Types of 3 vs 1	0.74	0.66	0.82	< 0.001
Violence 4 vs 1	1.27	1.04	1.56	0.02
One-year prevalence				
Setting: community vs clinical	0.24	0.22	0.27	< 0.001
Count of 2 vs 1	1.83	1.70	1.96	< 0.001
Types of 3 vs 1	0.93	0.83	1.05	0.24
Violence 4 vs 1	1.19	0.86	1.65	0.30

does not seem to predict prevalence. Within the clinical population studies, the prevalence seems to be highest in women attending accident and emergency departments. The lowest prevalence appears to be in antenatal populations; however, this may be due to women in these samples being younger than in other clinical populations.

Health impact

Results

We found 13 reviews reporting the health consequences of partner violence. Publication dates

ranged from 1995 to 2006. Three reported mental health outcomes,^{57–59} five reported reproductive health effects^{60–64} and five reported effects on children.^{65–69} For details of review study design and quality appraisal see Appendix 4.3.

Mental health

A meta-analysis by Stith and colleagues⁷⁰ synthesised results from primary studies published between 1980 and 2000 that measured the association of partner violence with depression and with alcohol abuse. Six studies, with a total of 899 participants, reported the association with depression. The pooled effect size was moderately

large ($r = 0.28, p < 0.001$). The authors state that it is reasonable to assume that depression is a consequence of partner violence, although they did not substantiate this as a separate analysis of longitudinal studies. Eleven studies, with a total of 7084 participants, reported the association between alcohol abuse and partner violence, which was relatively small ($r = 0.13, p < 0.001$), with some evidence for a bidirectional effect.

Golding⁵⁷ conducted a meta-analysis and reviewed results from published English language studies on physical abuse and threats of physical force as risk factors for mental health problems in women. Studies were excluded if no specific prevalence rates were given or if the study was limited to women experiencing abuse during pregnancy. Authors looked at the strength of association, consistency, temporality and biological gradient. Significant associations were found between partner violence and all outcome measures: depression, suicidality, post-traumatic stress disorder (PTSD), alcohol abuse or dependence, and drug abuse or dependence. When prevalence rates of mental health problems among survivors of partner violence were compared with those reported in general populations, the association with abuse was strong. A second indicator of strength of association was the odds ratio calculated from the subset of studies of survivors of partner violence in which comparison groups were used. The weighted mean odds ratio ranged from 3.6 to 3.8 in studies of depression, suicidality and PTSD, and was 5.6 in studies of alcohol and drug abuse or dependence. Although absolute prevalence rates varied across studies, the magnitude of association between partner violence and mental health problems was more consistent. The size of this association was statistically homogeneous in studies of PTSD, alcohol abuse and drug abuse. In studies of depression and suicidality, the variability among odds ratios was accounted for by sampling frames. The studies indicate that depression tends to lessen following the cessation of violence, and depression and PTSD seem to respond to the presence or absence of violence. Severity or duration of violence was associated with the prevalence or severity of both depression and PTSD, suggesting that dose–response relationships appear to exist for these disorders. Overall this review provides compelling evidence that adverse mental health outcomes can be a consequence of physical abuse or the threat of physical violence.

Jones and colleagues⁵⁸ reviewed 43 studies of survivors of partner violence published between 1991 and 2001, to estimate the association of

partner violence and PTSD. A consistent finding across varied samples (from clinical settings, refuges, hospitals and community agencies) was that a substantial proportion of survivors (31–84%) exhibit PTSD symptoms. The review also found that the partner violence refuge population is at a higher risk for PTSD than survivors who are not in refuge. The extent, severity and type of abuse were found to be associated with the intensity of PTSD.

Reproductive health

In a review of 14 published case–control and cohort studies, Murphy and colleagues⁶⁴ determined whether there is evidence for an association between physical, sexual or emotional abuse during pregnancy and low birthweight. Studies had to have English language abstracts, focus on women abused during pregnancy or pregnant women with a past abusive relationship, and fulfil quality criteria. Only 8 out of 14 studies fulfilled all the inclusion criteria and were entered into a meta-analysis; this gave a pooled odds ratio of 1.4 (95% confidence interval 1.1–1.8) for a low birthweight baby in women who reported physical, sexual or emotional abuse during pregnancy, compared with non-abused women. Removing the two case–control studies from the analysis reduced the odds ratio to 1.3 (95% confidence interval 1.0–1.8). This meta-analysis provides tentative evidence of an association between partner violence during pregnancy and low birthweight babies.

Boy and Salihu⁶² reviewed 30 peer-reviewed studies on the impact of partner violence (physical, sexual and emotional) on pregnancy and birth outcomes. To be included in their review, studies must have been peer reviewed and research based, included a study population of at least five women, pertained to partner violence, included pregnant participants and included data on the outcomes searched. One study, which focused on partner violence and trauma during pregnancy, found that 88% of the pregnant women who had been physically injured had been attacked by their husband or boyfriend. In this population eight fetal deaths occurred, with one fetal death being the result of an assault, yielding a violence-related fetal mortality rate of 16.0 per 1000. Of the six studies focusing on maternal mortality, one case–control death review found that a woman abused during pregnancy was three times more likely to be killed by a partner as a woman who is not abused (odds ratio 3.08, 95% confidence interval 1.9–5.1). The remaining five studies on maternal mortality were based on death reviews and reported that more than half the deaths were the result of murder; the involvement of a husband

or boyfriend was documented in multiple instances. Three death reviews focused on intentional trauma deaths; all noted that the majority of homicides were the result of partner violence. Twenty-three studies looked at partner violence and pregnancy outcomes. Three cohort studies found no significant differences between abused women and non-abused women, 7 studies reported mixed results, and the remaining 13 found significant differences between the outcomes of abused women and non-abused pregnant women. The three cohort studies that found no association between physical violence and negative outcomes did, however, note differences between abused and non-abused pregnant women: abused women were more likely to have uterine contractions and increased peripartum complications ($p < 0.05$)⁷¹ and were also significantly more likely to report substance use during the pregnancy ($p < 0.001$).⁷² Out of the seven studies reporting mixed results, two addressed fetal death and found that mothers abused during pregnancy were 3.7 times more likely to have a fetal death (95% confidence interval 1.36–9.94); they also suffered higher rates of miscarriage ($p < 0.05$). None of the seven studies indicated a relationship with low birthweight or preterm delivery; however, two studies found the smallest babies were born to abused women. Six of the seven studies reported a variety of negative behaviours and complications in abused women. Abused women were found to have more kidney infections (odds ratio 2.7, 95% confidence interval 1.3–5.5) and were 1.5 times more likely to deliver by Caesarean section. Three studies reported significantly higher rates of substance abuse during pregnancy in abused compared with non-abused women. Ten of the 13 studies with significant differences found a significantly higher proportion of low birthweight babies in women abused during pregnancy. In the studies reporting a relationship between low birthweight and partner violence, the percentage of abused women delivering a low birthweight infant ranged from 9% to 22%. Preterm delivery was also reported as a negative outcome due to violence. Four studies reported an increased risk of preterm delivery among abused women compared with non-abused women. One study found a statistically significant difference only in a private hospital. The relative risk for delivering a preterm infant if the pregnant woman was abused ranged from 1.6 (95% confidence interval 1.14–2.28) to 2.7 (95% confidence interval 1.7–4.4). Victims of violence were more likely to have negative health behaviours during pregnancy: 10 studies reported greater use of alcohol and other substances when compared with non-abused women; and two studies also noted that abused

women were at increased risk of low weight gain during pregnancy.

A review of nursing studies (including qualitative designs) published after 1995 on the relationship between partner violence and women's reproductive health was conducted by Campbell and colleagues.⁶¹ Two studies examined the effects of forced sex on women's health. One study found that sexually assaulted women had significantly more gynaecological problems than those who were not sexually assaulted ($p = 0.026$). That study also found that women reporting more forced sex experiences reported significantly greater levels of depression ($p = 0.018$) and a less positive physical self-image than those not sexually assaulted. The second study found that women who were sexually and physically abused had more symptoms than those who were only sexually abused. One study investigated the association between abuse and risk of sexually transmitted infections, and found the rate among the abused, assaulted and raped groups (29%, 31% and 31.3% respectively) was significantly higher than in non-abused women (14.9%, $p = 0.0001$). One study examined records from 389 sexual assault victims, 71% of whom knew the perpetrator; it found that more than three-quarters (78.3%) of those resuming sexual activities reported sexual difficulties and 17.1% reported gynaecological pain, but almost all of them had normal general physical (98%) and gynaecological (95%) examinations.

A literature review by Jasinski⁶⁰ reviewed findings on the relationship between partner violence and pregnancy, including the health consequences for the mother and child. Two studies were found that suggested partner violence was associated with late booking into antenatal care. Five studies found an association between partner violence and low birthweight, whereas two did not. The author raised the possibility that the finding of no relationship may be due to confounding variables, such as low socioeconomic status and gestation. Sample size differences and the lack of a standard cut-off for what constitutes low birthweight may also account for the conflicting findings. Evidence regarding the relationship between partner violence and premature labour was also found to be contradictory, with four studies finding an association and three finding none.

Nasir and Hyder⁶³ reviewed findings from three English language studies on the impact of partner violence on adverse pregnancy outcomes in developing countries. A study in Nicaragua demonstrated that women with low birthweight

babies were more likely to have experienced abuse during pregnancy (odds ratio 2.07 for threats, 3.27 for slaps, 5.04 for blows), and a multivariate analysis showed partner violence to be a strong risk factor. A study in India reported that women who had suffered beatings were significantly more likely to have experienced miscarriage or infant death ($p < 0.05$). Another study failed to demonstrate any significant difference in pregnancy outcomes between abused and non-abused women in China; however, it is not stated which outcomes were measured.

Impact on children's health

In total, we identified five reviews reporting the impact that witnessing partner violence had on the health of child witnesses. Publication dates range from 1995 to 2006.

Buehler and colleagues⁶⁵ conducted a meta-analysis of 68 studies (including dissertations), published in English, to explore whether interparental conflict is associated with internalising and externalising problems in children aged 5–18 years. The average effect size of the association between interparental conflict and youth problem behaviour was 0.32 (weak to moderate effect). Variability in these effects was explained by the characteristics of participants and methodological variables. The review provides some evidence that conflict between parents is one of several important familial correlates of internalising and externalising youth problem behaviours; however, the authors state this conclusion must be tempered given that 66% of the effects in this meta-analysis were non-significant.

A review by Bair-Merritt and colleagues,⁶⁶ measuring the relationship between exposure to partner violence and postnatal physical health using contemporaneous control groups, contained 22 studies. Eight studies addressed general health and use of health services. Although children exposed to partner violence are at risk of under-immunisation, the evidence is inconclusive regarding overall health status and use of health services. Evidence was insufficient to draw a conclusion about whether abused women are less likely to breastfeed than non-abused women, as only one study was found which addressed this issue. Evidence was also insufficient to draw a conclusion about whether infants born to abused mothers were more likely to have poor weight gain than infants born to non-abused mothers, as only two studies addressed this issue. Based on seven studies, there was an association between witnessing partner violence and adolescent and adult risk-taking behaviours (including smoking,

alcohol abuse, drug abuse, sexually transmitted infections, teenage pregnancy and unintended adult pregnancy).

Kitzmann and colleagues⁶⁷ conducted a meta-analysis of 118 studies reported in English and published before 2000 (including dissertations) examining psychological, emotional, behavioural, social and academic outcomes of children exposed to physical aggression between parents or carers. Similar estimates of effect were obtained for a range of outcomes. Exposure to partner violence is associated with children internalising and externalising problems to a similar degree. The effect sizes for social and academic outcomes were of similar magnitude as those found for internalising and externalising. The authors also synthesised effect sizes for measures of children's specific cognitive, behavioural and emotional responses to simulated or hypothetical episodes of conflict between adults. As a group, effect sizes based on these specific measures did not differ from those based on measures of general adjustment. Relative to other children, children exposed to partner violence showed greater negative affect and more negative cognitions in response to stimulated or hypothetical conflict between adults, and were more likely to report that they would intervene or show aggression in response to conflict. There was less consistent evidence that witnesses were more likely to withdraw or show less positive coping, perhaps because these responses are more difficult to assess.

An 'integrative' review was conducted by Attala and colleagues.⁶⁸ The reviewers included 11 studies reported in peer-reviewed journals (with over 800 children and their parents); the studies investigated the effects on children, aged up to 18 years, of witnessing partner violence. Three of the studies were qualitative. Four studies examined partner violence and the impact on children's emotional conditions or physical aggression. The first study found marital distress was positively associated with increased concern and social support-seeking by children. Children whose parents reported marital aggression and dissatisfaction were also found to demonstrate more preoccupation with physical aggression, concern and support-seeking responses than children with non-distressed parents. The second study found that preschoolers who had experienced familial violence had below-average self-concept scores. Preschool children were reported to have more difficulties in adjustment than children at school. The third study found that children who had recently witnessed violence between parents tended to have the lowest levels of

social competence ratings, whereas their mothers reported the greatest health and emotional difficulties. The fourth study found that there was no significant difference in the amount of behavioural problems demonstrated by children who had witnessed partner violence, children who had been abused by their parents, and children who had experienced child abuse and witnessed partner violence.

Three studies examined partner violence and the impact on children's externalising and internalising behaviours. The first study found that, compared with controls, survivors reported feeling more highly stressed as parents. The amount of stress was the most powerful predictor of children's behaviour problems. Children from violent families had more internalising behaviour problems and were more aggressive than children from the comparison group. The second study found that witnessing physical and verbal interparental violence was related to the type and extent of behaviour problems displayed by young children. Residents of refuges showed significant levels of externalising and internalising behaviours with lower levels of functioning than the non-refuge group. The third study found that, compared with controls, children who witness abuse and are abused themselves showed the most distress, followed by those witnessing abuse. Preschool children were reported to have more difficulties in adjustment than children at school. Two studies examined the impact of partner violence on children's conduct problems. The first found that parental marital abuse was associated with conduct problems in children who witnessed it. The second study found that two-thirds of the child residents of a partner violence refuge had experienced abuse or neglect. Of 21 schoolchildren, 46% had academic problems; of 28 preschoolers, 39% showed developmental delays; and of 48 children of all ages, 75% demonstrated behaviour problems. Two studies examined partner violence and the impact on parental aggression. The first found that parental aggression was highly associated with having witnessed partner violence as a child. This association did not vary by gender or by single or dual parent status of the family. The second study found a significant association between marital conflict and children's behaviour problems. Boys exposed to marital conflict were at risk of being abusive in their adult relationships. One study examined the impact of partner violence on children's depressive symptoms and found that children who were physically abused by their parents and who witnessed violence were more likely to report depressive symptoms. Mothers of all

groups reported more problem behaviours than the children acknowledged. Fathers in the same study groups were no more likely to report behavioural problems than fathers from the control group.

Kolbo and colleagues⁶⁹ reviewed 29 studies of the initial effects on children of witnessing partner violence, extending a previous review by another group.⁷³ Their findings indicated that children who witness partner violence are at risk for maladaptation in one or more of the following domains of functioning: (1) behavioural, (2) emotional, (3) social, (4) cognitive and (5) physical. The case studies examining behavioural functioning all shared a high degree of congruence in their findings of witnesses' undesirable behaviour; however, 4 of the 16 correlational studies found no significantly higher instances of conduct problems, hyperactivity and aggression among witnesses of abuse than among comparison children. When only the findings from the recently conducted studies are compared, only one study does not find significant differences. This suggests that the evidence of the effects of witnessing partner violence on children's behavioural functioning is less equivocal than in previous reviews. However, the reviewers do not state whether recently conducted studies are of a higher quality than those included in previous reviews.

Emotional functioning was assessed in 21 correlational studies and five case studies. Although the results of the case studies were relatively similar, 3 of the 13 correlational studies found no significant differences between witness and comparison groups. As a whole, these equivocal findings are consistent with previous reviews. However, when looking at only the most recently conducted studies, significant differences in emotional functioning and behavioural functioning are consistently found between witness and comparison groups. Thus the recent research is unequivocal in its finding that witnessing partner violence affects children's emotional functioning, although the reviewers do not comment on whether the recent studies have a higher quality of design or execution.

Eleven studies examined social functioning as an outcome. Six studies documented a significant relationship between social functioning and witnessing partner violence; however, four of the five recently conducted studies did not find child witnesses to have significantly lower social competence scores than comparison groups. Although some children from violent homes appear to be at increased risk of developing

problems in social functioning, the relationship between witnessing partner violence and the social functioning of these children remains unclear, with the majority of recent studies finding no significant relationship. Eight studies assessed cognitive functioning; three of these had been conducted since the previous review. Except for the findings of Christopoulos and colleagues,⁷⁴ the recently conducted studies all found that children who witness abuse are at risk for problems in cognitive functioning. However, the limited number of recent studies makes it difficult to draw firm conclusions of a cause–effect relationship, and no mention is made of the quality of these studies.

Ten of the studies examined physical health. One of the only two studies using standardised measures suggested a causal relationship after finding clinical levels of somatic complaints among witnesses of abuse. The second study did not find any neurological deficit among such children, and evidence of a causal link between exposure to violence and health problems remains equivocal. The reviewers concluded that although there is still some uncertainty about the magnitude and consistency of detrimental effects on children’s social, cognitive and physical development, the evidence for effects on children’s emotional and behavioural development is far less equivocal.

Strengths and limitations

The strengths of this review of prevalence and health impact studies include the independent quality appraisal of primary studies by two reviewers (using the STROBE quality appraisal tool for prevalence studies and the CASP systematic review tool for health impact reviews) and the sensitivity analysis based on study quality. These reviews fulfil the QUORUM and most of the MOOSE reporting criteria lines (see Appendix 11.1 for MOOSE criteria and Appendix 11.2 for a flowchart of this review). Limitations of this review include the small number (six) of databases searched for studies, and the exclusion of reviews of health impact conducted prior to 1990 and prevalence studies conducted prior to 1995. Limitations of the primary prevalence studies include investigators’ modification of instruments to measure partner violence without reporting how, or if, the adapted version of the instrument was validated. Comparisons between the studies were problematic because of different definitions of partner violence, different questions to establish the presence of partner violence and different questionnaire administration methods. Limitations

of the reviews of health impact studies include a lack of detailed reporting of search strategies, no quality appraisal of primary studies and no pooling of data. A major limitation in the field of domestic violence research is the absence of systematic reviews of physical consequences synthesising primary studies.

Discussion

The reviews provide strong evidence that partner violence can have a substantial detrimental effect on mental health. Evidence for the impact on pregnancy is more equivocal, but it is likely that low birthweight is a consequence of abuse during pregnancy. Recent studies on the impact on children show a greater prevalence of behavioural and mental health problems among children who witness partner violence, as well as diminished educational attainment. When the better-quality systematic reviews are considered, the findings on mental health, pregnancy and child health consequences are similar to the overall findings, although comparison between reviews is problematic because they report different outcomes.

Synthesis of prevalence and health impact studies

Differences in definition, methodology, sampling and assessment make it difficult to estimate precisely the prevalence of partner violence in the UK. Nonetheless, the studies reported here delineate the lower boundaries of partner violence prevalence, although possibly not the upper limit as under-reporting is likely. It is unarguable that partner violence against women is a common problem. To fulfil the NSC screening criterion for an important health problem, it also has to have a substantial impact on health. The reviews of health impact that we have considered, notwithstanding heterogeneity of morbidity estimates associated with partner violence, demonstrate that partner violence significantly increases the risk of mental illness and substance abuse and is likely to increase the risk of pregnancy complications.

We have not systematically reviewed individual studies of other health problems associated with partner violence, but they probably support the conclusion that partner violence has a substantial and persistent detrimental effect on the health of women. The most consistent and largest physical health difference between abused and non-abused

women is in the prevalence of gynaecological problems.⁷⁵ Population-based studies from the USA show that the likelihood of abused women having gynaecological symptoms is three times greater than average.⁷⁶ Other conditions include chronic pain and neurological symptoms,⁷⁵ gastrointestinal

disorders⁷⁷ and self-reported cardiovascular conditions.⁷⁸ The evidence for the substantial effect of partner violence on population health includes the results from the systematic reviews of outcomes on children that we have reported here.

Chapter 5

Are screening tools valid and reliable? (Question II)

Eighteen tools were assessed in 15 validation studies. The total number of participants was 10,289; studies reporting diagnostic accuracy comprised 8433 participants. The tools ranged from single questions to 30-item research inventories (see Appendix 5.1 for details of individual tools). Twelve tools were tested as index tools and eight as comparators; the Woman Abuse Screening Tool (WAST) and the Women's Experience with Battering Scale (WEB) served in both capacities in different studies. Of the 15 studies, only 10 reported sufficient data to calculate diagnostic accuracy. The majority of studies were conducted in the USA (11), with two in Canada, and the remaining two in France and Brazil. Settings varied from general practice (six), accident and emergency departments (four), antenatal clinics (three), women's health-care centres (two), women's homes (two), domestic violence refuges (two) and an urgent care centre within a hospital (one). Publication dates ranged from 1992 to 2006. For details of primary studies see Appendix 5.3, and for detailed results by study see Appendix 5.4. Below we have presented the main findings in a narrative form.

The screening tools

Women's Experience with Battering Scale (WEB)

Coker and colleagues⁷⁹ tested the WEB against the Index of Spouse Abuse-Physical (ISA-P) in two university-associated family (general) practice clinics. The original ISA-P has 25 items assessing physical abuse; the investigators used a modified version consisting of 15 items. Prevalence was reported as 11% with the ISA-P. Reliability was good: Cohen's kappa was 60% between the two measures, and a Pearson correlation of 0.67 between the two continuous measures supports the kappa statistic. Sensitivity was 86% and specificity 91%. The scores for each tool were compared with partner violence-associated injuries, adverse mental health outcomes, and perceived levels of health and health-care utilisation. Because the contents of each tool overlap and the authors wanted to identify which tool was more strongly associated

with the health outcomes of interest, they performed a stratified analysis. Controlling for the ISA-P, WEB was found to be significantly associated with poor mental health, anxiety, depression, drug abuse, PTSD and low social support, whereas the ISA-P was only significantly associated with more physician visits when controlling for the WEB. In women currently experiencing physical partner violence only, the continuous ISA-P score (adjusting for continuous WEB score) was significantly associated with having a partner violence-related injury requiring medical care (relative risk 1.06); the WEB was not (relative risk 0.99). Amongst women reporting an event that could lead to PTSD ($n = 356$), the WEB score was associated with higher PTSD symptom scores (relative risk 2.02) and the ISA-P score was not (relative risk 0.93). The authors conclude that the WEB may identify more women experiencing both physical and psychological battering and thus increase its clinical value. The study has shown the positive scores on the WEB to be strongly associated with partner violence-related health outcomes.

Ongoing Violence Assessment Tool (OVAT)

In an accident and emergency department, Ernst and colleagues⁸⁰ tested the OVAT against the Index of Spouse Abuse (ISA). The ISA detected a prevalence of 21% in women and 20% when both men and women were included. Reliability was reasonable, with a Cronbach's alpha of 0.6 and a kappa of 0.58 (95% confidence interval 0.53–0.63). Similar to the WEB, the OVAT showed reasonable diagnostic accuracy: a sensitivity of 86% and specificity of 83%.

'Hurts, Insults, Threatens and Screams at her' (HITS) scale

The HITS scale has been compared with a number of tools in different cultural settings. Chen and colleagues⁸¹ trained medical students to administer the HITS alongside the ISA-P and WAST in an urban family (general) practice site. Approximately 70% of the practice population was of Hispanic origin; thus English and Spanish versions of the

tools were used. Prevalence rates varied between the two comparators: ISA-P gave a prevalence of 5.4%, the WAST 9.9%; overall, 10.9% screened positive on the ISA-P or WAST. Diagnostic accuracy analyses were computed for both English and Spanish populations. To assess the nature and extent of misclassifications, receiver operating characteristic (ROC) analyses were used, which also help derive cut-off scores that highlight the greatest sum of sensitivity and specificity. Minor differences emerged when looking at the two comparisons.

Comparison of the English versions revealed good reliability (Cronbach's alpha) for the HITS (0.76), ISA-P (0.80) and the WAST (0.78). English HITS total scores were also significantly correlated with ISA-P total scores ($r = 0.76, p < 0.001$) and WAST total scores ($r = 0.75, p < 0.001$). The area under the curve (AUC) for English HITS was 0.99, using ISA-P as the criterion. English HITS was effective as a screening tool for partner violence ($p < 0.001$). For those using the English language, HITS was compared with an English version of the ISA-P. A cut-off score of 10.5 created the greatest sum of sensitivity (86%) and specificity (99%).

For the Spanish versions, reliability was slightly lower (HITS = 0.61, ISA-P = 0.77 and WAST = 0.80); however, correlations between the Spanish tools were slightly higher than those found between the English tools (HITS and ISA-P $r = 0.81, p < 0.001$; HITS and WAST $r = 0.78, p < 0.001$). This pattern of high correlations was also repeated for the total sample. For those answering in Spanish, the HITS was compared with a translated Spanish version of WAST. The AUC for the Spanish HITS was 0.95, and HITS was found to be effective as a screening tool ($p < 0.001$). A cut-off of 5.5 maximised sensitivity (100%) and specificity (86%).

HITS has several advantages over WAST. It is an acronym (making it easier to remember the individual questions), its cut-off scores for identifying partner violence are easier to remember, and it has a simple scoring protocol compared with the WAST multiple scoring protocols. One limitation of HITS is that it is only validated for detection of current abuse. The different cut-off points for the HITS between English-speaking and Spanish-speaking populations may reflect different views about what constitutes abuse. Hispanic women may view certain types of abuse as less abusive than other cultural groups.

Sherin and colleagues⁸² used a modified version of the Conflict Tactics Scale (CTS) as a comparator against the HITS. In the first phase of the study, women were recruited from a family (general) practice setting in order to assess reliability and concurrent validity of the HITS. In the second phase the reliability and concurrent validity of the HITS were tested in self-identified survivors of partner violence from either a refuge or an accident and emergency department. The two groups were then compared to assess the construct validity of the HITS. In the first phase, HITS showed good reliability (Cronbach's alpha = 80). The distribution of CTS and HITS scores suggests a low prevalence of partner violence in this population, although no prevalence figures were reported. Correlation between the two measures revealed a positive linear relationship ($r = 0.85$); the subscores for items measuring physical violence and verbal violence also showed a good positive association (0.82 and 0.81, respectively). No significant difference in scores was found due to presentation effects. In the second phase of the study, the scores from the practice population were compared with those of self-identified survivors and improvised diagnostic accuracy data were computed. With a cut-off score of 10.5 on the HITS, 96% of victims and 91% of non-victims were correctly identified (analogous to sensitivity and specificity analysis). This study provides good support for the use of HITS as a screening tool, although the accuracy analysis is contestable as a modified version of CTS (four reasoning items were removed) was employed.

Abuse Assessment Screen (AAS)

The Abuse Assessment Screen (AAS) has been tested against a number of tools, although only one study reported diagnostic accuracy data. Reichenheim and Moraes⁸³ validated the AAS against the Revised Conflict Tactics Scale (CTS2) in postnatal maternity wards in Brazil. Three case levels of partner violence were specified in this study: minor, major and overall. Minor cases were those where the participant answered 'yes' to at least one of five items asking about less severe physical acts such as being grabbed, pushed or slapped; major cases were defined as when at least one of seven more severe acts were reported, such as being choked, beaten up or kicked; overall cases were those that featured at least one positive response from both subsets. Prevalence of partner violence found with the CTS2 varied depending on the definition of cases used. Prevalence of

minor cases was 18%, for major cases it was 8%, and overall it was 19%. Diagnostic accuracy data for minor cases revealed a poor sensitivity at 32%, whereas specificity was very good (99%). Analysis of major cases showed an improved sensitivity of 61%, and specificity of 98%. Analysis of overall violence reduced sensitivity to 32%, with specificity at 99%. The AAS detects more major cases of abuse than either minor or overall violence. This observation is further supported by analysis of the false negatives; up to 50% of those who screened positive for 'pushed or shoved' or 'grabbed', and 60% of those who 'had something thrown at them that could hurt', were missed by the AAS.

Partner Violence Screen (PVS)

The Partner Violence Screen (PVS) has been tested against the ISA and CTS by Feldhaus and colleagues⁸⁴ in an accident and emergency department setting. The ISA revealed a current prevalence of abuse of 24% (95% confidence interval 19–30%) and the CTS showed a prevalence of 27% (95% confidence interval 22–34%). The study found reasonable diagnostic accuracy for the PVS. When compared with the ISA, the sensitivity of the PVS was 65% and specificity 80%. The physical violence item and two safety items of the PVS also showed moderate linear sensitivity (53% and 48%, respectively) and reasonable specificity (89% and 88%, respectively) when individually compared with the ISA. Similarly, comparison with the CTS gave reasonable results. Overall, sensitivity was 71% and specificity 84%; the physical violence item had greater sensitivity and specificity (68% and 95%) compared with the ISA, whereas the safety item showed slightly lower diagnostic values than the ISA (sensitivity was 40%, specificity was 87%). The single physical abuse question of the PVS was more sensitive and specific than the questions regarding safety. The negative predictive value was also good, with sensitivity of 88% and specificity of 89%. The PVS is a three-question tool that takes only 20 seconds to administer. About one in every four women who entered the emergency department had a history of physical or non-physical partner abuse, and the PVS was able to detect between 65% and 71% of these women.

MacMillan and colleagues⁸⁵ reported a validation of the PVS and WAST (see paragraph below) against the Composite Abuse Scale (CAS). Recruitment took place in two accident and emergency departments, two family practices and two women's health clinics. The study's original aim was to investigate the effects of presentation method of

the two index tools; specifically computerised, face-to-face interview, or pencil and paper presentation. Prevalence of partner violence for the CAS was 10%. The PVS showed only moderate diagnostic accuracy, with a sensitivity of 49% and a specificity of 94%, although overall accuracy was stated as 89%, calculated as the number of true positives plus the number of true negatives divided by the total sample size.

Woman Abuse Screening Tool (WAST)

MacMillan and colleagues⁸⁵ validated the WAST against the CAS. Like the PVS, they found only moderate diagnostic accuracy data, with a sensitivity of 47% and a specificity of 96%, although the overall accuracy was 91%.

Slapped, Threatened or Thrown (STaT) scale

Paranjape and colleagues⁸⁶ validated the STaT against the ISA in an urgent care centre in an inner city hospital that provides primary care. For most recent relationships, the ISA revealed a lifetime prevalence of 33% and a current prevalence of 15%. Diagnostic accuracy data were computed for each STaT score. For scores ≥ 1 , sensitivity was 95% (95% confidence interval 90–100%), specificity was 37% (95% confidence interval 29–44%); for scores ≥ 2 , sensitivity was 85% (95% confidence interval 77–92%) and specificity was 54% (95% confidence interval 46–62%); and finally a score of 3 had a sensitivity of 62% (95% confidence interval 51–73%) and a specificity of 66% (95% confidence interval 59–73%). Although showing good sensitivity, the tool has only moderate specificity.

Behavioural Risk Factor Surveillance Survey (BRFSS)

Bonomi and colleagues⁸⁷ compared the Behavioural Risk Factor Surveillance Survey (BRFSS) against the WEB using a telephone survey of randomly selected women enrolled for at least three years in a Group Health Cooperative. Prevalence was found to be 7% using the WEB. The authors computed diagnostic accuracy data for various elements of the BRFSS. For any kind of abuse, good sensitivity and specificity were found (72% and 90%, respectively). Sensitivity for sexual abuse was 21% and specificity 99%, whereas sensitivity for physical abuse was 42% and the specificity 95%. For detecting fear due to threats, sensitivity was 48% and specificity 97%. Detection

of controlling behaviour was slightly better, with a sensitivity of 65% and specificity of 94%. The difference between these two tools is based on their conceptual framework; the BRFSS is based upon behavioural acts of abuse, whereas the WEB employs a more consequence-orientated approach.

Single question

The use of a single question was investigated by Peralta and Fleming,⁸⁸ who asked women within a family (general) practice setting ‘Do you feel safe at home?’ and compared this with a modified version of the CTS (six items instead of 19, five of which related to psychological and one to physical violence). Period prevalence (90 days) of abuse was high at 44%, as measured by the modified CTS. The researchers examined diagnostic accuracy for the single question in three ways: (1) any violence, (2) physical violence with or without psychological violence, and (3) psychological violence with or without physical violence. For any violence, sensitivity was very poor at 9%, whereas specificity was high at 96%. For physical violence with or without psychological abuse, sensitivity was slightly improved at 15% and specificity was 95%. For psychological violence with or without physical violence, sensitivity was 9% and specificity was 96%. These results suggest that a single question about safety is a poor screening tool for partner violence.

Studies that did not assess the diagnostic accuracy data of index tools

Abuse Assessment Screen (AAS)

McFarlane and colleagues⁸⁹ tested the AAS against the CTS, ISA and the Danger Assessment Scale (DAS) in antenatal clinics. The population was ethnically heterogeneous: African Americans 39%, Hispanics 34% and whites 27%. Prevalence measured with the AAS was 26% within the last year, 17% during pregnancy and 55% when these two were combined. When the physical abuse (ISA-P) and non-physical abuse (ISA-NP) scores were compared against AAS scores, those positively screened with the AAS were more likely to have a significantly higher score on the ISA. This study showed physical abuse during pregnancy to be more than twice as high as reported in previous literature. A possible explanation for the increased rates may be due to the primary care provider, rather than a researcher, asking the questions. Another explanation may be that a woman was assessed three times in pregnancy; abuse may not

have occurred until the third trimester or women who at first did not want to disclose abuse did so when asked again. Although the prevalence of abuse in pregnancy was similar for the AAS and both parts of the ISA, the absence of reliability or diagnostic accuracy data makes it hard to draw any conclusions on the validity and reliability of the AAS from this study.

Perinatal Self-Administered Inventory (PSAI)

Sagrestano and colleagues⁹⁰ administered the Perinatal Self-Administered Inventory (PSAI) and the CTS to women in antenatal clinics. Based on the CTS, the prevalence of verbal aggression was 84%, and 17% of women had experienced physical violence in the past year. During the current pregnancy, the prevalence of verbal aggression was 68% and that of physical violence was 13%. From the PSAI, the question ‘Are you experiencing severe conflicts with anyone at home?’ did not correlate with measures of verbal aggression, and there were no significant differences in scores of verbal or physical violence between those who endorsed the single question and those who did not. The other partner violence-related question of the PSAI, ‘Are you suffering from mental or physical violence abuse right now?’, was not correlated with either verbal or physical abuse as determined by the CTS, nor were there any significant differences in verbal aggression scores between those who did and did not respond in the affirmative to the suffering abuse question. For the violence subscale, paradoxically, those who responded in the affirmative to the single question (only 3% of the sample) scored significantly lower than those who did not. From these findings, the abuse questions of the PSAI are unlikely to be reliable screening tools for either verbal or physical violence within an antenatal setting; however, there are no diagnostic accuracy data to support this conclusion.

Woman Abuse Screening Tool (WAST)

Brown and colleagues⁹¹ conducted a validation study in a Canadian family (general) practice setting comparing the WAST with the Abuse Risk Inventory (ARI). Prevalence detected with the WAST was 9%. The WAST showed good internal consistency (coefficient alpha = 0.75) and was significantly correlated with the ARI ($r = 0.69$, $p = 0.01$). In 2001, Brown repeated the study in a French-speaking population in a domestic violence refuge and private homes setting, and reported good internal consistency. As neither study

reported diagnostic accuracy no conclusion about construct validity can be drawn.

Single question

Connelly and colleagues⁹² used the CTS as a comparator to test a single question incorporated into a hospital admission protocol: 'Are you in a relationship in which you have been threatened, scared or hurt by someone? If yes, whom? [*sic*]' The specific clinical setting in which the protocol was administered is not clear. The CTS gave a prevalence of 18%. No diagnostic accuracy data were reported.

Diagnostic accuracy

The data for diagnostic accuracy are summarised in *Table 5*. The sensitivity of partner violence screening tools ranges from poor to good (9–100%). Tools that scored sensitivity greater than 85% include the HITS (both Spanish and English versions), STaT, WEB and OVAT. Specificity was good across all but one of the tools, ranging from 83% to 99%. The one outlier was the STaT scale, with a specificity of 37%. Index tools with a specificity greater than 85% included the AAS, HITS, single question 'Are you safe at home?', WAST, PVS, WEB and the BRFSS.

The relatively small number of studies for each index tool and the heterogeneity of settings, demography of participants and comparator tools precluded pooling of the diagnostic accuracy data.

Concurrent validity

Five studies reported concurrent validity (*Table 6*); generally this was high, the exception being the PSAI.


Reliability

Six primary studies reported two types of reliability data (*Table 7*): (1) internal consistency, a measure based on the correlations between different items on the same test (coefficient alpha and Cronbach's alpha); and (2) inter-rater reliability, the degree of agreement among scorers (Cohen's kappa). Most studies reported good reliability of the tools that were tested.

Sensitivity analyses

If we exclude studies with three or more areas of bias as determined by the QUADAS appraisal tool, four studies remain, as shown in *Table 8*.

Table 5 Ranked scores of sensitivity, specificity and summed sensitivity plus specificity for each index tool in order of decreasing predictive power

Decreasing predictive power	Sensitivity	Specificity	Overall (Sen + spec)			
	HITS (Spa)	100	AAS	99.2	HITS (imp)	187
	HITS (imp)	96	HITS (Eng)	99	HITS (Spa)	186
	STaT	94.9	Single question ^a	95.8	HITS (Eng)	185
	HITS (Eng)	86	WAST	95.6	WEB	177
	WEB	85.9	PVS ^b	93.7	OVAT	168.8
	OVAT	85.7	WEB	91.1	BRFSS	162.1
	BRFSS	72.4	HITS (imp)	91	PVS	150.3
	PVS	68	BRFSS	89.7	PVS ^b	142.9
	PVS ^b	49.2	HITS (Spa)	86	WAST	142.6
	WAST	47	PVS	82.3	STaT	131.6
	AAS	31.7	OVAT	83.1	AAS	130.9
	Single question ^a	8.8	STaT	36.6	Single question ^a	104.6


Computation of diagnostic accuracy data (Sherin *et al.*, 1998⁸²).

Spa, Spanish language (Chen *et al.*, 2005⁸¹); Eng, English language (Chen *et al.*, 2005⁸¹); imp, improvised.

a Single question: 'Do you feel safe at home?'


b MacMillan *et al.*, 2006.⁸⁵

Table 6 Ranked scores of concurrent validity in decreasing order

Decreasing concurrent validity	Comparison (index vs comparator)	Correlation (r value)	p-Value
	HITS (imp) vs CTS (any)	0.85	Not stated
	HITS (imp) vs CTS (physical)	0.80	
	HITS (imp) vs CTS (verbal)	0.81	
	HITS (Spa) vs ISA-P	0.81	< 0.001
	HITS (Spa) vs WAST	0.81	< 0.001
	HITS (Eng) vs ISA-P	0.76	< 0.001
	HITS (Eng) vs WAST	0.75	< 0.001
	WAST vs ARI	0.69	0.01
	WEB vs ISA-P	0.67	Not stated
	PSAI 'Are you experiencing severe conflicts with anyone in your home?' vs CTS	0.16	0.035
	PSAI 'Are you experiencing severe conflicts with anyone in your home?' vs CTS (verbal)	0.10	> 0.05
	PSAI 'Are you suffering mental or physical abuse now?' vs CTS	0.03	> 0.05
	PSAI 'Are you suffering mental or physical abuse now?' vs CTS (verbal)	-0.05	> 0.05

Computation of diagnostic accuracy data (Sherin *et al.*, 1998⁸²).
Spa, Spanish language (Chen *et al.*, 2005⁸¹); Eng, English language (Chen *et al.*, 2005⁸¹); imp, improvised.

Table 7 Ranked score of reliability in decreasing order

Decreasing reliability	Index tool	Type	Value
	WAST ^a	Coefficient alpha	0.95
	HITS (imp)	Cronbach's alpha	0.80
	HITS (Eng)	Cronbach's alpha	0.76
	WAST ^b	Coefficient alpha	0.75
	HITS (Spa and Eng combined)	Cronbach's alpha	0.71
	HITS (Spa)	Cronbach's alpha	0.61
	WEB	Cohen's kappa	0.60
	OVAT	Cohen's kappa	0.58

Spa, Spanish language (Chen *et al.*, 2005⁸¹); Eng, English language (Chen *et al.*, 2005⁸¹); imp, improvised computation of diagnostic accuracy data (Sherin *et al.*, 1998⁸²).
a Brown *et al.*, 2001.⁹³
b Brown *et al.*, 2000.⁹¹

The five higher-quality studies all report diagnostic accuracy data, although three⁸⁴⁻⁸⁶ do not report any psychometric properties of the index tools they validated, a shortcoming that is not captured by the QUADAS. The high-quality studies tested the PVS, WAST, HITS and the single question 'Do you feel

safe at home?' as index tools and found that the WAST and HITS performed best overall.

The number of items in a tool was not associated with diagnostic accuracy. There were not enough studies testing tools in different health settings to

Table 8 Higher-quality studies

Study	Tools assessed (index vs comparator)	Predictive power	Concurrent validity	Reliability
Feldhaus <i>et al.</i> , 1997 ⁸⁴	PVS vs ISA and CTS	142.9	Not stated	Not stated
Brown <i>et al.</i> , 2000 ⁹¹	WAST vs ARI	142.6	$r = 0.69, p = 0.01$	0.75
Chen <i>et al.</i> , 2005 ⁹¹	HITS vs WAST:			
	HITS (Spa)	186	ISA-P $r = 0.81, p < 0.001$ WAST $r = 0.81, p < 0.001$	0.61
	HITS (Eng)	185	ISA-P $r = 0.76, p < 0.001$ WAST $r = 0.75, p < 0.001$	0.76
	HITS (Spa and Eng combined)			0.71
MacMillan <i>et al.</i> , 2006 ⁸⁵	PVS and WAST vs CAS	PVS 142.9 WAST 142.6	Not stated	Not stated
Paranjape <i>et al.</i> , 2006 ⁸⁶	Single question 'Do you feel safe at home?' vs modified CTS	104.6	Not stated	Not stated

judge whether they were more accurate with some groups of patients than others.

Which tools are valid and reliable?

When considering the rank of the diagnostic accuracy data (sensitivity, specificity and sensitivity plus specificity; see *Table 5*), the HITS scale consistently emerges as top ranked, followed by the WEB and the OVAT. HITS, an acronym derived from the four short questions, is quick to administer. Women answer each question using a five-point scale from 1 (never) to 5 (frequently); answers are then summed to give a potential total score ranging from 4 to 20. A cut-off score of 10 gives the highest combined sensitivity and specificity. It has good diagnostic accuracy in both English- and Spanish-speaking populations. A limitation of the HITS scale is that it fails to ask about sexual abuse or ongoing violence, thus it may need to be administered alongside another screening tool to detect these forms of abuse.

The WEB assesses abuse by characterising women's perceptions of their vulnerability to physical and psychological danger or loss of control in relationships. The tool comprises 10 items and uses a six-point Likert-type scale giving a potential

range of scores from 10 to 60. A score greater than 20 indicates battering. A disadvantage of the WEB is that women may not link abusive behaviours or tactics directly to the emotional impact the abuse is having on them. Although the WEB identifies abuse, it does not necessarily identify the *acts* of abuse, thus further enquiry from the clinician would be needed for adequate documentation in medical records. As shown in *Tables 6* and *7*, respectively, the WEB has good concurrent validity against the ISA-P and reasonable reliability although the study has more than two areas of bias.

The OVAT aims to detect current abuse asking about physical and non-physical violence within the past month. The four questions are quick to administer and score: three questions are true/false answers, the other is answered on a five-point Likert response: 1 (never) to 5 (very frequently). The OVAT takes 1 minute or less to administer and can be scored immediately. *Table 5* shows the OVAT has good predictive power. Although no concurrent validity was reported in the primary study, the OVAT has reasonable reliability (see *Table 7*).

On current evidence, tools that scored a low combined sensitivity and specificity, such as the single question 'Are you safe at home?' or the AAS, are not good candidates for screening programmes in clinical settings.

Methodological considerations

Several areas of weakness have emerged from this review of screening tools. First, only Sherin and colleagues⁸² and Chen and colleagues⁸¹ report presentation effects, yet studies that account for data on presentation effects are more robust. Priming of responses due to type of wording or impact of questions may influence subsequent answers on later questions. Second, modified comparators (featured in four studies) may inflate or decrease the diagnostic accuracy, particularly if those tools have not been psychometrically tested. Furthermore, these studies are not truly comparable with other studies using the full version of the tool, thus comparisons within the field are more problematic. Third, discrete categories of violence should be analysed if possible. Peralta and Fleming⁸⁸ analysed the diagnostic accuracy data in three ways: any violence, physical violence with or without psychological violence, and psychological violence with or without physical violence. The last two categories overlap, making it difficult to ascertain what the tool *has* identified and what the tool *can accurately* identify.

Study quality ranged from good to poor (see Appendix 5.5). When the number of positive responses was totalled for each study (a higher number denotes that fewer types of bias occurred in the study), 11 out of 15 primary studies scored 10 or more, i.e. had four or fewer different types of bias in the study; two scored nine, i.e. had five types of bias. There was ambiguous reporting in three of the studies: it is unclear whether Coker and colleagues⁷⁹ used two separate tools or combined them into one, which may have increased multi-collinearity between the tools; Reichenheim and Moraes⁸³ had unclear selection criteria, and Ernst and colleagues⁸⁰ did not adequately report their selection criteria and their execution of the index test was uncertain.

None of the studies analysed the score of the index tool blinded to the score of the comparator. This may be a less important source of bias than others because there is little room for interpretation of the questionnaire data. Suitable comparators to use against an index tool include the CTS2, ISA or the CAS. But investigators also used the WAST, ARI, WEB, CTS, modified CTS and a modified CTS2 as comparators, although they are not adequately validated. Multi-collinearity may have featured in those studies that combined index and comparator tools into one instrument. This may be further influenced by using the index tool score to

inform the final diagnosis. Unreported withdrawals from the studies may indicate a selection bias, particularly if such a feature is systematic across all the studies.

Strengths and limitations

The strengths of this review on screening tools include quality appraisal of primary studies using criteria from the QUADAS and the sensitivity analysis based on quality, the calculation of diagnostic accuracy (if this was not reported in the primary study and data were available) and a methodological critique of studies. Furthermore, this review question was quality appraised using the modified QUORUM checklist, which indicates that all the QUORUM criteria were met (see Appendix 11.3 for QUORUM checklist and flowchart).

Limitations of the review include the arbitrary choice of 12 items or less as a criterion for an index screening tool. A tally of 12 items was chosen by the authors because this was deemed to be a practical number of items to administer for screening purposes. Further limitations relate to the quality of the primary studies and heterogeneity of screening tools used by each study, making it impossible to pool the studies into a meta-analysis.

Discussion

There are valid and reliable screening tools for partner violence against women that can be used in health-care settings, fulfilling the NSC criterion, although the number of studies reporting validation and reliability for any one tool is small. The HITS scale shows most diagnostic accuracy, concurrent validity and reliability. Even if the study by Sherin and colleagues⁸² is disregarded due to its improvised diagnostic accuracy, the HITS still ranks above the other tools and has been validated in at least one good-quality study.⁸¹ A total of 141 papers were initially selected, which covered a wide range of validation studies. We excluded many studies because of our upper limit of 12 items in a screening tool. It is possible that some of the excluded studies may have identified tools that had good diagnostic accuracy, but more than 12 questions would be impractical for use in clinical settings. The majority of studies came from North America, so their generalisability to UK clinical settings is uncertain. The choice of a tool for the NHS would need to take into account the use of different terms, such as 'battering', which is not used in the UK but is central to the WEB. The lack

of UK studies in this review could reflect a lower priority given to validation of partner violence screening tools, as screening is not current policy within the NHS.

Finally, we need to heed the caution of Fogarty and colleagues⁹⁴ about judging screening questions for partner violence as we would screening tools for

medical conditions. A woman experiencing partner violence who discloses to a clinician has gone through ‘...a complex process. Factors involved in this process include the woman’s recognition of a problem, her willingness to trust her clinician with this information, and her perception of the clinician’s openness to hearing her story with compassion and without judgment.’

Chapter 6

Is screening for partner violence acceptable to women? (Question III)

Qualitative studies

Thirteen journal articles and one UK Home Office report (total of 13 studies) published between 2001 and 2006 fulfilled our inclusion criteria for this question. For details of the studies and quality appraisal scores see Appendix 6.1. Ten of the studies were conducted in the USA, two in the UK and one in Sweden. The total number of participants was 1393, ranging between 7⁹⁵ and 879.⁹⁶ The quality score of the primary studies, appraised with the CASP criteria, was between 20⁹⁷ and 34,^{98,99} with most of the studies scoring more than 27 out of a possible 41.

First-order constructs

We identified 10 first-order constructs reflecting women's attitudes towards screening in health-care settings.

1. Women find screening beneficial, even if they are not yet ready to disclose abuse

Informants said that raising awareness in addition to eliciting disclosure of abuse should be an aim of screening. Women who did not want to disclose abuse still found screening beneficial as it helped to remove the stigma attached to partner violence, raised awareness of partner violence, gave them a sense of validation and conveyed to them that when they were ready they could talk to their health professional about abuse. Although women may not disclose abuse immediately, screening may facilitate disclosure later on when they feel more comfortable with the health-care professional or when their circumstances change and they feel the need to get help.

2. Women gain a sense of support and relief from discussing their situation with someone

Some women thought that if they could have the opportunity to talk with someone about abuse, they would feel there is someone to support and encourage them. One woman said 'What I really think helped me last pregnancy was people talking to me, not at me. Not having that better than

[thou] attitude. I felt people really, genuinely cared'.¹⁰⁰

3. Screening may be more acceptable to women where there is already an established relationship with the health-care professional

Some women found it more acceptable to be screened when they already knew and trusted the health-care professional.

4. Screening may be more acceptable to women if the health-care professional's manner is compassionate and non-judgmental

Women emphasised the importance of professionals listening to them without judging or condemning them; not listening was viewed as inhibiting disclosure. Women felt more comfortable being screened and being asked sensitive questions by health-care professionals who they felt understood the complexity of partner violence.

5. Women are concerned that health-care professionals do not have the time to listen to them and discuss their situation

Some women expressed concern that appointments were not long enough to make effective use of confidential time or that there was no time to listen.

6. Screening women for partner violence may lead to women disclosing abuse, and may facilitate the woman leaving the relationship or seeking help

Many of the women felt that screening gave them the opportunity to disclose abuse, either then or at a later stage, and that without this opportunity it would be harder for them to seek help.

7. Women expressed concerns about potential negative repercussions of screening: breach of confidentiality, the involvement of children's services, legal repercussions and being judged

Common concerns included the potential legal consequences of revealing abuse and fears that abusive partners might find out that the relationship had been discussed. Some women reported feeling ashamed and concerned that the

health-care professional would judge them harshly for staying in an abusive relationship.

8. Screening may be more acceptable to women when given a reason for screening

Some women stated that part of their fear and suspicion about screening and disclosing partner violence arose from not being sure of the health provider's intentions when asking and the possible negative consequences of disclosure. Some women felt that they were being screened because health-care professionals did not think they were caring for their children properly and saw screening as part of an investigation of child neglect or abuse.

9. The acceptability of screening may vary depending on whether screening is conducted face-to-face or by written questionnaire

Opinions on whether screening should be conducted via a written questionnaire or face-to-face were mixed. Some women preferred to talk about their experience and others preferred writing it down and not having to disclose out loud.

10. Acceptability of screening may depend on the gender and the profession of the health-care professional

Some women showed a preference for being screened by women; however, most women stated that a health-care professional's interpersonal qualities were more important than their gender or profession. Others voiced a preference for being screened by older rather than younger health-care professionals and by doctors rather than nurses.

Second-order constructs

These constructs represent the conclusions of the authors of the primary studies.

1. Women believe the primary aim of screening should be education rather than eliciting disclosure.
2. Screening is generally acceptable to women.
3. Certain factors increase women's acceptability of screening, such as the health-care professional's manner, being asked in a safe and confidential environment, giving a reason for asking, not pressuring women to disclose, and the quality of the relationship the woman has with the professional.
4. Women have concerns about screening, such as lack of time, potential breach of confidentiality and fear of involvement of child protection services.

Contradictions within and between the studies

There were no major contradictions between constructs either within or between studies. With regard to first-order constructs 9 and 10, there was variability within and between studies on women's preferences for being screened face-to-face or by written questionnaire, and their preferences about the gender and the profession of the person performing the screening. There were no contradictions between the second-order constructs.

These interview- and focus group-based studies found that women's views on partner violence screening in health-care settings are complex. The emerging constructs were largely consistent across studies and did not vary by study quality. Generally, the informants find screening acceptable with certain caveats, such as the manner of asking and the nature of the initial response. One study found that women who suffered emotional abuse did not feel that they had been appropriately screened as the questions asked only covered physical violence.¹⁰⁰ This raises the possibility that women's acceptance of screening may vary depending on the type of abuse they experienced. However, the majority of studies did not provide a breakdown of the type of abuse experienced by the women, and we were not able to explore this further. Given the number of qualitative studies, we were surprised there were not more contradictory findings. Without access to the data it is impossible to say whether contradictions were not present or were not reported by the authors, many of whom seemed to assume that screening for partner violence was an essential part of a health-care response.

Quantitative studies

Nineteen journal papers (18 cross-sectional studies and one case-control study) fulfilled our inclusion criteria. For details of the studies see Appendix 6.2. One study was a telephone survey,¹⁰¹ the others were based on face-to-face interviews or self-completed questionnaires. Twelve studies were conducted in the USA, two in the UK, one in Ireland, one in Canada, one in Australia, one in Italy and one in Germany. Response rates ranged between 49%¹⁰² and 100%,¹⁰³ and the number of participants was between 95¹⁰⁴ and 3455,¹⁰⁵ with a total of 11,849 across all the studies. Twelve studies were conducted in a range of hospital settings, including one in a maternity unit and one in an

ambulatory care clinic. Three studies recruited women patients from general practices, two from health maintenance organisations (HMOs), one recruited women attending a family planning clinic and one recruited women from a combination of general practice, partner violence programmes and refuges. There was variation in attitudes towards screening between countries and between settings within the same country (agreement with partner violence screening varied between 35% and 99%). The quality score assessed by STROBE³⁰ was between 9¹⁰⁶ and 20,¹⁰⁷ with most of the studies scoring more than 14 out of a possible 22. For quality scores and results see Appendix 6.3.

Bair-Merritt and colleagues¹⁰⁸ conducted a survey in an US paediatric emergency department, comparing responses of mothers and other female caregivers before (pre) and after (post) implementation of a screening programme that included displaying partner violence posters and cards in the waiting area. The two groups did not significantly differ with respect to age, race, education or personal partner violence history. The post group was less likely to find paediatric emergency department partner violence screening acceptable (pre, 76%; post, 63%; odds ratio 0.5; 95% confidence interval 0.3–0.9) and was less likely to say that they would disclose abuse (pre, 85%; post, 75%; odds ratio 0.6; 95% confidence interval 0.3–1.1). Notwithstanding this reduction, the majority of respondents found screening acceptable and said they would disclose if asked. There was no difference between previously abused and non-abused women with regard to the acceptability of displaying resources or routine screening.

Brzank and colleagues¹⁰⁶ surveyed 18–60-year-old women attending an accident and emergency department in a German hospital. Overall, 32% of the 806 participants would have wanted to be asked about partner violence by their physicians. This number increased to 41% in the case of patients who had experienced sexual violence, and to 44% in the case of patients who experienced physical or emotional violence. Almost 65% of the participants generally thought that questions about partner violence experience should be part of routine history taking.

Caralis and Musialowski¹⁰⁹ administered a questionnaire to 406 women in ambulatory clinics at a US Veterans Affairs Medical Center. They reported that 77% of non-abused and 70% of abused women agreed that doctors should routinely screen for abuse in their practices.

Friedman and colleagues¹¹⁰ administered a questionnaire to 164 women attending a primary care physician in the USA. Routine enquiry about physical and sexual abuse was favoured by 78% and 68% respectively. Older patients were more in favour of routine physical abuse enquiry, but responses about sexual abuse enquiry did not vary by age. Among patients who had not graduated from high school education, there was a higher proportion in favour of routine enquiry about physical abuse and sexual abuse.

The study by Gielen and colleagues¹¹¹ included 202 abused women and 240 randomly selected non-abused women recruited from a US metropolitan health maintenance organisation. Forty-eight percent of the sample agreed that health-care providers should routinely screen all women. Women thought that screening would make it easier for abused women to get help (86%), although concerns were raised about increased risk of abuse with screening (43%).

Glass and colleagues¹⁰⁵ conducted a study based in 11 mid-sized community-level hospital emergency departments in the USA, and recruited 3455 women patients. Those who were physically or sexually abused in the past year were less likely to agree with routine screening than women who reported a lifetime history of abuse or who reported no partner violence (80% versus 89%, $p < 0.1$), although the majority of both groups agreed with screening.

The participants in a study by Hurley and colleagues¹⁰³ were 304 non-critically ill women, aged 16–95 years, who presented to emergency departments at two Canadian health centres. Eighty-six percent supported universal screening of women patients for partner violence, with no age differences.

McCaw and colleagues¹⁰¹ selected two random samples of women patients (total 397) – members of a non-profit, closed-panel, group-model US health maintenance organisation (Kaiser Permanente) – before and after an intervention that included a screening programme. The majority of women (80%) felt that clinicians should screen all their women patients for partner abuse. Responses to questions about the appropriateness of clinicians screening all women patients were similar pre- and post-intervention and did not differ by abuse status or by age.

McDonnell and colleagues¹¹² recruited 481 patients attending their first antenatal appointment at an Irish hospital. Of the women who answered the questions regarding acceptability of partner violence screening, 468 (99%) found the questions acceptable and considered that all women should be asked these questions. There were no differences in acceptability by abuse status or by age.

A study by McNutt and colleagues¹¹³ recruited women from a health maintenance organisation (HMO), partner violence programmes and refuges. The survey incorporated questions on what women want nurses and physicians to ask, and what they want them to do and not do in order to help abused women. Forty percent of women in the HMO and community-based programmes and 64% in refuges agreed with screening.

Newman and colleagues¹¹⁴ conducted a survey of 451 women who were unaccompanied by a male partner in a paediatric emergency department in a US hospital. When asked if it was appropriate to screen them for partner violence when they sought care for their children, 75% of women stated it was. Forty-four percent preferred direct verbal questioning, 36% a written questionnaire, and 20% suggested other methods of screening.

Renker and Tonkin¹⁰² used anonymous computer interviews in two maternity units in the USA. Topics covered in the interview included screening and interventions, past disclosure to health-care providers, preferences or attitudes towards violence screening, pregnancy violence and violence severity screening. Feelings of anger, embarrassment or being offended were not experienced by the majority (97%) of women screened by their prenatal care providers for partner abuse.

Richardson and colleagues⁴¹ surveyed 1207 women in 13 randomly selected general practices in London. Eighty percent of women reported that they would not mind being asked by their general practitioner about abuse or violence in their relationship if they had come about something else.

Romito and colleagues¹⁰⁷ conducted a survey in six family practice sites in Italy. Women were approached and asked if they would like to participate in a study to improve how health services respond to women's health problems. Eighty-five percent of respondents believed the family doctor should ask all women about violence, 7% thought doctors should not ask, and 8% were uncertain. A higher percentage of women

experiencing current abuse agreed that doctors should ask about abuse compared with women not currently experiencing abuse, although this association was not significant. Younger women were significantly less likely to agree that all doctors should ask about abuse.

Sethi and colleagues⁴⁸ administered a modified World Health Organization (WHO) Multi-country Domestic Violence Study questionnaire in an inner-city accident and emergency department in a British hospital. The questions asked about the nature of violence and abuse experienced and women's views on being asked about abuse in an accident and emergency department setting. Overall, 76% felt comfortable when asked about partner violence. Eighteen percent felt slightly uncomfortable, 5% felt uncomfortable and 1% felt very uncomfortable. Feelings of being uncomfortable were higher in those who had experienced abuse compared with those who had not (10% versus 3%, $p = 0.02$). In response to a question about the desirable frequency of being asked about partner violence, 35% felt it should be on all occasions, 26% felt they should usually be asked, 38% said seldom and 2% felt never. Many women commented on the need for privacy and safety and expressed concern about direct questions being asked of women presenting with injuries.

Zeitler and colleagues¹¹⁵ recruited women aged between 15 and 24 years who presented for family planning services to a US clinic. Almost 90% of those surveyed felt that universal screening by health-care providers is a 'very good' or 'somewhat good' idea. When respondents were categorised according to how much they minded being asked about violence, there were no differences according to ethnicity, school enrolment, parity, family violence or lifetime dating violence experience. However, compared with women aged 19–21 years, women aged 15–18 years were 2.9 times more likely to voice some concern regarding violence screening by a provider (36%, $p < 0.01$).

Webster and colleagues¹¹⁶ administered a self-report questionnaire to 1313 women from five Australian hospitals during the visit following the consultation at which they had been screened for partner violence. Ninety-eight percent of respondents believed it was a good idea to ask women about partner violence when visiting a hospital. There was no difference in the responses of women from rural, remote or inner city sites, nor were there differences between sites in terms of how women felt when asked partner violence

questions. Ninety-six percent felt 'OK' about being asked, 1% felt relieved to be able to talk to someone about their problem, and 2% felt uncomfortable. Three-quarters of women who felt uncomfortable still agreed that it was a good idea to ask about partner violence.

Weinsheimer and colleagues¹⁰⁴ recruited 95 consecutive women in a level 1 trauma centre to a questionnaire survey. Although 18% of women thought screening infringed their privacy, the overwhelming majority (> 90%) felt that it was appropriate to ask about partner violence and that women should be asked about it in a trauma setting. Nearly all (93%) of the 44 women who reported a history of partner violence thought a trauma centre health-care provider could assist them with a safety plan, but about one in four abused women thought reporting would increase their chances of further harm.

Witting and colleagues¹¹⁷ surveyed 146 patients attending an accident and emergency department, giving three hypothetical scenarios of varying partner violence risk. Patients' support for 'screening' increased as the scenarios increased in severity: 86% expected it for the high-risk versus 17% for the low-risk scenario. The majority of patients felt that a physician, rather than a nurse, should have the primary responsibility for partner violence screening, but that the gender of the screener did not matter. A higher proportion of patients with lower educational status supported screening in the emergency department.

Synthesis

We have combined data from the interview- and focus group-based qualitative studies with the data from the questionnaire-based quantitative studies. The main focus of this review question was the acceptability to women patients of screening for partner violence. This included physical and sexual violence, emotional abuse and controlling behaviours by current partners or ex-partners. Although the proportion of survey respondents who found screening by health-care professionals acceptable varied between 35% and 99%, our main finding is that the majority of survey respondents and informants in the qualitative studies did find it acceptable even if it made them uncomfortable. There was variation in attitudes towards screening between countries and between health-care settings and by abuse and educational status. In the UK-based studies, 20% of respondents did not support

screening in a general practice context, and 40% thought women should seldom or never be asked about partner violence in an accident and emergency department.

In the sensitivity analysis of the survey estimates of acceptability of screening, the variation in results could not be explained by the variation in STROBE quality scores. Higher-quality studies showed the same variation as in the total pool of studies.

Below we explore the role of the following factors in the acceptability of screening by health-care professionals:

- the woman's age, level of education, financial autonomy, and ethnicity
- whether the woman has ever been abused and is currently abused by their partner or ex-partner
- type of health-care setting
- type of screening questions
- type of health-care professional.

Age

Younger women, especially those aged 15–19 years, were less likely to agree with screening for partner violence.^{102,107,115} Friedman and colleagues found that older patients were more in favor of routine physical abuse enquiry.¹¹⁰ Age, however, did not influence the acceptability of routine enquiry for sexual abuse, although most surveys did not collect data on that issue.

Education

Witting and colleagues found that a higher proportion of respondents with lower education status supported partner violence screening.¹¹⁷ Friedman and colleagues also found that, regardless of setting, patients who had not completed high-school education were more in favour of routine enquiry about physical abuse and sexual abuse.¹¹⁰

Ethnicity

Although many of the surveys had ethnically diverse samples, most did not report acceptability by ethnic group. Zink and colleagues found that Latina mothers felt greater discomfort with partner violence questions than white American women.¹¹⁸ The issue was not discussed in the qualitative studies.

Abuse status

Seven quantitative studies reported results by abuse status, and there was no consistent difference in acceptability by abuse status, although several found that a lower proportion of women with a history of partner violence were in favour of screening compared with women without that history. Caralis and Musialowski reported that 77% of non-abused women and 70% of abused women agreed with screening.¹⁰⁹ Glass *et al.* reported that 80% of women who were acutely abused or who were physically or sexually abused in the past year agreed with routine screening compared with 89% of women who reported a lifetime history of abuse or who reported no partner violence.¹⁰⁵ Zeitler and colleagues reported a similar result: women who had experienced physical violence in the last year were significantly less likely to report that they felt it was a good idea for health-care providers to ask all women about violence; but even so, 80% of this group were in favour of all women being asked.¹¹⁵ However, Friedman and colleagues found that 80% of those who reported sexual abuse favoured routine physician enquiry about sexual abuse compared with 64% of those who reported never being sexually abused.¹¹⁰ In the same study, patients who reported abuse were just as likely to favour routine enquiry as patients who reported never being abused. Gielen and colleagues found that 48% percent of their sample agreed that health-care providers should routinely screen all women, with abused women more likely than non-abused women to support this policy (54% versus 42%),¹¹¹ which concurred with the findings of Sethi and colleagues that 43% of accident and emergency department patients with a history of abuse thought that women should always be asked about experience of partner violence, compared with 30% among those who had not been abused.⁴⁸

Screening settings

There were no consistent differences in acceptability of screening by health-care setting. Most of the studies were conducted in various hospital settings, with some in general practices, in refuges or where women attended their support groups; one was in a family planning clinic and some included different settings. In several of the qualitative studies, informants did say that they would prefer screening to be carried out by a clinician with whom they already had a relationship, which implies that primary care is a more acceptable context than an accident and emergency department. This finding also implies that it may be less appropriate to ask about

abuse at the first antenatal appointment than at subsequent appointments.

Method of administering screening questions

Most quantitative studies did not test acceptability of screening in relation to screening modality. Those that did and the qualitative studies found a range of preferences; there was no single preferred modality.

Type of health-care professional

Acceptability of screening may vary according to the gender and the profession of the health-care provider asking the questions. Some women preferred being screened by female health-care professionals; however, the qualitative studies found that most women felt that a professional's interpersonal skills were more important than their gender or profession. Others voiced a preference for being screened by older health-care providers and doctors. Richardson and colleagues⁴¹ found that 20% of women reported that they would mind being asked by their general practitioner about abuse or violence in their relationship if they had come about something else, with 23% objecting to a nurse asking; 42% reported that they would find it easier to discuss these issues with a woman doctor, and 3% expressed a preference for a male doctor.

Romito and colleagues found that women's responses concerning who they would like to discuss violence issues with ranged from (more than one answer was possible) the family doctor (54%), a psychologist (28%), women who had similar experiences (22%), a social worker (9%) and the police (7%).¹⁰⁷ Webster and colleagues¹¹⁶ also reported a range of responses from women when asked about which health-care professionals should screen for partner violence: 1068 (65%) of the women nominated midwives, 1055 (64%) nominated general practitioners, 809 (49%) selected social workers, and 771 (47%) selected hospital doctors. Only 42 (2%) thought no one should ask. A number of women wrote comments such as 'anyone who cares should ask'.

From the qualitative studies it seems that in general women gain a sense of support and relief from discussing their situation with a health-care professional. Some women found it more acceptable to be screened by a health-care professional where there was an already-established relationship and trust had been built

up. Women also placed great emphasis on the capacity of health-care professionals to listen to them discuss their problems without judging or condemning them; not listening was viewed as inhibiting disclosure. Women felt more comfortable being screened and asked sensitive questions by health-care professionals who they felt understood the complexity of partner violence and who established a personal connection.^{95,97,98,100,119,120} Some women also stated that part of their fear and suspicion associated with disclosing partner violence and being screened arose from not being sure of the health provider's intentions in asking and what would happen if they told the provider. Some women felt that they were being screened because the health-care providers did not think they were caring for their children properly, and saw screening as a search for child neglect or abuse.¹¹⁹ By giving a reason for screening, health-care providers may alleviate these fears and build up trust. Some women expressed concern that appointments were not long enough to make effective use of confidential time, or felt that health-care professionals did not have the time to listen.¹¹⁹ Many of the women felt that screening gave them the opportunity to disclose abuse, either then or at a later stage, and that without this opportunity it would be harder for them to seek help. Women expressed concerns with possible negative repercussions of screening, such as breach of confidentiality, the involvement of children's services, legal repercussions and being judged.¹²⁰ Common concerns highlighted included the legal repercussions of revealing abuse and fears that abusive partners might find out that the relationship had been discussed. Some women reported feeling ashamed and concerned that others would judge them poorly.

Strengths and limitations

The strengths of this review include the synthesising of qualitative and quantitative studies to answer this question, the quality appraisal of studies (using the STROBE checklist for quantitative studies and the CASP tool for the qualitative studies) and the performance of a sensitivity analysis. Respondent-related variables, such as demographic features and abuse status, and features relating to the screening process, such as setting, type of questions and the health-care professionals, were examined to assess how they

interact to increase or decrease the acceptability of screening. This review meets the relevant QUORUM reporting criteria (see Appendix 11.4 for checklist and flowchart). A limitation is that we did not include studies, if they exist, of the views of men about health-care-based screening of women for domestic violence.

Discussion

Most of the surveys of women patients in health-care settings show that the majority agree with screening or routine questioning about partner violence, but there is variation, not explained by study quality, abuse status, setting or demographic factors. The quality of the surveys was generally good. A possible explanation for the variation of screening acceptability could be the variation in wording of the acceptability questions. Acceptability was measured by questionnaire statements to which women 'agreed' or 'disagreed'. Most papers did not report the exact wording of the questions; however, these were not necessarily comparable. For example authors referred to statements like 'women would have wanted to be asked'¹⁰⁶ or 'felt it was appropriate to screen them'.¹⁰¹ The term 'screening' was not necessarily used and authors often did not clarify whether the question addressed violence when the women were attending with an apparently unrelated health problem. We excluded studies where the reported questionnaire item was vague and could be interpreted as acceptability of *any* question about partner violence.

In interviews and focus groups, women say they find screening beneficial, even if they are not yet ready to disclose abuse. Informants perceived screening as a method of raising awareness rather than eliciting disclosure of abuse. Women who were not yet ready to disclose abuse still found screening beneficial as it helped to remove the stigma attached to partner violence, raised awareness of partner violence, gave them a sense of validation and let them know there is somewhere they can go if they need help when they are ready to disclose. Although women may not disclose abuse immediately, screening may facilitate disclosure later when they feel more comfortable with the health-care professional, or when their circumstances change and they feel the need to get help.

Chapter 7

Are interventions effective once partner violence is disclosed in a health-care setting? (Question IV)

We found 33 studies measuring the effectiveness of interventions for women who have experienced partner violence and their children. Nineteen of these studies were examined in a previous systematic review,¹¹ and have been summarised below with the new studies. Publication dates of the 14 studies not included in the previous review range from 2000 to 2006. The majority of these new studies were conducted in the USA, a few were conducted in Canada, two in Spain, one in Mexico and one in Hong Kong. The settings varied and included refuges, community settings, women's homes, antenatal clinics, a methadone maintenance programme and primary care 'public health' clinics. Study designs included nine randomised controlled trials, two case-control studies and two before-and-after studies. For details of the included studies see Appendix 7.1. For results and quality scores of studies see Appendix 7.2. The assessments of individual studies using the USPSTF criteria and the Jadad tool are detailed in Appendices 7.3 and 7.4, respectively.

No qualitative studies were found that explored what outcomes abused women want for themselves and their children from programmes that include screening or other health-care based interventions.

Advocacy interventions with abused women

Eleven studies (four newly reviewed and seven from our previous review) evaluated the use of advocacy for women experiencing partner violence: one in Hong Kong, one in Canada and nine in the USA.

Studies published since our previous review

In an individually randomised controlled trial of an advocacy intervention in an urban public hospital antenatal ward, conducted by Tiwari *et al.*,¹²¹ advocacy benefited abused pregnant women who were still in a relationship with the abuser.

Abused women at less than 30 weeks' gestation and identified by screening were randomised to the intervention group, which received advice on safety, choice-making and problem-solving, or to the control group, which received a referral card listing community resources and sources of partner violence services. The intervention sessions lasted about 30 minutes, and afterwards women were given a brochure reinforcing the information provided. Follow-up was 6 weeks post-delivery, and hence ranged from 16 to 34 weeks from the intervention, depending on gestational age at recruitment. At follow-up, the intervention group reported significantly less psychological abuse and less minor physical abuse; however, the rate of severe abuse and sexual abuse did not differ between the groups. The intervention group had significantly greater physical functioning and significantly improved scores on role limitation measures for both physical and emotional problems. Although the women did not report any adverse effects as a result of participation in the study, the intervention group reported more bodily pain than the control group. There were no differences between groups on outcomes of general health, vitality, social functioning and mental health. Significantly fewer women in the intervention group had postnatal depression at follow-up than in the control group.

A pilot study by Constantino and colleagues of an advocacy intervention with a therapeutic component was conducted with first-time residents of an urban domestic violence refuge.¹²² This individually randomised controlled trial compared a structured nurse-led social support intervention with unstructured discussion sessions. Both groups continued to receive standard refuge services. The intervention comprised eight weekly sessions (each lasting 90 minutes) and sought to empower abused women through the provision of four dimensions of social support: belonging, evaluation, self-esteem and tangible support (BEST). It provided resources to the women as well as information on further resources; it allowed them time to

access resources when these were available; and provided an environment where they could talk with a counsellor and friends. Follow-up did not extend beyond the intervention period. At the end of the programme the experimental group had significant improvements on the 'belonging' function of social support, and had significant reductions in psychological distress and health-care utilisation. The authors reported non-significant improvements in 'tangible' social support and total social support, but no data were presented.

An individually randomised controlled trial conducted by McFarlane and colleagues in two urban primary care public health clinics and two women, infants and children clinics compared a nurse case management intervention with a referral card that listed a safety plan and sources of partner violence services.¹²³ Project nurses received a 40-hour training programme based on the March of Dimes protocol prior to study implementation. Advocacy sought to empower the women by increasing independence and control through encouraging the use of a 15-item safety-promoting behaviour checklist, supplemented with supportive care and anticipatory guidance by a nurse and guided referrals tailored to the women's individual needs, such as job training. There were five 20-minute case management sessions. The control group received standard refuge services provided to all residents. No effect for the intervention was found at the 24-month follow-up: all outcomes (use of safety behaviours and community resources, threats, assault, homicide risk and work harassment) improved over time, regardless of group allocation. Study participants did not report any adverse effects. For findings relating to the children of the participants, see Interventions with children of abused women below.

Sullivan and colleagues tested the effect of an advocacy intervention aimed at abused women and their children (aged between 7 and 11 years) using an individually randomised controlled trial study design.¹²⁴ The intervention took place in women's homes in an urban setting. Advocacy was based on the individual needs of the mother and child, but all sessions actively assisted mothers in accessing community resources. The majority (79%) of the women were recruited when leaving a domestic violence refuge and the remainder were recruited from community family service organisations or social services. Unspecified control group care was compared with a multicomponent intervention consisting of: (1) a highly trained paraprofessional who worked for 16 weeks and helped mothers to

mobilise and access community resources; (2) the same paraprofessional who advocated similarly for the children for 16 weeks; (3) a 10-week support and education group attended by the children within the 16 weeks. Families saw their advocates for a mean of 10 hours a week, averaging 5 hours with the children and an additional 2.7 hours with the women. The basis of advocacy and the content of the sessions was similar to that of earlier intervention studies by Sullivan and her colleagues¹²⁵⁻¹²⁹ (reported under Studies included in our previous review below). An important part of the intervention was ensuring that the advocate was no longer needed after 16 weeks. At a 4-month follow-up, women in the intervention group had significantly reduced depression and improved self-esteem. Mothers who received advocacy also reported better quality of life than mothers in the control group, although this was not statistically significant. However, the intervention did not have an effect on the incidence of actual abuse or social support. For findings relating to the children, see Interventions with children of abused women below.

Studies included in our previous review

Here we summarise the findings of studies examined in our previous review.¹¹ In two separate randomised controlled studies (a pilot and a main study) by Sullivan and colleagues,¹²⁵⁻¹²⁹ undergraduate psychology students were trained to provide 10 weeks of community-based advocacy to severely abused women exiting from refuges. Advocacy was tailored to the individual women's needs to help them to access community resources (such as housing, employment, legal assistance, transport and childcare), as well as empowering the women themselves. A number of beneficial outcomes were observed over time. In the main study, at the end of the advocacy period, there was a significant improvement in the women's perceived effectiveness in obtaining resources, quality of life and perceived social support as compared with baseline and control group scores. At 10 weeks postintervention, the women who received advocacy reported improvement in their quality of life, and this was maintained at 6 months after the cessation of the programme. Initial improvements in perceived effectiveness in obtaining resources and perceived social support were no longer statistically significant at 6 months. However, when followed up 2 years after the cessation of advocacy, women in the advocacy group reported significantly less physical abuse

and still had a significantly higher quality of life than women in the control arm. Subsequent to the review by Ramsay and colleagues, a 3-year follow-up¹³⁰ has been conducted. This shows that advocacy continued to have a positive impact on the women's quality of life and level of social support, although there was no continuing benefit in terms of revictimisation.

Advocacy and associated services also benefited pregnant abused women who were still in a relationship with the abuser, according to a parallel group intervention study conducted by McFarlane and colleagues.¹³¹⁻¹³³ The women, attending an antenatal clinic, were offered an intervention of three brief sessions of individual advocacy (not described in any detail) – education, referral and safety planning – spread over their pregnancies. Additionally, half of the intervention group was offered three further support group sessions at a local refuge, but outcomes for these were not considered separately. The investigators found that women receiving the intervention significantly increased their use of safety behaviours, including hiding keys, hiding clothes, asking neighbours to call the police, establishing a danger code with others, and hiding money. At a 12-month follow-up, women in the intervention group reported significantly improved resource use but not use of the police, and there were also significant reductions in violence, threats of violence and non-physical abuse against the women compared with women in the control group

Another advocacy study was also conducted in an antenatal setting by McFarlane and colleagues.¹³⁴ In this randomised controlled trial, abused Hispanic women were allocated to one of three intervention groups: (1) 'brief', where women were offered a wallet-sized card with information on community resources and a brochure; (2) 'counselling', where for the duration of the pregnancy women were offered unlimited access to a bilingual domestic violence advocate who was able to provide support, education, referral and assistance in accessing resources; and (3) 'outreach', which included all aspects of the 'counselling' intervention, plus the additional services of a bilingual trained non-professional mentor mother who offered support, education, referral and assistance in accessing resources. The investigators found that violence and threats of violence decreased significantly across time for all three intervention groups. At 2 months postdelivery, violence scores for the 'outreach' group were significantly lower compared with the 'counselling'-only group; but there was

no significant difference when compared with the 'brief' intervention group women who had received only a resource card and brochure. Subsequent follow-up evaluations at 6, 12 and 18 months found no significant differences between the three intervention groups. Use of resources was low for each of the groups and did not differ significantly by type of intervention at any of the follow-up evaluations.

A third advocacy study by the same research group was a randomised controlled trial,^{135,136} based in a family violence unit of a large urban district attorney's office. All women received the usual services of the unit, which included processing of civil protection orders and optional advocacy referral, and the phone number of a caseworker for further assistance. They also received a 15-item safety-promoting behaviour checklist. In addition the intervention group received six follow-on phone calls over 8 weeks to reinforce the advice on adopting safety behaviours. The number of safety-promoting behaviours increased significantly in the intervention group, both compared with the control group and up to 18 months later.

An advocacy study by Feighny and Muelleman¹³⁷ took place in a hospital's accident and emergency department. The advocate saw the woman within 30 minutes of disclosure, discussed the incident with her, addressed safety issues, provided education about the cycle of violence, and informed her of community resources. A before-and-after design with historical controls was employed to evaluate outcomes, with data obtained from police/judicial, refuge and medical records. Women receiving advocacy significantly increased their use of refuges and refuge-based counselling services in comparison with preintervention controls. However, there was no effect on subsequent experience of abuse as measured by the number of repeat visits to the department over a mean follow-up period of 65 weeks, nor was there any significant difference in the number of police calls made by women after their initial visit, or in the number of women who went on to obtain full protection orders.

Tutty¹³⁸ considered the effects of advocacy for women leaving refuges using a before-and-after study design. The intervention programme of support and advocacy, of longer duration than the model used by Sullivan, was provided by a graduate social worker and provided counselling and other help for the women. The main goals of the advocacy were to respond to the individual

woman's needs and to coordinate support services so that the woman could remain independent and safe. Tutty found that this programme of advocacy resulted in significant improvements over baseline scores for physical abuse and for 'appraisal support' (the availability of someone to talk to about one's problems). However, there was no significant improvement for 'belonging support' (obtaining support from friends and family) or perceived stress levels.

In our previous review¹¹ we found that evidence regarding the effectiveness of advocacy interventions is weakest for women who are still in an abusive relationship and there was little evidence that women identified through screening had improved outcomes from advocacy. In this update we found one well-executed study¹²¹ showing that an advocacy intervention may be effective for women who disclose current abuse as a result of screening in an antenatal clinic, and a fairly well-executed study in primary care public health clinics and women, infants and children clinics¹²³ showing no difference between intervention and control arms. The strongest evidence for advocacy-based interventions, emerging from the relatively well-executed trials of Sullivan and colleagues, is for an intensive advocacy programme for women leaving a refuge. The evidence for the effectiveness of advocacy with a less intensive intervention or for women identified in health-care settings is less robust, either because study designs were more prone to bias or because the execution of the studies was flawed. Yet most studies show some benefit from advocacy for some outcomes and therefore this is a legitimate referral option for health-care professionals. Evidence from advocacy studies suggests that this form of intervention, particularly for women who have actively sought help from professional services, can reduce abuse, increase social support and quality of life, and lead to increased usage of safety behaviours and accessing of community resources. Five of the studies^{121-124,130} were well-executed studies of good or fair design. Considering only these high-quality studies did not alter the overall findings, although two of the less well conducted studies^{134,137} showed less effect of advocacy. Continued severe abuse or revictimisation was the outcome most resistant to advocacy, although this may partly be a function of short follow-up, as one of Sullivan's trials showed no decrease in abuse at 4 months follow-up,¹²⁴ but did find it at 2 years after the advocacy intervention.¹²⁵⁻¹²⁹ Moreover, abuse is a factor over which the survivor has least direct control.

Support group interventions with abused women

Two studies (one from our previous review and one newly reviewed) evaluated support groups for abused women; both of these were based in Canada.

Study published since our previous review

The study reported by Fry and Barker¹³⁹ after our previous review was published had a case-control design and compared the effectiveness of a story-telling intervention with minimal care where women attended information-giving support groups. The geographical setting was not reported. The intervention group participated in 30-90-minute sessions in which each woman was given an opportunity to narrate a story about six salient events that she had experienced in the previous 4-6 months and that she believed had had the strongest impact on her self-confidence, self-esteem and self-worth. A group facilitator attempted to put relevant structure on the reminiscence process by offering encouragement, directing questions and steering the contents. At the 4-month follow-up, women who had received the intervention demonstrated significant reductions in depression, and significant improvements in self-esteem, global self-efficacy scores, the ability to share feelings, feelings of personal adequacy and a sense of reality.

Study included in our previous review

The study included in our previous review¹¹ had a before-and-after design and was reported in two papers by Tutty and colleagues.^{140,141} They evaluated 12 feminist-informed support groups for survivors of partner violence, as part of a community family violence programme. The goals of the groups were to stop violence by educating participants about male/female socialisation, building self-esteem and helping group members to develop concrete plans. The groups were facilitated by professionals over a 10-12-week period. A number of statistically significant benefits were observed immediately after the end of the intervention, including improvements in all physical and non-physical abuse measures, perceived belonging support, locus of control, self-esteem, and perceived stress and coping. At 6 months' follow-up, there were continued reductions in physical abuse and one measure of non-physical

abuse, and increases in self-esteem and perceived stress and coping. Improvements in social support and locus of control were sustained. Using multivariable analysis, the investigators showed that groups with two facilitators, rather than one alone, may be more effective in reducing emotional abuse.

Both these studies were poorly executed with weak designs and therefore there is insufficient evidence on which to judge the effectiveness of support groups for women experiencing partner violence.

Psychological interventions with abused women

Seventeen studies (11 from our previous review and six newly reviewed) evaluated the use of psychological interventions. Most studies were conducted in the USA. Ten of the 17 studies reported on the effects of group interventions: one of these compared a group intervention with a slightly modified version, one included overall findings from 54 different partner violence programmes (which incorporated individual, group, or both individual and group counselling sessions), and one compared group and individual therapy. Seven studies considered the benefits of individual therapy, with two of these also each comparing two different interventions.

In the studies that compared two types of psychological intervention, both groups tended to have improved outcomes, but there were no differences *between* the interventions. It is unclear whether this means that (1) neither intervention is effective, as there is spontaneous improvement in these outcomes once a woman has left an abusive situation; or (2) one intervention is more effective than the other, but with insufficient power to detect the difference; or (3) both interventions are equally effective (i.e. superior to no intervention). Positive outcomes from studies comparing a psychological intervention with no intervention suggest that (1) is unlikely.

Individual psychological interventions

Studies published since our previous review

Koopman and colleagues¹⁴² conducted an individually randomised controlled trial in an urban setting comparing the effectiveness of an expressive writing intervention with a neutral writing control arm. Women were recruited

through fliers, newspaper advertisements and electronic postings. Participants in the intervention group were asked to use expressive writing and to write about the most stressful events of their lives, exploring their deepest emotions and feelings. At the 4-month follow-up, women in the intervention group had significant reductions in depression compared with the control group. However, the reverse was true for bodily pain: women in greater pain at baseline benefited more if allocated to the control arm. The intervention had no effect on PTSD.

A 'matched, yoked and randomised' experimental and control group design was used by Reed and Enright,¹⁴³ in an urban setting, to compare the effectiveness of forgiveness therapy against an alternative treatment consisting of discussions about the validity of anger regarding the injustice of past abuse, present strategies for healthy assertive choices, and interpersonal relationship skills. Women, all self-selected volunteers, in the intervention group engaged in weekly 1-hour sessions based on the Enright forgiveness process model. Participants determined the time spent on each forgiveness topic, and the intervention finished when each participant reported that she had completed the work of forgiving her former partner. The mean treatment time (one session per week) for the pairs was 8 months, with a minimum of 5 months and a maximum of 12 months. The intervention group demonstrated a significantly greater increase in forgiving their former abusive partner, self-esteem, environmental mastery (everyday decisions), finding meaning in suffering (moral decisions) and in 'new stories' (survivor identity). The intervention group also had significant reductions in trait anxiety, depression, post-traumatic stress symptoms and in old stories (victim identity). However, they did not have significant decreases in state anxiety scores.

Labrador and colleagues conducted a case-control study in an urban setting in Spain to assess the efficacy of an intervention for the treatment of chronic PTSD in women experiencing domestic violence.¹⁴⁴ The intervention consisted of four components: (1) self-evaluation and problem-solving; (2) breathing control; (3) exposure therapy (which involved recalling past events and confronting flashbacks); and (4) cognitive therapy. It was delivered in eight weekly sessions of 60 minutes. Women in the intervention group were split into two groups, with one group receiving the components of the intervention in the above order, and the second group receiving the

cognitive therapy component before the exposure therapy to establish whether the efficacy of the intervention was affected by the order in which the cognitive and exposure therapy components were delivered. Women were referred from the 'municipal centre for women' and victim support centres, by judges of domestic violence cases and by housing advisors. Women in the intervention group showed significant decreases in depression and 'maladaptation' and significant increases in self-esteem 2 months from baseline. Although women in the intervention group had reductions in PTSD symptoms post-treatment, these were not significant when compared with the control group, apart from negative cognitions. No differences were found between the two intervention groups.

Studies included in our previous review

In our previous review¹¹ we examined two randomised controlled trials of a psychological intervention conducted by Kubany and colleagues.^{145,146} The intervention was based on cognitive behavioural therapy and was targeted at women survivors of partner violence who had PTSD. Specifically, the intervention included elements from existing treatments for PTSD, feminist modules that focused on self-advocacy and empowerment strategies, assertive communication skill building, the managing of unwanted contact with former partners, and identifying potential perpetrators to avoid revictimisation. The two evaluation studies, both randomised controlled trials, found a sustained improvement at 3 and 6 months, respectively, in a range of mental health measures including PTSD, depression and self-esteem.

In a randomised controlled study by Mancoske and colleagues, women who contacted a partner violence agency were provided with a rapid response crisis intervention.¹⁴⁷ They were then randomly assigned either to feminist-oriented counselling or to grief resolution-oriented counselling, both of which were provided over eight weekly sessions by trained social workers and included basic problem-solving and psychoeducation. At the end of counselling, both groups showed improvements over baseline in self-esteem and self-efficacy, although these were only significant for women who received grief resolution-oriented counselling.

In a parallel group study of women resident in a refuge or receiving refuge-associated services, conducted by McNamara and colleagues, two types of intervention were compared: individual

counselling versus case management.^{148,149} When assessed after three sessions, women in both groups showed significantly improved life satisfaction and coping ability compared with baseline values. Additionally, women who had received individual counselling showed a significantly greater increase in global improvement scores than women in the case management group.

Group psychological interventions **Studies published since our previous review**

Gilbert and colleagues¹⁵⁰ conducted a pilot study using a randomised controlled trial design to test the feasibility, safety and short-term preliminary effects of a relapse prevention and relationship safety (RPRS) intervention in reducing drug use and partner violence among women in methadone maintenance treatment programmes (MMTPs); the geographical region was not reported. The RPRS intervention consisted of eleven 2-hour group sessions and one individual session. The intervention was tailored to the realities of low-income, African American and Latina women and focused on the enhancement of self-worth, ethnic pride and risk avoidance in the future. Materials and exercises incorporated social cognitive skill building. At the end of each session, participants were asked to commit to specific skills practice exercises between sessions. The control group received an information session consisting of a 1-hour didactic presentation of a wide range of local community services that women in MMTPs can access, tips on help-seeking, and a comprehensive directory of local partner violence services. At the follow-up assessment women in the intervention group demonstrated reductions in minor physical, sexual and/or injurious partner violence in the past 90 days. They were also more likely than women in the information group to report a decrease in both minor and severe psychological partner violence. Other changes in abuse measures did not reach significance. Women in the intervention group also demonstrated decreases in depression at the 3-month follow-up. Compared with women in the control group, women in the intervention group were more likely to report a decrease in having sex while high on illicit drugs. Improvements regarding substance use and PTSD after receiving the intervention did not reach significance. No adverse events were detected.

A cognitive behavioral therapy programme for women referred from social services, counsellors and the judiciary who displayed post-traumatic

stress symptoms but did not meet the diagnostic criteria for PTSD was evaluated in a case-control study by Arinero and Crespo conducted in an urban setting in Spain.¹⁵¹ The intervention, administered in a health-care setting, included psychoeducation, breathing controlling techniques, self-esteem improvement procedures, cognitive therapy, problem-solving and communication skills training as well as specific strategies for relapse prevention. Eight 90-minute sessions were conducted with groups of 3–5 women. Women in the intervention group, compared with the waiting list control group, showed a decrease in post-traumatic and depressive symptoms and an improvement in adaptation levels up to 6 months' follow-up. There were no significant changes in the levels of self-esteem, although there may have been a ceiling effect as self-esteem levels were already high at the outset compared with other studies. The authors point out that the effect sizes were not as large as those in previous studies, such as that of Kubany *et al.*,¹⁴⁵ and suggested that this might be because participants in their study had lower (i.e. better) symptom scores at baseline, producing a ceiling effect. There were significant decreases in depression for the intervention group post-treatment; the authors state this was still significant at 6 months but no data were presented. The effect size post-treatment was 0.95, and at the 1-month follow-up it was 0.66, but effect sizes for the 3- and 6-month follow-ups were not presented.

A before-and-after study, conducted in Mexico by Cruz and Sanchez,¹⁵² assessed the effectiveness of a group cognitive behavioural intervention on promoting self-esteem, coping strategies and assertiveness in abused spouses of problem drinkers. The intervention comprised three components: (1) identifying and correcting cognitive biases and defective information; (2) establishing emotional regulation strategies; and (3) acquiring assertiveness skills. Women received eighteen 150-minute weekly group sessions. Women's self-esteem was found to have improved significantly from pre-test at the 3-, 6- and 18-month follow-ups, but not immediately after the intervention. There were also significant improvements in coping strategies at the 3-, 6- and 18-month follow-ups. Women's assertiveness increased significantly from pre-test to the 3- and 6-month follow-up, but this was not sustained at the 18-month follow up.

Studies included in our previous review

Included in our previous review¹¹ was a parallel group study by Cox and Stoltenberg¹⁵³ in which

new refuge residents were recruited to a personal and vocational group psychological programme that included cognitive therapy, skills building and problem-solving. The 16 Personality Factors instrument (16PF) was administered to half of the intervention group, which was then given full feedback, creating two intervention subgroups. The control group received normal refuge care, which included weekly non-structured counselling sessions. When assessed immediately after the cessation of the intervention, both intervention groups showed significant improvements over baseline levels of self-esteem. However, all other benefits over time, including anxiety, depression, hostility and assertiveness, were limited to those women who received the intervention *without* any feedback from the 16PF. Neither of the two intervention groups improved in terms of locus of control. None of the outcome measures improved over time for women in the control group.

Cognitive behavioural therapy was also the method used by Laverde in a randomised controlled trial in Columbia.¹⁵⁴ Abused women in the intervention arm were given cognitive behavioural therapy, with lectures and structured exercises. The women were shown models of appropriate and inappropriate behaviour in different situations, and this was then followed by role play. Twenty 3-hour group sessions were held over a period of 11 weeks. Abused women allocated to the control condition attended a support group; these sessions were unstructured and aimed to discuss issues around partner violence and to provide information about the women's legal rights and the availability of services. It was found that the frequency and intensity of abuse decreased markedly in both groups at 15, 30 and 45 days postintervention, but the numbers were too small for any conclusions to be drawn. Other benefits over time for intervention group participants were also observed. In comparison with their baseline scores, women in this group significantly improved on several measures: communication skills, handling of aggression, assertiveness, and their feelings towards their partners and the relationship, such as feeling less sentimental. These improvements did not extend to the control group, and significant between-group differences were observed.

A psychoeducational group programme was evaluated in a parallel group study by Limandri and May.¹⁵⁵ The content of this programme included information about partner violence, safety planning, stress management, building self-esteem, coming to terms with loss and grief, and

developing a number of life skills. Women were recruited primarily through the victim witness programmes of two district attorney offices. Follow-up did not extend beyond the 12-week intervention. At the end of the intervention, self-efficacy scores improved for the women receiving group counselling, but declined slightly for women in the control arm of the study. There was an improvement in women's perception of abuse across time in both groups. There were no between-group comparisons, no scores for the outcome measures and no reporting of any statistical analysis.

Variable results were obtained by Melendez and colleagues¹⁵⁶ in a randomised controlled trial of group counselling, in which abused and non-abused women recruited from a family planning clinic were offered four or eight group sessions of cognitive behavioural therapy to prevent human immunodeficiency virus (HIV)/sexually transmitted disease (STD) infection. (The data for the abused and non-abused women were reported separately and only those relating to the abused women are given here.) Two measures were used to test safe-sex practices: condom use in general and episodes of unprotected sex. At 1 month and 12 months of follow-up, abused women who received eight sessions of counselling were significantly more likely to say that they used condoms at least sometimes, compared with controls or with women receiving only four sessions of counselling. However, there was no difference between groups in the number of unprotected sex occasions. Short-term benefits were reported in the use of alternative safer-sex strategies in both intervention groups, and negotiation over safer sex after eight sessions of therapy, but these were not maintained at 12-months' follow-up. There was no difference in abuse outcomes between the intervention and control groups at any postintervention assessment.

A parallel group study by Rinfret-Raynor and Cantin in Canada evaluated feminist-informed therapy for survivors referred to social services, either in individual or group sessions.¹⁵⁷ The intervention was compared with the normal non-structured therapy provided to clients by the agencies. The therapies were administered in a number of settings, including community health centres. When followed up after 12 months, women in all three arms of the study showed similar improvement over time in terms of abuse, self-esteem and assertiveness.

Another group intervention was reported by Kim and Kim¹⁵⁸ in a parallel-group evaluation in Korea, conducted with women survivors of partner violence residing long-term in a refuge. The intervention group women were given eight weekly sessions of counselling based on an empowerment crisis-intervention model that was problem focused and goal directed. Follow-up was restricted to an immediate postintervention assessment. Women who received counselling had significantly reduced levels of trait anxiety compared with women in the control group. There were no differences between groups for state anxiety and depression scores, which decreased in both. Self-esteem did not change between or within groups.

A before-and-after evaluation conducted by Howard and colleagues¹⁵⁹ considered counselling delivered by 54 partner violence providers in Illinois, USA. These providers varied in terms of theoretical framework and delivery. Generic counselling significantly improved the well-being and coping of physically abused women who approached support services for help, and was of particular benefit to women who had been both physically and sexually assaulted as compared with women who had suffered physical assault on its own.

In summary, there was a wide range of individual psychological interventions, which demonstrated improvements in psychological outcomes including depression, PTSD and self-esteem. Two fairly well-executed trials^{125-129,145,146} of individual cognitive therapy-based interventions for women with PTSD who were no longer experiencing violence provide reasonable evidence for this intervention, but this cannot be extrapolated to the women who were still in an abusive relationship. Consideration of only the high-quality studies^{142,143,145,146} for individual interventions did not alter the findings.

Although there are 10 studies of group psychological interventions, all showing improvement in one or more psychological or mental health outcome, all but one are poorly executed. Consequently, the effectiveness of this type of intervention remains uncertain, particularly for women who are still experiencing partner violence.

Interventions with children of abused women

Five studies (seven papers) evaluated the use of interventions with children where there was also a degree of involvement of the mothers. These are all newly reviewed studies; such interventions were not included in our previous review. Four of the studies were conducted in the USA and one was conducted in Canada.

An individually randomised controlled trial, conducted by Lieberman and colleagues,^{160,161} examined the effectiveness of child–parent psychotherapy compared with case management plus referrals for individual treatment in the community for abused mothers and their children. The geographical region was not reported. Child–mother dyads were recruited if the child was aged between 3 and 5 years, mothers had experienced marital violence and the perpetrator was not living at home. These dyads were referred from family courts, partner violence service providers, medical providers, preschools, self-referrals, other agencies, child protective services and former clients. Dyads were referred because of clinical concerns about the child's behaviour or the mother's parenting after the child had witnessed or overheard marital violence. The intervention (setting not specified) consisted of weekly joint child–parent sessions interspersed with individual sessions for the mothers, offered for 50 weeks (average attendance: 32 sessions). Children in the intervention group had significant reductions in symptoms of PTSD after the intervention. There was also a significant reduction in the children's behaviour problems, which remained significant at the 6-month follow-up. Mothers in the intervention group reduced their number of avoidant PTSD symptoms and their number of current distress symptoms postintervention. The reductions in mothers' number of current distress symptoms remained significant at the 6-month follow-up.

Jouriles and colleagues¹⁶² conducted an individually randomised controlled trial to assess the effectiveness of an intervention in reducing conduct problems among the children of survivors of partner violence and improving the mothers' child management skills. The women were recruited from urban refuges. Recruited children were aged between 4 and 9 years, met the *DSM-IV* (*Diagnostic and Statistical Manual of Mental Disorders IV*) criteria for oppositional defiant disorder or conduct disorder, and lived with their mother but not the perpetrator. The

intervention had two components: (1) providing mothers and children with problem-solving skills; and (2) teaching mothers to use certain child management skills designed to help reduce their children's conduct problems. The intervention consisted of weekly sessions of 1–1.5 hours, began after the subjects had left the refuge, and continued for up to 8 months, with the families attending 23 sessions on average. Mothers in the control group were contacted monthly, either in person or by telephone, and were encouraged to use existing community or refuge services. Both mothers and children benefited from participating in the intervention. At the 16-month follow-up, the intervention group's mean level of child externalising problems did not differ from the mean of the normative population, whereas the mean level of externalising problems in the control group did. Children's internalizing problems diminished over time, with similar rates of change in both groups. Mothers in the intervention group displayed a significantly higher mean level of child management skills at the 8-month follow-up. Psychological distress of the women diminished over time but there was no difference between the two groups. At 2 years after cessation of treatment¹⁶³ there was no significant difference between the intervention and control groups with regard to recurrence of violence against the mothers. At baseline all the children met *DSM-IV* criteria for either oppositional defiant disorder or conduct disorder. By follow-up, 15% of the children in the intervention group and 53% in the control group were reported to have externalising problems at clinical levels. There was a similar differential reduction in conduct problems. Children in the intervention group significantly improved in terms of happiness/social relationships. Externalising and internalising behaviour scores for children in the intervention and control groups did not differ significantly from one another at the 24-month follow-up.

McFarlane and colleagues evaluated the effects on children's behaviour of a nurse case management intervention for mothers.^{164,165} For details of the intervention, see Advocacy interventions with abused women above. The level of children's behavioural problems was assessed over a 24-month period, but there was no statistically significant beneficial effect of the intervention. The extent of behavioural problems for both young and older children improved over time regardless of the trial arm allocation of their mothers. The scores of children aged 5 years or below improved most, whereas scores of the teenagers improved the least.

Sullivan and colleagues considered the effect of a 16-week advocacy intervention for abused women and their children.¹²⁴ For details of the intervention, see Advocacy interventions with abused women above. Children's scores for self-worth, physical appearance and athletic ability all increased, and the effect of the intervention on these variables was found to be significant over and above the effects of time. Children's witnessing of abuse decreased in both groups, and again this effect was found to be significant over and above the effects of time. Assailant's abuse of the child decreased in both the intervention and control group, but the within- and between-groups change decreases were not significant.

A before-and-after study by Ducharme and colleagues evaluated an intervention seeking to improve parent-child cooperation in women who were not living with the abuser.¹⁶⁶ The geographical region was not reported. Two groups received immediate intervention and two received delayed treatment. The intervention used 'errorless compliance training', a success-based, non-coercive intervention involving the hierarchical introduction of more demanding parental requests at a gradual pace, and lasted between 14 and 29 weeks. Mother-child dyads were self-referred or referred from child welfare agencies, school boards, women's refuges and other social service agencies. Children were aged between 3 and 10 years and had severe behaviour problems. All of the children came from families where the mothers had experienced partner violence. Data for all four groups were pooled and showed that all children demonstrated increased compliance following the intervention. There was significant improvement in perception by mothers of their children's externalising, internalising and total behaviour problems. Mothers rated their children as being significantly more cooperative after the intervention, and reductions in maternal stress and improvements on the parenting stress index were seen both on child and parent characteristics.

Four of the five studies examining the effectiveness of interventions with children of abused women were randomised controlled trials and well executed. These studies suggest that this type of intervention is promising and helps to reduce children's behaviour problems and mother's stress and PTSD symptoms. Such interventions may also increase a mother's child management skills. The majority of these interventions were conducted with women who had left the abusive relationship, so

these findings may not be generalisable to women who remain with an abusive partner.

Sensitivity analysis

As we did not meta-analyse the studies, we could not formally test the effect of study quality on pooled effect sizes with a subgroup analysis or metaregression. We examined variation for comparable outcomes (see Appendix 7.5) and made a qualitative judgment on whether study quality was related to effect size. Before-and after studies were not included in this sensitivity analysis due to the inherent risk of bias in this study design. Where studies did not report effect sizes, values for Cohen's *d* between group effect sizes were calculated using means and standard deviations when such data were present. There were a sufficient number of studies measuring PTSD, depression, self-esteem and physical abuse to explore study quality on these outcomes. Five studies (four RCTs) measured PTSD as an outcome.^{142-146,160,161} The better-quality studies had smaller effect sizes.¹⁶²⁻¹⁶⁶ Five studies (four RCTs) measured the effects of the intervention on depression,^{126,142-146,150,157} with the better-quality studies showing smaller effect sizes. Four studies (two RCTs)^{138,140,143-146,152,153,157} measured the effects of the intervention on self-esteem. There was no clear relationship between effect size and study design and execution. Three studies (all RCTs)^{121,123,126,140} measured the effects of interventions on physical abuse. There was little variation in the effect sizes, which were all low. This sensitivity analysis highlights the importance of a high standard of design and execution of intervention studies.

Strengths of this review

We did not exclude studies on the basis of language, translating those that were not reported in English. We appraised the quality of all primary studies: the Jadad score was applied to randomised controlled trials, and all studies were appraised using the USPSTF quality criteria, which give a measure of internal and external validity, and also the strength of evidence of the studies as a whole, which can be used to assess the level of evidence for the particular type of intervention being assessed. Effect sizes were calculated where means and standard deviations were reported or obtainable from the authors. Our review meets all the relevant

QUORUM reporting criteria (see Appendix 11.5 for QUORUM checklist and flowchart).

Limitations of this review

We did not pool outcomes for any of the interventions for several reasons: heterogeneity of outcome measures, variable follow-up between studies and, in the case of psychological treatments, the content of the interventions. Incomplete reporting of effect sizes would also have made meta-analysis difficult. It was not possible to test for publication bias with a funnel plot because the small number of studies reporting effect sizes would make the results misleading.¹⁶⁷ The largely positive findings of most of the studies suggest that publication bias may be operating in this field.

Limitations of our review originating in the primary studies include the absence of effect sizes or the data needed to calculate them, a lack of detailed reporting of the content of interventions, and poor study design or execution. These limitations weaken the strength of evidence for the various interventions.

Discussion

The level of evidence for effectiveness of advocacy interventions was assessed using the USPSTF criteria. We have already mentioned the incomplete reporting of effect sizes as a major limitation in the application of these criteria. Furthermore, whether or not overall effect sizes are 'sufficient' or not is a matter of judgment, as effect sizes may be sufficient for one outcome, but not for others. When analysed with the USPSTF criteria, the level of evidence for the effectiveness of advocacy interventions was borderline between insufficient and sufficient. We decided not to average the effect sizes for all the outcomes, but consider them individually, as it is arguable that one positive important outcome may be sufficient evidence to endorse an intervention. This is, however, a very conservative measure of the level of evidence as it is only based on four studies^{121-123,126} – the other studies included in our review either did not meet the quality criteria for inclusion in this analysis or did not provide the data required to calculate effect sizes.

The level of evidence for individual psychological interventions is sufficient, based on five studies,¹⁴²⁻¹⁴⁶ two of which were conducted by the

same authors. Another reason for caution when interpreting this finding is that the interventions are quite different from each other, ranging from forgiveness therapy to expressive writing to cognitive trauma therapy designed for women with PTSD. The level of evidence for effectiveness of group psychological interventions is currently insufficient owing to a lack of studies meeting the quality criteria and having the necessary data from which to calculate effect sizes.

The level of evidence for effectiveness of support groups is currently insufficient owing to a lack of studies meeting the quality criteria and having the necessary data from which to calculate effect sizes. Although the evidence for psychological interventions and work with women and their children has grown more robust with recent trials, most did not recruit women identified in health-care settings. In those that did, it is not clear that the women were identified through screening. We have kept these studies in our review because our inclusion criteria covered interventions to which survivors of partner violence could have access through health services.

The strength of evidence for effectiveness of interventions with children of abused women is currently insufficient. Only three studies met the quality criteria and had the data required to calculate effect sizes;¹⁶⁰⁻¹⁶⁵ however, the effect sizes were not sufficient or consistent between these studies.

If one takes into account additional good-quality studies that could not be analysed with the USPSTF criteria^{124,125} there is enough evidence to justify access to advocacy services for survivors of partner violence in general, but the evidence is weakest for women who are identified through screening. Most of the studies measuring the effect of advocacy recruited women who have already disclosed abuse and have actively sought help. Many of the participants in these studies were recruited in refuges. We cannot confidently extrapolate the findings of these studies to women identified in health-care settings, whether by screening or case finding. Those advocacy studies that did identify and recruit women in health-care settings were based in antenatal clinics, therefore the evidence for the effectiveness of advocacy for women identified in health-care settings is strongest for antenatal services.

A big caveat in this judgment on advocacy services is the range of outcomes that were measured and

the potential gap between women's perception of benefit and these measures. Although part of this review question included a question about what outcomes women would want from advocacy and other interventions, we did not find any qualitative studies that addressed this.

Most studies did not specifically assess potential harm from the interventions, although worse outcomes in intervention groups compared with controls would have been an important indication of harm. The only examples of this from our review are two studies, one evaluating the effectiveness

of advocacy,¹²¹ the other looking at individual psychological therapy,¹⁴² which found that women in the intervention arms experienced more bodily pain. The types of harm that would not have been detected unless the investigators specifically tried to measure them are more akin to adverse events in pharmacological trials. In the qualitative studies reviewed in Chapter 5, women cited breaches of confidentiality, stigmatisation and judgments by health-care providers as actual or potential harms of screening.

Chapter 8

Can mortality or morbidity be reduced following screening? (Question V)

We identified eight studies of interventions to implement screening with a total patient sample of 16,272 (one study did not report the number of participants). Publication dates ranged from 1998 to 2006, and the majority of studies were based in the USA. One study was conducted in Australia. Settings varied and included family practice sites and community clinics, health maintenance organisations (HMOs), women's health clinics, and accident and emergency departments. One study trained nurses who visited vulnerable women in their homes. Experimental designs included seven before-and-after studies with varying follow-up periods (6 months to 2 years), and one randomised controlled trial. For further details of the design of included studies see Appendix 8.1. Results of included studies and quality scores are detailed in Appendix 8.2.

Morbidity and mortality are central to this NSC criterion, but we found no studies that measured these outcomes. Therefore we have included studies with proxy outcomes: identification of women experiencing partner violence after a system-based intervention to implement screening plus one other activity (such as referral to partner violence advocacy, or full documentation of the abuse). Studies that only reported one proxy outcome were excluded, unless this was referral to expert partner violence services. The justification for including identification plus another activity as relevant outcomes is that there is evidence that these additional activities may be associated with improved morbidity or mortality. As we discussed in Chapter 7, advocacy improves outcomes for survivors of partner violence and this may also be the case for psychological interventions.

The other specific outcome in our review protocol was harm associated with screening, but no studies reporting evidence of harms were found during this review.

The sections below are organised by health-care setting.

Health-care setting

Primary care, community clinics and health maintenance organisations

Harwell and colleagues¹⁶⁸ used a before-and-after design with a 3-month follow-up at community health centres in the USA. The effects of the RADAR (Routine screening; Ask direct questions; Document your findings; Assess patient safety; Review patient options and referrals) training project was assessed via medical chart reviews, extracting data that allowed calculation of relative risk for screening being performed, suspicion and identification of partner violence, safety assessment, documentation of abuse, and referral to internal and external partner violence services. Training of all community health centre staff in the intervention group was 3–6 hours. Using trauma theory as a framework, it included a video on the emotional impact of partner violence, introduction to the use of and modelling of RADAR, and a survivor's story. Follow-up support tailored to the needs of the centre staff continued for 2 years after training. Baseline measurements taken at pretraining for both phases were used as control data. During the intervention period women were more likely to have partner violence suspected (2% versus 6%, relative risk 1.49, 95% confidence interval 1.13–1.99), to have a safety assessment performed (5% versus 17%, relative risk 1.65, 95% confidence interval 1.39–1.97) and to be referred to an outside agency (0% versus 4%, relative risk 1.81, 95% confidence interval 1.45–2.28) compared with women in the baseline period. The authors state no differences were found for confirmation of partner violence; however, reported confidence intervals suggest a significant effect (2% versus 5%, relative risk 1.49, 95% confidence interval 1.08–1.97). This study showed improved proxy outcomes after implementation of RADAR.

Thompson and colleagues¹⁶⁹ studied the impact of a system-based intervention to implement screening and effective responses to disclosure of partner violence in an HMO, recruiting five

primary care clinics in a cluster randomised trial design. Utilising the Precede/Proceed model, the intervention focused on changing practitioner predisposing factors (such as knowledge and attitudes), enabling factors (environmental and infrastructure processes supporting the intervention) and reinforcing factors (i.e. the use of feedback). Staff attended two separate half-day training sessions, targeting skills building and empowering practice teams to ask about partner violence. Additionally, four educational sessions on skills improvement, community resources and early results were attended, with opinion leaders attending three extra training sessions. In intervention sites, posters about partner violence were displayed, cue cards given to clinicians, and screening questionnaires and newsletters periodically sent to participating health-care professionals. Identification of women experiencing partner violence at the intervention sites had increased at 9 months' follow-up, although this was not significant (2% at baseline to 4% at follow-up, odds ratio 1.5, 95% confidence interval 0.73–3.17). At the intervention sites, the morbidity outcomes depression and physical injury did not improve and pelvic pain actually showed a significant increase (from 4% to 8%, odds ratio 3.8, 95% confidence interval 1.1–12.5).

McCaw and colleagues¹⁰¹ conducted a before-and-after study with historical controls within various departments of an HMO. Although the paper reporting the study was entitled 'Beyond screening for domestic violence', increased screening by clinicians was an aim of the intervention. The intervention was designed to take advantage of existing infrastructures and to avoid taking clinicians away from their clinical practice. Several brief training and information sessions were delivered to clinical staff and receptionists. Additionally, using a systems model approach, the HMO actively sought to improve its links with community services, inform patients about partner violence and appropriate services, provide clinicians with information and prompts, and employ an on-site domestic violence specialist. Nine months after training started, referrals had increased from 51 to 134. Unfortunately there was insufficient information to determine referral rates and no statistical analysis.

Coyer and colleagues¹⁷⁰ conducted a before-and-after study in a rural, nurse-managed US health-care centre, testing whether the addition of a screening protocol into the clinic would increase the identification of violence against women. The

system-centred intervention was relatively informal and involved discussions with nursing staff, which identified a need for improving their knowledge of local community resources. Due to staff interest, two local agencies that support women in violent situations visited the members of the clinic in order to provide background information, local statistics, information about the resources available and the processes of referrals, and a strategy on how to manage patients who gave a 'yes' response to the question 'Is anyone hurting you?'. An audit of the medical notes 12 months prior to the intervention revealed no notation of abuse or use of partner violence services in any of the records. During the 12 months after the intervention, chart audit showed six women had notation of abuse in their medical records, and of these, four were referred to domestic violence refuges or the local drug treatment facility, and one was provided with the abuse hotline telephone number.

Women's health services

In a parallel group study in an antenatal setting, Wiist and McFarlane¹⁷¹ provided clinic staff with a single session of 90 minutes of didactic training about screening for partner abuse and associated procedures, including making referrals to an on-site bilingual counsellor. This was supplemented with a protocol and with weekly visits by the trainer to provide support and for training any new staff. Referrals at follow-up showed an increase from 0% to 67% of women disclosing abuse at 3 months, and 53% at 12 months.

Ulbrich and Stockdale¹⁷² used a before-and-after design with historical controls to evaluate the implementation, in rural family-planning clinics, of 'routine screening' for partner violence. All staff were given didactic core training, pocket cue cards and a protocol to follow; key staff also received intensive follow-on training over 2 years. As part of the intervention, community-based domestic violence agencies provided advocates. At three of the clinics, the advocates worked mostly off-site but attended the clinics in emergency situations; at the fourth clinic, an on-site service was available for 1 day per week. Due to the low numbers in the study, only descriptive statistics were reported. For nurse-practitioners and registered nurses, a trend for discussing partner violence with patients on a weekly basis increased from 19% at pretraining to 57% at the 6-month follow-up (difference 38.3%, 95% confidence interval 37.0–39.6). Self-reported referrals over the past 3 months increased from 0% for four or more referrals to 21% at the 6-month

follow-up (difference 21.4%, 95% confidence interval 20.0–22.8).

Accident and emergency department

In a before-and-after study with historical controls, Ramsden and Bonner¹⁷³ evaluated the implementation of screening by nursing staff of all women aged over 15 years. The staff training focused on partner violence, screening protocols and a referral pathway. Information about resources, including local services and contact numbers, was also provided. Regardless of the patient's response, all screened women were supposed to receive an information resource card. The duration and frequency of training was not stated. No data were presented on adherence to the protocol or on identification rates. It was found that the number of referrals to a social worker or to the police nearly doubled (8 compared with 14) as compared with preintervention numbers. However, the authors did not report enough information for referral rates to be calculated; neither did they report the findings of any statistical analyses.

Home visit

The before-and-after study with historical controls conducted by Shepard and colleagues¹⁷⁴ differed from the others in that the health professionals who were instrumental in the intervention were nurses who routinely visited women in their own homes as part of a maternal and child health programme. For this project, the nurses received training in partner violence, and a partner violence response protocol was developed to increase referrals and information-giving. The protocol included a general question about the women's history of abuse. Two years after the protocol was introduced, the authors reported that referral rates increased from 3% at preintervention to 17%. This positive trend was not statistically significant; however, the data on referral before and after the intervention were not fully comparable. Increases were found in both information-giving by nurses following the intervention (0.03% to 78%) and identification of partner violence (6% to 9%), although only the former was significant.

Sensitivity analyses

When considering outcomes by settings, system-level screening interventions in primary care and women's health clinics are more effective than

those within accident and emergency departments and home visits. Some of the studies did not adequately report data on referral outcomes, or combined several different outcomes under one category; thus it is hard to judge changes in these outcomes.

In terms of study quality, only one study¹⁶⁹ had the 'greatest' strength of design and a 'fair' execution rating. The other seven studies rated 'poor' for execution and 'moderate' for strength of study design, most using a before-and-after method. Details of the assessment of execution of individual studies are in Appendix 8.3. Due to all but one of the studies having a poor execution rating, there is insufficient evidence for system-centred interventions increasing identification, referral and other activities aimed at reducing morbidity and mortality. The lack of variation in study quality precludes a detailed sensitivity analysis by quality. Yet it is striking that the highest quality study,¹⁶⁹ and the only randomised controlled trial, did not find a significant increase in identification.

Strengths and limitations

By extending to proxy outcomes it was possible to explore the potential benefit of system-based screening interventions. For those studies where no statistical analysis was given, we calculated 95% confidence intervals for differences in the proportions if absolute numbers were reported, thus allowing some assessment of the precision of the comparisons reported by the authors. The USPSTF quality appraisal criteria were used to rate the primary studies. This not only gives us a measure of internal and external validity, but also the strength of evidence of the studies as a whole. This review fulfils the relevant QUORUM reporting criteria (see Appendix 11.6 for QUORUM checklist and flowchart).

Limitations are twofold, those arising from our review and those related to the primary studies. Excluded studies included those that only measured identification; it may well be that an intervention could have excellent efficacy in increasing detection rates, or improving the rapport and communication skills of staff, which improves patient disclosure. However, identification is a necessary but not sufficient condition of improved outcomes for women, and the additional activity inclusion criterion brings it further along a causal pathway towards patient benefit. Limitations of some of the primary studies

include incomplete reporting of outcome data (as a result we could not construct a funnel plot to test for publication bias), no statistical analysis and poor reporting of the intervention. No reporting of adherence to screening protocols limits the interpretation of identification rates. These study limitations weaken overall findings and ultimately reduce the strength of evidence of these primary studies. The main limitations arising from the primary studies are failure to measure or lack of power to detect actual morbidity (in the case of the study by Thompson and colleagues¹⁶⁹) and the generally weak study designs.

Discussion

Despite the finding that interventions in primary care settings produced overall a trend for increased identification and other activities aimed at reducing morbidity and mortality, there is insufficient evidence of effectiveness. The most methodologically robust study showed least effect on identification rates.

Chapter 9

Is screening for partner violence acceptable to health-care professionals? (Question VI)

Qualitative studies

We identified 10 journal articles and one UK Home Office report reporting the attitudes of health-care professionals towards screening for partner violence. For details of study design and quality scores see Appendix 9.1. Four studies were conducted in the USA, three in the UK, two in Sweden, one in Australia and one in New Zealand. There are six studies exploring midwives' attitudes, one about nurses, two about physicians, one about nurses and mental health service providers, and one about a range of professionals. The total number of recruited health-care professionals was 446, ranging between 8 and 124 per study. The methodological quality score assessed by CASP was between 19 and 37, with most of the studies scoring more than 31.

First-order constructs

We identified 12 first-order constructs concerning health-care professionals' views about partner violence screening. There were variations between studies regarding the first-order constructs but there were no systematic differences in relation to country or health-care setting.

1. Screening for partner violence is acceptable to some health-care professionals

Edin and Högberg found that the idea of asking all pregnant women questions about abuse, as is done with respect to smoking and alcohol, was acceptable to almost all the midwives they interviewed.¹⁷⁵ Stenson and colleagues also found that health-care professionals generally consider routine questioning about partner violence acceptable. A typical statement from their informants: 'Regarding certain questions, routine is very important; to raise them at this point in time because then you know it will get done'.¹⁷⁶

2. Health-care professionals felt that they have a responsibility to screen for partner violence

It was felt that all health professionals need to be aware of the issues involved and share responsibility for detecting partner violence and supporting the

women concerned.^{177,178} Screening was seen as an expression of wanting to make a difference to the social issue of partner violence.¹⁷⁹

3. Asking about abuse helps remove stigma attached to partner violence and indicates openness to the issue

Edin and Högberg reported that one justification for screening expressed by their midwife informants was that asking every pregnant woman in their antenatal clinics questions about abuse 'would play down the issue; no one would need to feel singled out when confronted with a sensitive question'.¹⁷⁵

4. Screening for partner violence is an indicator of good care

Some accident and emergency staff thought that asking all women about abuse was an indication of good care.¹⁸⁰

5. Screening for partner violence is conditioned by the way professionals ask and timing is important for screening

Timing of screening was considered important by informants. Screening during routine medical intake, such as during the triage process, was considered inappropriate.¹²⁰ Concerns were raised about patients with a range of conditions: drug and alcohol intoxication, acute psychosis, active labour, stroke, heart attack or other acute conditions. These groups might be unable to respond appropriately to screening or their priority is immediate medical management.¹⁸¹ The informants of Edin and Högberg suggested the issue could be brought up during the first antenatal visit of the women or at a later visit.¹⁷⁵ In the study by Stenson and colleagues, midwives did not perceive questions about violence as being more delicate than many other questions that are ordinarily asked in antenatal care.¹⁷⁶ Others said that 'they did not feel it to be a problem to ask, although they reported different situations when they found questioning about abuse inappropriate'. Although different opinions were expressed regarding screening, some midwives suggested the use of routine questions; other informants

preferred including asking as part of an ordinary conversation, because of the threat questions might pose to the integrity of the woman.¹⁷⁵

6. *Somebody else should screen*

In general, informants felt there should be a dedicated health-care professional or paraprofessional assigned to do the screening¹²⁰ or they believed the screening could be handled more appropriately by somebody else in a different department ('Nurses asked why physicians do not screen, nurses suggested that the question be asked once a patient is transferred to the Women & Infants unit, and the emergency department staff questioned the practice of screening patients who are in a medical crisis.').¹⁷⁵

7. *Training for partner violence screening is important*

Some informants did not feel competent to screen patients because they were not comfortable with their current knowledge about partner violence.^{120,177,181}

8. *Screening for partner violence needs good resources*

Time constraints and poor infrastructure of the working environment were identified as major obstacles by most informants. A female physician stated: 'It's irresponsible for us to initiate screening if we don't have the staff and resources. Can we appropriately direct them and meet their needs?'¹²⁰ Staff requested greater feedback on whether screening provided any real benefit to patients (i.e. 'Is there positive feedback on anyone we have helped or from referral sources?').¹⁸¹ When health-care professionals were not trained in responding to disclosure they were concerned about encouraging women to talk about abuse. Clinical staff in an accident and emergency department mentioned that the department did not provide patient follow-up and they did not want to initiate a process that they were neither able to complete nor felt certain would be completed elsewhere in the hospital.¹⁸⁰

9. *Insufficient evidence for screening effectiveness*

Some informants noted that 'there is no data on how effective asking is',¹⁸¹ and this appeared to be a major reason for those informants who did not find screening by health-care professionals acceptable.

10. *Potential risk to relationship with women as a result of screening for partner violence and methods for protecting the relationship*

Fear of offending caregivers (when women attended with their children) and patients was also a recurrent theme from nurse and physician

informants.^{120,176} In a study by Hindin the importance of the relationship with women was reported by all midwives as one of the foundations of their professional practice.¹⁸² The informants said that they did feel able to discuss a range of sensitive subjects with women because they gave time to listen to the women.

11. *Health-care professionals were concerned about women's safety and their own safety when they screen for partner violence*

Midwives emphasised the importance of seeing the woman without her partner when screening for partner violence or if there was a known history of partner violence.^{176,177,183}

12. *Screening for partner violence might be considered judgmental*

Some midwives expressed frustration about the perceived passivity of many women in the face of partner violence and their apparent inability to seek help or leave the abusive relationship.¹⁷⁷ Some informants also were sceptical about getting an 'honest' response to screening questions.¹⁷⁵

Second-order constructs

The second-order constructs representing authors' interpretations are presented below.

1. Uncertainty about the appropriateness and value of screening for some patient presentations and in some clinical settings.
2. Range of opinion on which health-care professionals should screen for partner violence.
3. Inadequate health-care professional expertise resulting in feelings of frustration.
4. Concerns about time and increased workload associated with screening.
5. Concerns about screening increasing vulnerability to abuse and violence to the woman and potentially to the health-care professional.
6. Concerns about the effectiveness of screening in terms of improved outcomes for women.
7. Potential to stigmatise women as a result of screening for partner violence.
8. The importance of a good relationship between health-care professionals and women as a context for screening.

The second-order constructs were generally supported by the first-order constructs in all studies.

Contradictions between studies

Although most of the informants thought it was the responsibility of health-care professionals to screen for partner violence, some midwives remained anxious and sceptical about screening women for abuse.¹⁷⁷ In the study by Minsky-Kelly *et al.*,¹⁸¹ informants expressed frustration over being required to screen all patients, feeling that 'no one across the country ... is doing this'. They further questioned, 'How much responsibility do I own to save the world?'. Many participants found screening for partner violence to be a disconcerting experience, arousing feelings of discomfort and embarrassment.¹⁷⁹ When they felt that screening was not having an impact, there was a sense of hopelessness in the face of what seemed like an insurmountable problem.

Informants in some studies expressed the view that screening for partner violence indicates openness of the health-care professional towards the problem, but Loughlin and colleagues found that clinical staff in an accident and emergency department were concerned that a screening protocol might have a negative impact on the public's perception of the department.¹⁸⁰

Quantitative studies

Twenty papers reporting 20 studies fulfilled our inclusion criteria (see Appendix 9.2 for characteristics of included studies). Eleven studies were conducted in the USA, five in the UK, one in Pakistan, one in Kuwait, one in Northern Ireland and one in Belgium. Two studies were self-report postal questionnaires, one was an online self-report questionnaire, and the others were based on face-to-face interviews or self-completed questionnaires. There were seven studies of physician attitudes, four of midwives, one of nurses, one of medical students, one of midwife students, and six including different types of health-care professionals. Response rates were between 17% and 100%, and the number of recruited health-care professionals ranged between 27 and 976, with a total of 4553 respondents. The quality score assessed by STROBE was between 11 and 19, with most of the studies scoring more than 15. There was a wide range of acceptability of partner violence screening among health-care professionals, from 15% to 95%. Results and quality scores are detailed in Appendix 9.3.

Bair-Merritt and colleagues¹⁸⁴ assessed residents' views of partner violence screening in a postal

questionnaire survey sent to all civilian paediatric residency programmes in the USA, with a 68% response rate. Ninety-three percent of chief residents felt that paediatricians should screen for partner violence. Seventy-one percent of respondents felt that their training was not sufficient to make them comfortable performing this screening.

Bair-Merritt and colleagues¹⁸⁵ surveyed 151 clinicians in a US urban paediatric emergency department. Sixty-five percent agreed that they should screen for partner violence. Age, gender and role in the emergency department did not affect opinions about screening.

Baig and colleagues¹⁸⁶ surveyed 167 residents across six primary care (internal medicine, obstetrics and gynaecology, paediatrics, family medicine, emergency medicine and combined medicine/paediatrics) residency programmes in a US hospital. Ninety-five percent of respondents thought partner violence screening was 'important'. Resident characteristics, such as gender, year in residency and personal history of abuse, were not independently associated with importance placed on screening or on stated intention to screen for partner violence. Residents who managed a survivor of partner violence were more likely to report that screening was very important than those who had never taken care of a partner violence victim. In multivariate logistic regressions, emergency medicine residents were less likely than other residents to consider that partner violence screening was important. Some paediatric residents did not screen because of privacy concerns and thus may miss partner violence among their adolescent patients. Residents reported lack of time, personal discomfort and forgetting to ask as personal barriers to partner violence screening. Although residents cited lack of or poor training in partner violence as a barrier, training in residency was not independently associated with priority placed on screening or on stated intention to screen.

Baird¹⁸⁷ surveyed 29 preregistration midwifery students about their views on routine enquiry about partner violence. Fifty-two percent of respondents felt it was the midwife's role routinely to inquire about partner violence, 38% were unsure, whereas 10% felt there was no role for the midwife. Sixty-eight percent thought that women may be offended if asked about partner violence by a midwife.

Barnett¹⁸⁸ surveyed midwives in Scotland about their attitudes towards routine enquiry. One hundred and thirty-two midwives responded. Sixty-six percent of midwives thought that they should ask women about partner violence, 27% were unconvinced and 7% believed that it was inappropriate. The majority said that it should be a multidisciplinary task with general practitioners and health visitors (who would know the whole family) asking routinely about partner violence. Ninety-two percent felt strongly that robust referral systems should be in place before they asked women about partner violence and feared that if this was not the case then questioning could in fact make a woman's situation worse.

Ellis,¹⁸⁹ in a survey of nurses in an emergency department in the USA, elicited 40 responses. Although 88% of the respondents had attended in-service training on partner violence, only 53% felt that nurses should screen all women for partner violence.

Fikree and colleagues¹⁹⁰ surveyed a stratified random sample of 100 obstetricians in Pakistan. Almost half of the respondents were favourably inclined towards routinely screening patients. Among the three categories of obstetricians interviewed, junior obstetricians (59%) were more likely to be favourably inclined towards routine screening compared with either senior (42%) or trainee (43%) obstetricians. Reasons articulated by those obstetricians who did not consider routine screening important included no solution to the problem (30%), enquiry was an invasion of privacy (19%), and insufficient time to inquire (9%).

In a survey of 27 primary care attending physicians in two US hospitals, Friedman and colleagues¹¹⁰ found that one-third believed that physical abuse and sexual abuse questions should be asked routinely.

Goff and colleagues¹⁹¹ surveyed 541 physicians, general dentists and nurse practitioners in one town in Texas, with a 34% response rate. Twenty-nine percent of the health-care professionals believed that they did not see enough survivors of partner violence to do screening, 29% believed they should screen in the presence of non-specific complaints, 22% believed they should screen if patients present with a physical injury, 20% believed all women should be screened, and 2% believed a woman should be asked once about abuse, during her first consultation.

Lazenbatt and colleagues¹⁹² surveyed all midwives in Northern Ireland, eliciting a response rate of 57%. Fifty-three percent of respondents thought that every pregnant woman should be screened for partner violence. When midwives were asked if they had ever raised the issue of partner violence with a client, only 28% had done so.

Nayak¹⁹³ surveyed medical students at a Kuwait university. Of the 106 respondents, 93% felt that training in issues related to interpersonal violence is necessary, but only 25% agreed that patients should be routinely assessed for a history of victimisation.

Nicolaidis and colleagues¹⁹⁴ surveyed 278 health-care professionals from 31 US family practices. Sixty-two percent had prior partner violence training. The majority agreed that it is the primary care provider's responsibility to ask about partner violence when seeing patients for health maintenance visits (66%), chronic pain (56%) or injuries (62%). Fifteen percent agreed with screening for partner violence at every visit.

Price and Baird¹⁹⁵ sent a questionnaire to all midwives in an acute trust in the UK. Fourteen percent of the respondents did not believe it was the role of health-care professionals to screen at all, with 39% stating that routine screening should not occur within professional practice. When asked who should screen, a wide range of responses was given, from 'any one who is in contact with women to specialists'. A large majority of hospital-based midwives felt that it was the responsibility of the primary health-care team, specifically naming relevant individuals or by responses such as 'any health professional that has an ongoing relationship with the woman, i.e. a community midwife'.

Richardson and colleagues¹⁹⁶ surveyed general practitioners, practice nurses and health visitors in one London health authority. Among the 401 respondents, 32% thought that health visitors should routinely ask about partner violence, 15% thought this for practice nurses, and 14% for general practitioners. Practice nurses were significantly less likely than health visitors or general practitioners to think that routine enquiry about partner violence should take place (odds ratio 0.46, 95% confidence interval 0.27–0.77, $p = 0.003$). Other predictor variables were not significant in a multivariable regression model.

Roelens and colleagues¹⁹⁷ surveyed 289 board-certified obstetrician-gynaecologists in Flanders, Belgium, with a 52% response rate. Seventy percent disagreed with universal screening of women patients and 81% disagreed with screening women once each trimester of pregnancy.

Salmon and colleagues¹⁹⁸ in an evaluation of an educational programme on midwives' knowledge, skills, attitudes and implementation of routine antenatal enquiry for partner violence, surveyed 70 community midwives in one acute trust. At baseline 89% agreed with a statement that screening for partner violence was important, rising to 98% after the programme.

Shye and colleagues¹⁹⁹ surveyed 203 primary care clinicians in a health maintenance organisation in north-western USA, finding that 75% would prefer routinely to ask patients at health maintenance visits, 8% would prefer to ask only women who are at high risk, 15% would let the clinician decide who to ask, and 2% percent would let the woman bring the subject up herself.

Synthesis

There was heterogeneity in the results of qualitative and survey studies about the acceptability to health-care professionals of partner violence screening. In the surveys, acceptability ranged between 15% and 95% of respondents.

Across the surveys, a higher proportion of physicians were in favour of screening compared with midwives, who raised different concerns and reported frustration regarding partner violence screening. Nevertheless, there was considerable heterogeneity within professions, including midwives. Acceptability of screening was generally lower outside the USA, although there was considerable variation among US health-care professionals in different surveys. There was no consistent association between type of health-care setting and acceptability, with the exception of paediatric emergency and ambulatory care, in which a large majority of clinicians were in favor of screening caregivers.

Findings from the qualitative studies showed that some informants thought screening was important but should be carried out by another health-care professional, and these findings were reinforced by the surveys. For example, midwives identified

general practitioners and health visitors as being well placed to screen for partner violence.¹⁸⁸ Other health-care professionals felt there should be a dedicated professional or paraprofessional assigned to do the screening,¹²⁰ or they believed the screening could be handled more appropriately by somebody else in a different department.¹⁷⁵

Those studies that measured respondents' personal characteristics, such as gender, age and personal history of abuse, and tested their association with acceptability of screening generally found that they were not independently associated.^{117,185,186} However, Baig and colleagues¹⁸⁶ found that physicians who had managed survivors of partner violence were more likely to state that partner violence screening was very important.

In sensitivity analyses excluding the poorer quality studies, as assessed by STROBE for quantitative studies and the CASP criteria for qualitative studies, we did not find a relationship between study quality and the findings on the acceptability of screening. We also scrutinised the reported survey data to determine whether there was a relationship between survey response rates and the acceptability of screening, but found none even when studies were stratified by type of health professional (see Appendix 9.4).

Strengths and limitations

Strengths of this review include the synthesising of qualitative and quantitative studies to answer this question, the quality appraisal of studies (using the STROBE checklist for quantitative studies and the CASP tool for the qualitative studies) and the performance of a sensitivity analysis. This review fulfils the relevant QUORUM reporting criteria (see Appendix 11.7 for QUORUM checklist and flowchart). Health professional-related variables, demographic features and features relating to the screening process were examined to assess how they interact to increase or decrease the acceptability of screening by health-care professionals. A limitation is that the attitudes of male members of the public towards screening were not examined. Many of the response rates in the quantitative studies were generally less than 70% and often less than 50%. This is a limitation because it implies that the acceptability rates may well be inflated, as non-respondents are less likely to consider partner violence an important clinical issue and would be less likely to consider screening acceptable.

Discussion

There is a wider variation in the acceptability of partner violence screening among health-care professionals than among women (see Chapter 6), with many surveys showing that a majority of clinicians do not find it acceptable. Although we do not report the data here, those studies that also measured screening behaviour found an even smaller proportion of health-care professionals performing screening, even in the USA where this is policy in many health-care settings. There is

scepticism about the benefit of screening and, again in contrast to the views of women, little mention of potential benefits beyond eliciting disclosure. From the qualitative studies we learn that, even when health-care professionals find screening acceptable, they are wary of implementation without training and possibly additional resources to deal with referrals after disclosure. The findings of surveys of clinicians internationally and in the UK and of the qualitative studies mean that the criterion of acceptability of partner violence screening in health-care settings is not fulfilled.

Chapter 10

Is screening for partner violence cost-effective? (Question VII)

In this chapter we investigate whether screening for partner violence in any health-care settings is cost-effective. First, we conducted a systematic review of the primary studies that reported the cost-effectiveness of partner violence screening. Second, a cost-effectiveness model was constructed based on a pilot trial of a system-based intervention to implement routine enquiry about partner violence in a primary care setting.

Systematic review of cost-consequence and cost-effectiveness studies

The search for economic analyses of screening interventions in health-care settings for partner violence retrieved nine potentially eligible papers detailing eight studies published between 1986 and 2005. All studies were sited in the USA. None of these studies fulfilled our inclusion criteria.

Six studies did not evaluate two alternative interventions; they simply measured costs of assault and homicide within families,²⁰⁰ hospital charges associated with partner violence,²⁰¹ and costs of correct and false detection of partner violence.²⁰² The other three papers described the costs associated with resource utilisation by survivors of partner violence compared with women who have never experienced it.^{203–205}

Clark and colleagues²⁰⁶ performed a cost-benefit analysis on the implementation of the Violence against Women Act (VAWA) of 1994, suggesting that the benefit of the VAWA outweighs implementation costs from a societal viewpoint in the USA. However, the results of this analysis cannot inform the question whether screening programmes in health-care settings are cost-effective.

Two articles from Domino and colleagues reported the results from the Women, Co-occurring Disorders, and Violence Study (WCDVS), a multicentre, non-randomised trial comparing an integrated counselling and advocacy service with

usual services as control.^{207,208} The study recruited women with a mental health or substance abuse diagnosis and a co-occurring history of physical or sexual abuse. Follow-up of the women took place at 6 and 12 months. Screening for and detection of partner violence was not part of the study protocol, however, and the analyses therefore do not address the research question for this review. In spite of this, the study can serve as an indication of the effectiveness and costs of a partner violence intervention. For the population of 2026 women in the study, the intervention of integrated counselling and advocacy was likely to be cost-effective when compared with usual care.

The analysis was based on changes in four clinical outcome measures: the Addiction Severity Index drug and alcohol composite scores (ASI-D and ASI-A), the Global Severity Index (GSI) and the Post-traumatic Stress Disorder Symptom Scale (PSS). The analysis at the 6-month follow-up²⁰⁷ evaluated the cost from a Medicaid perspective, which included service delivery costs, as well as a societal perspective, which also comprised additional costs to service such as housing schemes and crime-related costs.

At the 12-month follow-up,²⁰⁸ costs were evaluated from a societal perspective, which included service delivery plus participants' costs for time and transportation. Clinical outcomes were reported to be in favour of the intervention, and incremental cost-effectiveness ratios (ICERs) were presented per unit improvement on each of the four clinical outcome measures. Quality-adjusted life-years (QALYs) were not calculated. ICERs ranged from \$123 to \$12,227, and bootstrapped confidence intervals included 0, which was interpreted as uncertainty that incremental costs or savings are achieved. These results have to be viewed in the light of usual care containing a structured counselling intervention already, which partly explains similarities in treatment costs in both arms. Generalisations to other populations and countries would therefore strongly depend on existing usual care provisions, although it is likely that a similar intervention in an NHS context

would also be cost-effective if the clinical outcomes were comparable. What Domino and colleagues have not demonstrated, however, is that *screening* in a health-care setting can be cost-effective.

Cost-effectiveness model of PreDoVe: a pilot trial of a primary care-based system-level intervention to improve identification and referral of women experiencing partner violence

The pilot study investigated a general practice-based intervention in the UK and tested the feasibility of this intervention in four general practices (three acting as an intervention and one as a control). The multifaceted, system-based intervention aimed to change the behaviour of clinicians towards women experiencing partner violence, and was designed to increase routine enquiry about partner violence and thereby disclosure of current partner violence. Following disclosure, clinicians were prompted to refer women to an advocate based in a domestic violence specialist agency or to a psychologist with specific training related to partner violence. The system-based intervention included initial educational sessions for all clinicians within the practice, which emphasised a pragmatic approach to enquiry and referral and also gave an overview of the wider community response. The referral component of the intervention was supported by a direct referral pathway to a domestic violence advocate and a psychologist, both of whom were involved in the initial training. In addition, prompts in the electronic medical record were used to probe for partner violence during routine consultations based on a four-item screening tool termed HARK (an acronym based on the dimensions of abuse, i.e. Humiliation, Afraid, Rape and Kick) linked to a range of coded diagnoses such as depression, insomnia, sexually transmitted infections and fatigue.²⁰⁹ The HARK questions and a prompt to refer women to the advocate or psychologist were installed as a template onto the electronic medical record in the practices. Although the aim of the intervention was not a *comprehensive* screening programme for all women, it aimed to implement screening or routine enquiry for women presenting with other problems. We maintain that an economic analysis of this intervention is relevant

to the question of whether screening for domestic violence could be cost-effective.

Model

A Markov model was developed to combine the intervention costs and benefits. It was fitted comparing the PreDoVe programme with usual care and used the differences between the two simulations to calculate the incremental net benefit. The model evaluated the impact of increased assessment and referral rates upon further violence and quality of life over a 10-year period. Partner violence affects several public services as women experiencing such violence come into contact with, for example, local authority housing departments and social services. Women experiencing violence who come into contact with the criminal justice system are now routinely recorded. Taking a societal perspective permitted a wide range of data from sources to be incorporated into the model. See Appendix 10.1 for summary of data sources for the model.

The model defines six health states in which women can find themselves (*Figure 3*). Following assessment, women experiencing partner violence can (1) remain unidentified, or are (2) identified and subsequently referred and treated, or (3) identified but decline referral to advocacy or psychology services. Women who receive treatment following disclosure during assessment can (4) drop out without improvement, or (5) enter a state of medium-term improvement where they can stay or move to the no-abuse or identified/untreated state. Women can also (6) die of non-related causes or specifically from partner violence. The transition probabilities for movement between these states were taken from the literature or in discussion with partner violence researchers. See Appendix 10.2 for details of transition probabilities. The average length of time a woman remains in contact with advocacy services is 6 months, and therefore the model cycle length was set to 6 months with a time horizon of 10 years. Following the approach suggested by the National Institute for Health and Clinical Excellence (NICE), we discounted both costs and outcomes at 3.5% per annum. The reason for this is that it is the approach most commonly taken in UK cost-effectiveness analyses, facilitating comparison of our results with other studies.

Costs associated with advocacy and/or psychological interventions were collated for each woman in the

PreDoVe pilot trial, and averaged across all women in the arm. These directly recorded pilot data were used to populate the model with the number of women attending the practices, the number who were asked about partner violence by GPs or practice nurses, the number of women disclosing partner violence, the number of subsequent referrals to the advocate or psychologist, and the number of women who declined to take up the referral to these services.

Simplifying assumptions about current abuse incidence included: 16 years as a woman's minimum age for first experiencing partner violence; a lifetime prevalence of 40%; and that moving to a state of abuse occurs at a constant rate over a woman's lifetime. Assessment rates at intervention and control practices were assumed to be 10.7% of abused women and 7.1% of non-abused women, based on actual rates of asking and extrapolation from the prevalence of partner violence found in east London general practices.

Costs comprised health-care use in terms of assessment, mental health and treatment costs as well as other social costs. Social costs included criminal justice costs, civil justice costs and cost of divorce involving children, societal employment loss, temporary housing costs and costs of social services.

Quality of life was based on survey data using the Short Form 12 (SF-12) measurement tool. SF-12

data were converted into quality of life utilities between 0 (equivalent to death) and 1 (equivalent to optimal health) for those with less severe and more severe violence, based on the US study by Wittenberg and colleagues.²⁷² See Appendix 10.3 for a summary of treatment cost sources, and Appendix 10.4 for other costs and QALYs per woman per year for each state.

The majority of women in the model are likely to be in 'No abuse' (State 1) although a flow of women will become 'Abuse unidentified' (State 2). Following assessment, women experiencing partner violence can remain unidentified (State 2), or be referred to a psychologist and/or advocate (States 3 and 4), or disclose abuse to a health-care professional but not be seeking intervention (State 5). If the psychologist and/or advocate intervention is successful, the women can be termed as 'Medium-term improvement' (State 6) and, if this does not worsen, can return to the 'No abuse' category.

Results

Univariate sensitivity analysis was carried out, and model parameters were both increased and decreased by 25%, unless these figures were internally invalid (such as if probabilities were less than zero or greater than one). For transition probabilities for which the intervention was assumed to be preferable to the control, the sensitivity analysis was constrained to assume the

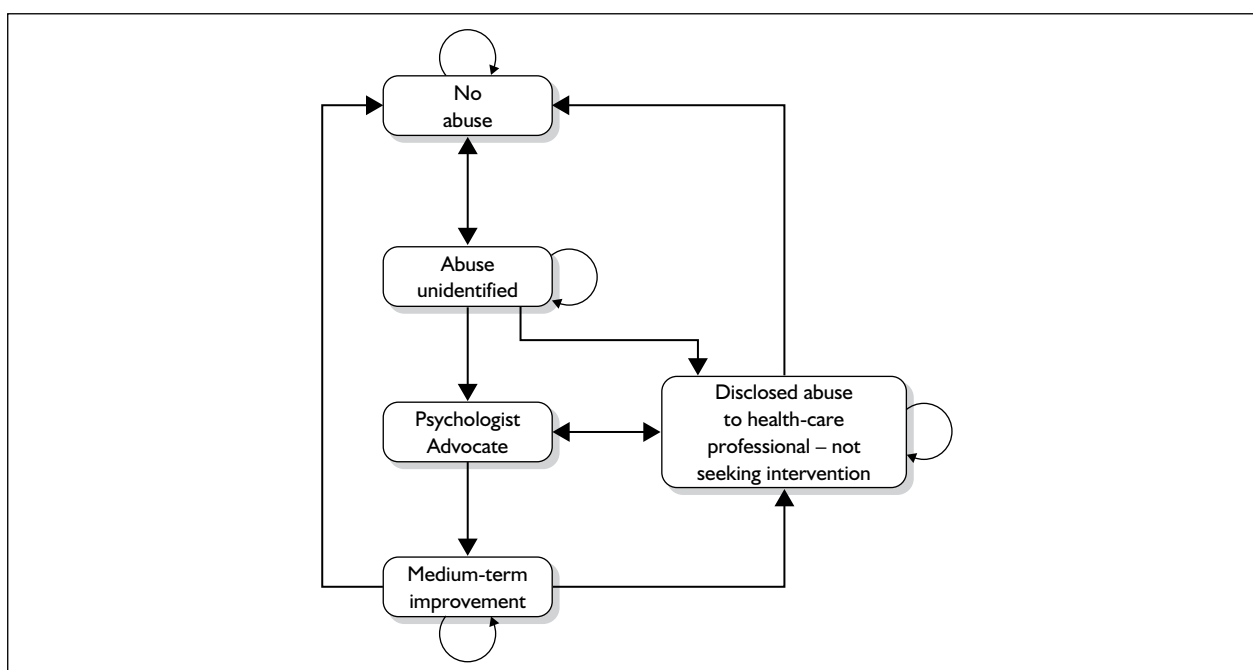


Figure 3 Diagram of Markov model states of PreDoVe intervention.

transition probabilities were at worst equal. In addition, the sensitivity analysis used an upper and lower confidence interval for the impact of abuse on health.

Combining net benefits and net costs in the model resulted in an incremental cost-effectiveness ratio (ICER) of £2450 per QALY. This result would be considered cost-effective had a service use perspective been applied under the implicit willingness-to-pay threshold applied by NICE. Including costs from a societal perspective will result in lower costs per QALY. The estimated cost-effectiveness was most sensitive to women taking up an intervention and the success of these interventions 'downstream' from disclosure to a health-care professional (in PreDoVe this entailed partner violence advocacy and a psychological intervention), and to the likelihood that medium-term improvement will continue into living outside of an abusive relationship. Most ICERs did not increase above £5000 per QALY and only one was greater than the £30,000 notional threshold for cost-effectiveness in the UK. For details of the sensitivity analysis results, see Appendix 10.5.

We have made a number of simplifying assumptions in our model that could be addressed with more research. We considered the possibility that women may relapse into an abusive relationship, but we did not capture the fact that women with past histories of partner violence have a greater likelihood of entering into another abusive relationship. We also did not differentiate between women in a relatively new abusive relationship and those in longer-standing relationships or long-term harassment after they have left an abusive relationship. The latter group may take longer to change their situation. Our model draws upon the available evidence for the effect of partner violence programmes but these studies are based upon different populations and

this may affect the accuracy of our findings. For instance, the main intervention effects were based on data from the PreDoVe pilot trial, based in inner city general practices with multiethnic, relatively deprived populations in the UK. The population targeted in PreDoVe were patients in primary care, and the majority of referrals were women who had not previously disclosed abuse. By contrast, our estimate of effect of advocacy came from a US study¹²⁶ focused on a refuge population who had already self-identified and sought help, not necessarily in the context of health care. There is considerable uncertainty regarding both the modelling of partner violence, and the costs and quality of life for the women involved.

A limitation of the model for estimating the cost-effectiveness of screening is that the intervention was aimed at implementing routine enquiry of women presenting with a range of specific conditions, rather than a comprehensive screening programme within a health-care setting.

Discussion

In our review we were unable to identify any studies that tested the cost-effectiveness of screening women in health-care settings for partner violence. We did find a study that calculated the costs and service use for women with co-occurring mental health and substance abuse disorders who were survivors of partner violence and taking part in an intervention programme. Overall costs were the same for women within and without the programme and clinical outcomes were improved, which suggests that the intervention was cost-effective. Our cost-effectiveness model of a pilot trial of a primary care intervention that resulted in increased enquiry about partner violence by clinicians supports the hypothesis that this type of intervention could be cost-effective.

Chapter 11

Conclusions of the reviews and implications for health care

On the basis of our review findings, we believe that the NSC criteria are not fulfilled for a policy of screening women in health-care settings for partner violence. The main unmet criterion is evidence of improved morbidity and mortality from screening programmes (Question V). Notwithstanding the poor methodological quality of most studies of screening interventions, there is a trend for increased identification and referral to partner violence advocacy services. However, the strength of this evidence is insufficient as there is only one randomised controlled trial of a screening intervention showing a limited impact on the identification of partner violence. More importantly, there is no robust evidence that screening for partner violence has any direct benefits in terms of reducing levels of abuse or in improving the physical and psychological health of abused women. A further gap in the evidence base is that none of the screening studies has measured whether screening is associated with an increase in potential harm for abused women. Those that measured health outcomes for women, such as the cluster randomised controlled trial of Thompson and colleagues,¹⁶⁹ would have been able to detect harm if the participants in the control group had better outcomes than those in the intervention group, but would not have been able to detect adverse events that were not outcome measures. We do know that two of the intervention studies (Question IV) found increases in bodily pain in treatment arms, although this may have been a temporary state, and arguably part of the therapeutic process.²¹⁰ The question of potential harm from a screening programme was also raised by survivors of partner violence in interview and focus group studies reported in Chapter 6, although the breaches in confidentiality they were particularly concerned about are not specific to screening. The risk of breaches of confidence should be negligible if health-care professionals have adequate training in appropriate and safe responses to disclosure of partner violence.²¹¹ Health-care professionals also were concerned about adverse effects of screening, although the worry about offending patients raised in some of the studies reviewed in Chapter 9 was not confirmed by the survivors participating in the interviews and focus group studies or the surveys.

To what extent are the NSC criteria fulfilled?

Question I: What is the prevalence of partner violence and its health consequences?

NSC criterion 1, that the condition should be an important health problem, is met. Abuse of women by their partners or ex-partners is widespread internationally²¹² and there is no longer any debate about the large public health impact of partner violence, although prevalence rates and the magnitude of health sequelae vary depending on population and study design. However, even based on the lower estimates for prevalence, morbidity and mortality, it is clear that partner violence is a potentially appropriate condition for screening and intervention.

Question II: Are screening tools valid and reliable?

A variety of partner violence screening tools are available, ranging from single-question tools to 30-item research inventories. We limited our review to screening tools comprising 12 items or less, for ease of administration in busy health-care environments. NSC criterion 5 states that the screening test should be simple, safe, precise and validated, the distribution of test values in the target population should be known, and a suitable cut-off level defined and agreed. We reviewed the diagnostic accuracy of 12 screening tools, none of which had been evaluated in terms of the subsequent safety of women following their administration. Overall, the 4-item HITS (Hurts, Insults, Threatens and Screams) screening tool demonstrates the best predictive power, concurrent and construct validity and reliability, with a suitable cut-off score. It fulfils the NSC criterion and could be used to screen for partner violence in a variety of health-care settings. However, it does not ask about sexual abuse or ongoing violence, and so it may need to be administered alongside another screening tool to detect these forms of abuse. Alternative short screening tools, such as the WAST and the AAS, perform almost as well as the HITS in the health-care settings in which they were tested. The North American context of diagnostic accuracy studies of screening tools requires extrapolation of these findings to the NHS, but there is no *a priori*

reason why the tools should perform substantially worse in a UK setting.

Question III: Is screening for partner violence acceptable to women?

NSC criterion 7 is that the screening test should be acceptable to the population. We therefore evaluated both the quantitative and qualitative evidence eliciting the views of women. In general, the evidence from the survey studies of women patients in health-care settings shows that most agree with screening or being asked routinely about partner violence. However, from the qualitative studies, it is also clear that women perceive the purpose of screening as lying outside the public health screening framework and differently from health-care professionals. On the whole, health-care professionals see screening as a method for obtaining disclosure of abuse, which then leads to appropriate care being offered. By contrast, women tend to view screening as a method of raising awareness rather than eliciting disclosure of abuse. Thus, even though abused women may not disclose immediately, screening may facilitate later disclosure when the women feel more comfortable with the health-care professional, or when their circumstances change and they feel the need to get help. This has implications for health service policy in relation to screening and the training of health-care professionals in relation to partner violence, as we discuss further below. Although only 2 out of the 18 surveys were based in UK populations, their results are consistent with the range of opinion in the totality of studies.

Question IV: Are interventions effective once partner violence is disclosed in a health-care setting?

NSC criterion 10 is that there should be an effective intervention for patients identified through early detection, with evidence of early treatment leading to better outcomes than late treatment. Further, the benefit from the screening programme should outweigh the physical and psychological harm caused by the test, diagnostic procedures and treatment. We reviewed studies that have evaluated the effectiveness of interventions for women who have disclosed abuse, including evidence from an increasing number of randomised controlled trials. Most were targeted at women who had already disclosed abuse, many from refuge populations, so extrapolation to women identified through screening is problematic. None of the studies tested whether early detection of partner violence leads to better outcomes. The evidence of effectiveness of advocacy interventions is growing,

although using the USPSTF criteria for sufficiency of evidence for policy, it is on the borderline between insufficient and sufficient. As we discuss in Chapter 7, this is probably too conservative a judgment. On the whole, well-designed studies show improvements in outcomes for women receiving advocacy, but the evidence is strongest for women who have actively sought help or are already in a refuge. This evidence has informed UK central government funding of specialist independent domestic violence advocates (IDVAs) attached to both statutory and voluntary agencies. The only studies of advocacy interventions in women identified through screening in health-care services were based in antenatal clinics.^{121,131–133} The evidence for individual psychological interventions is sufficient according to the USPSTF criteria, but this is based on only three studies and, more so than the advocacy studies, the interventions are very heterogeneous. The evidence for group psychological interventions and that for mother and child programmes is insufficient as a basis for policy. Overall, considering all types of interventions that women might be offered following disclosure, there is still uncertainty about their effectiveness. However, there is little evidence that they are ineffective. As none of the controlled studies of interventions was based in the UK, the uncertainty about their effectiveness within the NHS is even greater.

Question V: Can mortality or morbidity be reduced following screening?

This question addresses NSC criterion 13, that there must be evidence from high-quality randomised controlled trials that the screening programme is effective in reducing mortality or morbidity. We extended the review to include proxy outcomes for improved morbidity and mortality, particularly referral to partner violence advocacy and other community support agencies following screening. We found no studies that directly measured morbidity and mortality. Although most of the studies measuring proxies showed improvements in these outcomes, study design and execution were generally poor. The most robust study methodologically showed the least effect on identification rates. There was no measurement of potential harms of screening, although these were raised by women and health-care professionals in the qualitative studies. Criterion 13 remains unfulfilled. As none of the studies was based in the UK, this is even more the case for NHS policy than it is for US health-care policy.

Question VI: Is a partner violence screening programme acceptable to health professionals and the public?

To fulfil the NSC criterion 14, there has to be evidence that the complete screening programme (test, diagnostic procedures, treatment/intervention) is clinically, socially and ethically acceptable to health professionals. We reviewed quantitative and qualitative studies of acceptability to clinicians. There was heterogeneity in the findings of qualitative and survey studies about the acceptability to health-care professionals of partner violence screening, but overall the evidence shows that this NSC criterion is not met. This contrasts with the surveys of women, which reported largely positive views of screening in health-care settings. The surveys of health-care professionals reported that a majority of clinicians do not find a screening programme to be acceptable, although the proportion of respondents who thought it acceptable ranged between 15% and 95%. The qualitative studies tended to report more positive views of screening from health-care professionals. However, even when clinicians think that there should be screening for partner violence, some held the view that it is other groups of health-care professionals who should be carrying out the screening. The qualitative studies also demonstrate that positive attitudes towards screening are tempered by a wariness of implementation without training and the possible need for additional resources to deal with referrals after disclosure. Although only 5 out of 20 surveys of health-care professionals were conducted among UK populations, the results of these were consistent with the range of opinion in the totality of surveys.

Question VII: Is screening for partner violence cost-effective?

This question addressed NSC criterion 16, that the cost of the screening programme (including testing, diagnosis, treatment, administration, training and quality assurance) should be economically balanced in relation to expenditure on medical care as a whole (i.e. screening for partner violence should give value for money). We sought to review studies evaluating the cost-effectiveness of screening and we complemented this by modelling of costs and outcomes using data from a pilot study in primary care. We found no studies examining the cost-effectiveness of screening women for partner violence. Our cost-effectiveness model, based on pilot data, suggested that a system-level intervention in primary care that improves identification (well below the disclosure rate one might expect with a screening programme) and

referral of women survivors of partner violence is likely to be cost-effective. Nevertheless, at present this NSC criterion is not fulfilled.

Strengths and limitations of this report

We have broken down a complex health-care policy issue with multiple criteria – should women be screened for partner violence in health-care settings? – into seven questions amenable to systematic review. We carried out these reviews to a high methodological standard and concluded that there was insufficient evidence to recommend screening as a policy. We have synthesised quantitative and qualitative studies for the two reviews on the views of health-care professionals and women patients respectively. Changes in our protocol included not reviewing three NSC criteria: (1) there should be an agreed policy on the further diagnostic investigation of individuals with a positive test result and on the choices available to those individuals; (2) there should be agreed evidence-based policies covering which individuals should be offered treatment; and (3) management of the condition and patient outcomes should be optimised. The criteria we reviewed are more central to a policy decision about screening, and reviews of these additional three criteria would not have changed our conclusions. We have highlighted limitations of the individual reviews in the relevant chapters. Generic limitations of all our reviews include: no hand searching for primary studies, no forward citation tracking, quality appraisal performed by one reviewer, and no funnel plots for publication bias. These additional components would not have changed the overall conclusion of our report. The main limitations of this report are the relatively small number and poor quality (or poor reporting) of primary studies and the absence of controlled studies of interventions in the UK.

Are the NSC criteria appropriate tests for a partner violence screening programme?

From our review of current research evidence, it is clear that key criteria for the effectiveness and appropriateness of a partner violence screening programme are not fulfilled, not even in antenatal clinics for which the Department of Health has a

policy of 'routine enquiry'.²¹³ This term is broader than 'screening', ranging from asking every woman patient about abuse to enquiry only in particular groups of patients.¹⁶ Although reference to routine enquiry rather than screening seems to circumvent the NSC criteria, its implementation as policy still needs to be based on research evidence showing that it is safe and effective, which brings us back to the evidence we have reviewed here, with three notable differences.

First, the purposes of routine enquiry can include information about partner violence and signal to the patient that the clinician is a potential source of support if she discloses. Disclosure or identification is no longer the only outcome, as it is within a screening paradigm. One of the striking findings of our review is that survivors of partner violence value purposes other than identification for routine enquiry, although this view is not widely shared by the health-care professionals interviewed in the qualitative studies. Proponents of routine enquiry maintain that there are other benefits, such as reducing stigma²¹⁴ about partner violence and changing prevailing social attitudes,²¹¹ although there is no compelling evidence that this is an outcome of routine enquiry. Second, routine enquiry does not require standardised screening tools, allowing a greater flexibility in how women are asked about abuse and, potentially, greater sensitivity to differences between women in how they might want to be asked. Third, there is less potential for the woman to feel pressurised to disclose abuse, as this is not the only purpose of routine enquiry. The Department of Health's current policy of routine enquiry during pregnancy is not based on trial evidence of improved outcomes for women who are asked about abuse antenatally, although the trial by Tiwari and colleagues¹²¹ of advocacy suggests that women who do disclose abuse in pregnancy may benefit from an advocacy-based intervention, notwithstanding these differences.

Chamberlain, in her response²¹⁵ to the lack of support for screening by the United States Preventive Service Task Force on intimate partner violence, concluded that the evidence criteria for a positive recommendation were too narrow and reflected a lack of understanding of the nature of partner violence by the task force. Specialists within domestic violence services highlight the dynamic nature of partner abuse and the legitimate reasons women may have for not wanting to disclose it to a particular health-care professional, with implications for any evaluation of its effectiveness.

Nevertheless, if controlled evaluations of screening programmes are intrinsically problematic and the NSC criteria are flawed in relation to a problem like partner violence, we are left with the dilemma of how to judge whether a policy of screening or even routine enquiry is justified.

The debate about screening for partner violence and the shift in emphasis, at least in the UK, to routine enquiry has distracted attention from the uncontested importance of training for health-care professionals in being open to disclosure of partner violence and responding appropriately, whether they ask about abuse routinely or not. The remit of this review was the evidence for a policy of domestic violence screening, and we have not reviewed the evidence for other policy questions and recommendations.

Research questions

1. Do system-level interventions in health-care settings improve the response of health services to survivors of partner violence? Trials to answer this question may incorporate routine or selective enquiry and, potentially, could compare differences in outcomes between the two policies, although those outcomes would need to be broader than identification.
2. Do system-level interventions in health-care settings improve outcomes for women? Trials to answer this question are logistically more challenging in terms of recruitment and long-term follow-up of participants than those needed to answer research question 1.
3. Do psychological and advocacy interventions after disclosure of partner violence to health-care professionals in health-care settings – whether this is the result of screening, routine enquiry or selective enquiry – reduce violence and improve quality of life and mental health? These trials should have follow-up for years, not months, and include mental health and quality of life outcomes.
4. Study designs for research questions 2–4 need to incorporate the theoretical basis for different components of domestic violence interventions in order to enhance our understanding of how such interventions work (or do not work), for whom and in what contexts.
5. What do women want from health-care or health-care-related interventions after disclosure of partner violence? Qualitative studies would inform the design of these interventions and choice of outcome measures to evaluate them.

6. What is the 'natural' history of partner violence? This question includes exploring individual risk factors for survivors, factors supporting resilience of survivors and perpetrators, the trajectory of abuse across the life course, and predictors of severity and outcomes.
7. What is the long-term prognosis for survivors of partner violence after identification in health-care settings?

Research questions 6 and 7 are best addressed in cohort studies with long-term follow-up, studies that are almost absent in the field of domestic violence research.

Programmes addressing these seven research questions need to have the resources and expertise to include participants from majority and ethnic minority communities in the UK.

Listing important research questions is *de rigueur* for a systematic review. We believe it is almost as important to discuss research that does *not* need to be pursued. From this review, we conclude that the following types of study are not *a priority* in the UK.

1. Cross-sectional prevalence studies from antenatal clinics, accident and emergency

clinics and, probably, general practice.

Although there are only a few of these studies at present, more precise or generalisable estimates of prevalence will not materially inform health service policy.

2. Surveys of attitudes of health-care professionals towards partner violence, unless in the context of interventions to improve care, in which case measurement of attitudes may help to explain the results.
3. Surveys of women's attitudes towards routine enquiry. Measuring the size of the minority of women who do not want routine enquiry about partner violence is not going to help develop policy.

We are not saying that this research should *never* be undertaken in the UK or funded in the future; but that in a competitive funding environment, where historically there has been little support of health-related domestic violence research, the priority should be given to the seven research questions listed above. We have found that the epidemiology of domestic violence in clinical populations in the UK is not particularly robust, but more precise measures of prevalence in different health-care settings and of health-care professional and patient attitudes towards screening is not the best use of resources while these questions remain unanswered.



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Contributions of authors

Gene Feder (professor of primary health care) designed the reviews, managed the project, supervised the analysis and edited the report.

Camelia Arsene (reviewer) searched for primary studies, extracted and analysed data for Questions 3 and 6, and drafted the relevant chapters. Loraine Bacchus (research fellow, women's health) designed the reviews and commented on results and drafts of the report. Danielle Dunne (reviewer) searched for the primary studies, extracted and analysed data for Questions 1, 3 and 4, and drafted the relevant chapters. Gill Hague (professorial research fellow, women's health) designed the reviews and commented on results and drafts of the report. Stefanie Kuntze (health economics fellow) extracted and analysed data for the review part of Question 7 and drafted that section of the chapter. Richard Norman (health economics fellow) designed and performed the cost-effectiveness analysis in Chapter 10 and drafted that section of the chapter. Jean Ramsay (senior research fellow, primary care) designed the reviews, participated in the analysis, drafted Chapters 1, 2 and 11, and edited the report. Mark Rose (reviewer) searched for primary studies, extracted and analysed data for Questions 2 and 5, and drafted the relevant chapters. Anne Spencer (senior lecturer, health economist) designed and supervised the cost-effectiveness analysis in Chapter 10. Ann Taket (professor of primary care) designed the reviews and commented on results and on drafts of the report. Alison Warburton (senior research fellow, mental health) designed the reviews and commented on results and drafts of the report.



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