



Using systematic reviews to improve social care



Social Care Institute for Excellence
Better knowledge for better practice

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First published in Great Britain in November 2003 by the Social Care Institute for Excellence (SCIE)

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British Library Cataloguing in Publication Data

A catalogue record for this book is available from the British Library

ISBN 1 904812 06 6

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Produced by The Policy Press

University of Bristol

Fourth Floor, Beacon House

Queen's Road

Bristol BS8 1QU

UK

www.policypress.org.uk

Printed and bound in Great Britain by Hobbs the Printers Ltd, Southampton.

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Using systematic reviews to improve social care*

1.1. SCIE: a long gestation

Summary

- SCIE has a pivotal role in the development of better knowledge for better practice.
- Systematic reviews have an important role to play in this endeavour.
- Systematic reviews are an essential component in the development of best practice guidelines.

In June 1994, the Department of Health (DoH) published a report produced by an independent review group on the position of personal social services research. The report identified the need for the collation of existing research and recommended:

- the establishment of a recognised, national clearing house for research available to practitioners and service users; and
- the preparation and publication of research and development reviews, which would be accessible in style,

have an easily recognisable format, and carry credibility and authority¹.

In June 1996, the President of the Royal Statistical Society commented favourably on the work of the Cochrane Collaboration in preparing and disseminating systematic reviews of the effects of healthcare interventions, and proposed that its methods should be extended to other areas of public activity such as education and the penal system.² In the same year, the then Secretary of State for Health said:

The commitment to evidence-based medicine increasingly pervades modern medical practice. This kind of commitment should be extended to the social services world.³

The Social Care Institute for Excellence (SCIE) is recognisably the realisation of the perceived and accepted need for there to be an organisation with a lead responsibility for undertaking and/or commissioning the synthesis and dissemination of research relevant to social care. SCIE is now poised to fulfil this and other ambitions, in the pursuit of better services. Its slogan is 'Better knowledge for better practice'. It is timely, therefore, to consider what approaches might best fulfil its mission in this regard, with particular reference to the role and

* The author is one of the Board Members for SCIE, is Co-convenor of the Campbell Social Welfare Group and Coordinating Editor of the Cochrane Developmental, Psychosocial and Learning Problems Group.

methodology of systematic reviews. This is the purpose of this report. It offers a starting point for discussion, rather than a definitive formula, but it does seek to dispel some myths and misunderstandings about both the concept of evidence-based practice and systematic reviews.

The report examines the relevance of systematic reviews to the endeavour to promote better knowledge for better services. It considers some philosophical as well as technical or methodological issues, and makes some recommendations as to how an organisation such as SCIE can best use the range of initiatives, including the Campbell Collaboration, that are happening worldwide. It argues that in the hands of social scientists, users, carers, and practitioners, systematic reviews could be harnessed to good use in social care, providing an essential foundation for practice guidelines. It argues that SCIE could, and should, play a central role in ensuring that systematic reviews are undertaken, are relevant to the needs of the UK, and are fit for purpose.

1.2. The brief

The brief for this report was to provide a 'think piece on the field of systematic reviews, particularly focusing on Campbell reviews'. Within this 'think piece' I was asked to:

- identify the key players in this field, the protocols registered within Campbell's Social Welfare Group and whether their proposed work is relevant to SCIE;
- report on what is emerging in terms of systematic review methods for intervention studies that SCIE should be taking on board;

- make recommendations for SCIE's task in developing systematic review methods in social care.

This report is therefore primarily concerned with one particular form of evidence, the systematic review, with particular emphasis on systematic reviews of outcome evaluations. My observations should be seen in this context. There is a variety of sources of evidence relevant to decision making in social care, which SCIE needs to ensure are available to decision makers, and heeded by them. For some policy and practice issues, the primary, perhaps the only, source of relevant data might be the views and experiences of users and carers. It is possible that there is scope for a systematic approach to collating and distilling such views, and this report notes the work being undertaken in relation to the systematic review of qualitative data (a separate report is being prepared by Jenny Popay covering this in detail). The report does not deal with the pivotal question of how one influences professional attitudes and behaviour. It does, however, acknowledge that this is no small task. It focuses on the contribution of systematic reviews to SCIE's work in developing an appropriate knowledge base for social care, and in particular to the development of its practice guidelines.

Systematic reviews

Summary

- Systematic reviews are reviews that have been conducted in ways that minimise the chances of systematic bias and error.
- The hallmarks of a systematic review are explicitness and transparency. Protocols are an important feature of a systematic review.
- The best systematic reviews are those produced by teams comprising users, practitioners and researchers.
- Systematic reviews do not remove judgement.
- Appendix B contains examples of protocols.

Literature reviews are conducted for a number of reasons. What they usually have in common is an attempt to bring together the results of research or other forms of literature in order to provide a summary or synthesis of a particular body of knowledge. The purpose may be purely descriptive or critical, it may seek to identify gaps in knowledge, to guide practice or policy or to comment on theory. Systematic reviews comprise a particular approach to the business of identifying, collating and assessing research evidence. Deeks and colleagues⁴

have defined a systematic review as having a clearly identified question or questions, a search strategy that has been specified in advance, and clear, pre-specified criteria for:

- determining which studies to include;
- deciding how the information within them should be considered; and
- the appraisal of the methodological quality of included studies and synthesis of the results in a transparent fashion.

If appropriate, the results of included studies can be pooled using statistical methods, known as a meta-analysis. In brief, systematic reviews of outcome studies are designed to provide a reliable picture of 'current best evidence' relevant to a particular question. Some definitions might help to differentiate *systematic* reviews from *narrative* or *traditional* reviews (see **Figure 1**).

Systematic reviews are distinct from other kinds of literature review primarily in the way they are planned and conducted. The decision points are articulated in a preparatory document known as a protocol (see below) in which reviewers make explicit what decisions they have taken at each point and why. This happens *before* the review is undertaken.

Figure 1: Some definitions

A narrative review is a literature review in which reviewers have sought to collate relevant studies and to draw conclusions from them, but which do not make explicit their methods or decision-making rules.*²

A systematic review is one in which reviewers have sought systematically to identify all relevant primary studies, which they have then systematically appraised and summarised according to an explicit and reproducible methodology.

A meta-analysis is a statistical method of combining and summarising the results of studies in a systematic review that meet minimum quality criteria.

The protocol acts as the plan for the review and reviewers are expected to adhere to it unless there are extremely good reasons for doing otherwise. In such circumstances (and they do arise), changes need to be flagged and explained in the review. One reason for preparing a protocol first is that it will, in principle, have a longer 'shelf-life' than any one product arising from it. In order to continue to be 'current best evidence', systematic reviews need regular updating (if only to acknowledge that there are no new studies eligible for inclusion). The protocol continues to serve as the template for future revisions of the review.

The hallmarks of a systematic review are therefore explicitness and transparency. The importance of this approach to research synthesis is two-fold. First, irrespective of the study design considered adequate for a particular task, it is essential to interpret any one study within the context of all relevant studies. Not

doing this could result in overestimating or underestimating the significance of any one particular study, or even a group of studies. In a traditional narrative review, it is not always possible to determine the adequacy of the author's attempts to identify all relevant studies. For reasons of time or other resource issues, reviewers often limit their searches geographically or by time period, or in terms of sources searched. All of these serve to underline the second reason why a systematic approach is crucial, namely the considerable risk of bias in the process of research synthesis. What at first sight appears to be a useful summary of current best evidence can, in fact, be a flawed and misleading representation of the state of play.

2.1. Sources of bias in literature reviews

Bias can invalidate attempts to summarise research studies in a number of ways. The common tendency of authors to limit searches to English language sources or rely on a single method of searching, for example, electronic searching⁵ can bias the results of a review. This can also happen because studies with significant results or negative findings are more likely to be published than studies without such results.⁶ Reasons for this can include: the selective *submission* of papers;⁷ the selective *acceptance* of papers (see, for example, Manuscript Guidance, 25; 4A, *Diabetologia*;⁶ and database bias and citation bias, both of which can lead to a failure to locate relevant studies.⁶ Bias can also influence decisions regarding which studies to include or exclude, due to a natural human tendency to be more forgiving of the methodology of studies that support a preferred or favoured view than of those which do not. Even if reviewers have minimised bias, different groups of reviewers will be likely to draw

* It is possible to find somewhat different definitions used by other writers, for example Petticrew (2003), but the essential distinctions remain.

different conclusions. This is for two reasons. One is that we all make mistakes. The other is very important, and is often overlooked among proponents of evidence-based practice, namely that one cannot eliminate judgement from the process of research synthesis. Decisions have to be made about a range of issues, such as how to define essential characteristics, for example, how to define 'day care' and how to define 'older person'. Different people will make different decisions. This is fine, as long as it is clear to the reader what decisions have been made, so that:

- they can make an informed decision about the relevance of a review to their circumstances, or to the people they are working with; and
- if they disagree with a particular decision, they can see what the

implications are, and in principle 'redo' the review taking different decisions.

This relates to the issue of transparency, and is probably the single most important aspect of systematic reviews. These are among the reasons why systematic reviews require at least two people to undertake them.

2.2. The review protocol

To minimise bias, the protocol is developed, and therefore all key methodological decisions taken, *before* going to the literature. Examples of the issues to be settled before undertaking a review are illustrated in **Figure 2**. Clearly, most reviews will be conducted by those familiar with a particular field, but there

Figure 2: Decision points in a protocol

- Objectives
- Background
 - Nature, extent and seriousness of the problem
 - Approaches used
 - Research trends
 - Need for a systematic review
- Types of intervention
- Criteria for considering studies for this review
 - Types of studies
 - Types of participants
 - Types of intervention
 - Types of outcome measures
- Search strategy for the identification of studies
- Methods of the review
 - Selection of studies
 - Assessment of methodological quality
 - Data management
 - Data synthesis, for example:
 - how to deal with incomplete data?
 - how to analyse binary data?
 - how to analyse continuous data?
 - whether and when to undertake a meta-analysis, and if so, what kind?

are nonetheless good reasons for this 'act as if' approach. Essentially, it helps to minimise the problems outlined above, and provides an opportunity for others to comment on the planned review. Clearly, protocols do not remove judgements – they simply make the judgements transparent to the review user. Nor do they guarantee accuracy, but they should minimise error because of the highly structured approach, the explicitness required and – again – the transparency of the entire process.

Maximising the potential of these qualities requires that protocols are carefully scrutinised and reviewed*.³ Scrutiny should be undertaken by all those with relevant expertise, including users and practitioners, to ensure that avoidable errors are identified and remedied, and that important issues (such as looking for outcomes of interest to service users rather than researchers) are dealt with. Indeed, wherever possible, review teams should comprise a range of stakeholders, including researchers, users and practitioners. Only then will we more routinely produce reviews of relevance. This requires adequate support and funding for all reviewers. SCIE has an important training and support role to play in a field in which generally academics, researchers, practitioners and service users have not had the opportunity to develop the appropriate skills required to undertake a systematic review. Appendix B contains an example of a protocol relevant to the work of SCIE.

2.3. Scope of systematic reviews

Systematic review methodology is not confined to 'what works' questions, although most attention has been paid to this area. Systematic review methodology is relevant to any area where one needs to identify research trends, or to determine the overall balance of evidence in relation to a particular question. The question may be about effectiveness, about process and implementation, about assessment methods or about the experiences and perceptions of users of services. The outcomes of interest to reviewers may be quantitative (for example, how many people return home?) or qualitative (for example, how do people feel about returning home/not returning home?). Systematic reviews can encompass both kinds of data, and generally speaking the potential for dealing with either is determined largely by the nature of the primary studies.

* The term 'peer-review' accurately captures what is required, but does not do justice to the range of input required to produce high quality systematic reviews.

Emerging issues

Summary

- Systematic reviews are not synonymous with meta-analysis.
- Systematic reviews should typically be international in scope.
- Systematic reviews are not the sole basis for decision making.
- Systematic reviews need teams with an appropriate skills mix.
- Systematic reviews require adequate resourcing.
- It is possible to estimate the cost of a systematic review.
- The editorial process underpinning the production of Campbell reviews needs adequate resourcing.
- Explicitness and transparency are the central features of a systematic review rather than any particular decision. Nonetheless, challenges remain about what constitutes good enough evidence for questions of effectiveness, and challenges about whether and how to synthesise data from quasi-experimental studies.
- Decisions need to be made on whether to undertake a series of related reviews in an area, or one or two reviews, which seek to examine the effects of more than one intervention. There are strengths and weaknesses in each approach, but I favour the cautious approach, that is, a series of high quality reviews.
- Systematic reviews need to be interpreted in the light of other sources of evidence and other factors influencing decision making, such as values, resources and priorities. It is not appropriate to expect reviewers to address all these aspects within the confines of one systematic review. Indeed, there may be strong methodological reasons against this.
- Because of the need to go beyond experimental studies, reviewers in social care face particular challenges in identifying all relevant studies. Information scientists are crucial to this endeavour.
- There are concerns about how transferable the findings from systematic reviews are, as with primary studies. Systematic reviews may minimise the chances of uncritical acceptance, or unreasonable rejection, of studies conducted elsewhere.

- The preparation of systematic reviews highlights the need for more and better quality studies, that are better reported.

Reviewers wishing to undertake a Campbell review must first register a title with the relevant group. There is now a number of titles registered with the Campbell Social Welfare Group, a number of protocols are ready for publication, and some reviews are near completion (see Appendix A). Many have relevance to the work of SCIE. Most, but not all, are being conducted in the United States on a funded basis. This is in marked contrast to most of the reviews prepared for the Cochrane Collaboration, which are more often done on a voluntary basis and perhaps, therefore, outside of the US. This itself is generating some problems. Many of the challenges we are encountering within Campbell are not different from those encountered in the Cochrane Collaboration, and indeed there are a number of joint methods groups and liaison across the two organisations. What follows, in general terms, is a series of emerging issues, some predictable, other less so.

1. Systematic reviews are not meta-analyses: some reviewers appear to approach the task of systematic review as if it were the same as a meta-analysis. This is not a trivial issue. It skews the entire protocol and requires immense input from the editorial base to redress it. This most often happens with American reviewers, perhaps because they are generally more skilled in meta-analytic techniques (see 4 below). It is only in certain circumstances that one can combine the results of different studies to reach a more precise estimate of the effectiveness of an intervention. Even within health, most systematic reviews rely on a descriptive synthesis of data because to do otherwise would be

inappropriate. Often, to combine data from studies statistically is not appropriate because the studies are heterogeneous in important respects, they deploy different outcomes and so on.

2. Reviews should typically be international: it is generally accepted in health that systematic reviews should be international in scope. The issue is more contested when it comes to the systematic review of social interventions, particularly policy interventions. However, the starting point should be that systematic reviews, in order to minimise bias and maximise relevance, should be international in scope. Within a systematic review, it is always possible to analyse and/or examine studies from a particular period or a particular policy context separately and to explore the impact of such factors. To date, it has been difficult to persuade reviewers to take an international approach, particularly in relation to their presentation of the background issues and to the proposed search strategies. Often, the background to the protocol looks no further than the geographical or policy context of the authors' country of origin. Again, this is particularly pertinent to American review teams, but not unique to them. For some topics, a more 'policy-bounded' approach may well be methodologically more sound. There may be some topics that do not travel well across policy or cultural boundaries (see below). In such circumstances, reviewers should be required to make the case for limiting the scope of the review. For many areas of health and social care, this is unlikely to be the case. Given concerns about the transferability of interventions from one policy context to another, it is all the more important in some areas that we see if there is a

policy-independent effect for an intervention, or whether it seems to work well in some circumstances (not necessarily a policy circumstance) and not others. The careful description and appraisal of included studies usually allows reviewers to assimilate these issues, if only to generate hypotheses for further testing.

3. **Reviews are not the sole basis for practice or policy recommendations:**

one of the reasons sometimes given by reviewers for wishing to undertake a more circumscribed review (for example, one that only considers US studies) is that they see the review as the means of making policy or practice recommendations. This is reasonable but can also be problematic. Systematic reviews can only be (and should only be) *one* of the building blocks of decision making, albeit an important one. Different service users, professionals and policy makers may well reach different conclusions on the basis of the same review, because of cultural differences, differing priorities, varying perceptions of costs and benefits, different resources and so on. It is for this reason that within the Cochrane Collaboration, reviewers label any recommendations they might make as *their* opinion, rather than following inextricably from the review itself. Given that systematic reviews are designed, in part, to ensure the careful interpretation of research evidence from primary studies, a similarly careful and considered approach is needed to reach policy and practice conclusions from reviews, alongside other sources of evidence. The appropriate place for such methodological investment is arguably the development of practice guidelines.

4. **Systematic reviews need teams with appropriate skills:** there are several aspects to this. Firstly, review teams need methodological expertise regarding outcome evaluation, and statistical expertise. Because of a very different history in relation to outcome research, and a different approach to training, American academics and/or researchers are generally better trained in the statistical skills used in systematic reviews, and they generally have a better understanding of primary study design. This has its down side, of course, as indicated in 1 above. Elsewhere, academics and researchers rarely come to the review process with a good understanding of what is required. They need considerable support to produce a protocol that is ready for peer review. This process can sometimes take six or seven iterations*⁴, so the support needs to be not only technical but provided in such a way that reviewers do not become disheartened. Most review teams should include a statistician or someone with statistical competence. There is a shortage of available statisticians in the UK. Secondly, review teams need members with content expertise. Those who try to tackle topics about which they know little – even when they have the technical expertise – do not generally produce protocols or reviews of use or relevance to users or practitioners. Thirdly, it is important to have the involvement of service users and practitioners, and for that involvement to go at least some way to reflect the diversity among service users and carers. This is important in relation to

* This experience of the assistance usually needed by reviewers spans both work with Campbell reviewers and work with those Cochrane reviewers doing systematic reviews in areas that substantially overlap with social care.

race and ethnicity in particular, but other perspectives are also needed. The ideal is that these wider perspectives can be part of the team producing the review, but at the very least they need to be involved in the scrutinising process.

5. **Resourcing reviewers:** reviews are time consuming. To date, they have not attracted recognition as a high status activity. Within the Cochrane Collaboration, many reviews are undertaken on a voluntary basis. This has strengths and weaknesses as a system. The strengths are that reviews are often undertaken by reviewers keen to find an answer to a question that concerns them, who are prepared to maintain the review (at least for the foreseeable future) and who, while they may have other conflicts of interest, are not under any pressure from funders to produce a particular profile of results. The long-recognised weakness is that volunteer reviewers do not necessarily undertake reviews that are of high policy priority or even practice relevance. If an organisation has a particular interest in, or need for, reviews of the effects of particular interventions, then it may well need to *commission* these reviews. In these circumstances, an independent editorial process assumes particular importance in ensuring the quality of the product, and maintaining the review's perceived independence.
6. **Costing reviews:** several organisations have asked about the cost of producing a review. The cost of a review is difficult to estimate in advance, when there is uncertainty about the number of potentially relevant studies. In principle, it should be possible to set a standard rate for the production of a protocol, although the current lack of capacity in this area means that this price might

be higher than it would otherwise be. If practitioners and service users are to be involved meaningfully, then they require appropriate support, including training, and financial remuneration if other team members are funded (and possibly even if they are not). The cost of a review could then be set at a base rate plus additional money depending on how many studies are identified as meeting the inclusion criteria*.⁵ I can say with some confidence that many of the studies available in social care take considerably longer to code and analyse than those in health. In a project designed to produce a Mental Health Library funded by the EU, studies on the register of the Cochrane Developmental, Psychosocial and Learning Problems Review group took, on average, twice as long as those coded in the Dementia and Cognitive Impairment Group, or studies of psychosocial interventions coded by the Depression, Anxiety and Neurosis Group. One important issue that SCIE might consider is that of financially supporting the *maintenance* of a review. A systematic review needs to be updated at regular intervals in order to maintain currency as 'best evidence'. Funders are not typically excited by the prospect of paying to maintain an existing product, but this is essential if the initial investment in a review is not to be wasted. It is important to realise that in some areas an out-of-date review used in decision making can lead to costly errors.

7. **Resourcing review production:** what makes Cochrane reviews generally of very high quality is the fact that there is a dedicated infrastructure designed to develop and maintain quality. Both Cochrane

*I am not addressing here the issue of academic overheads, which also need to be given very serious consideration.

and Campbell have extensive editorial processes designed to ensure that reviews are produced to a very high standard. There is a consensus among editors that this process inevitably contributes to the improvement of reviews and reviewers are typically appreciative of this input. Few organisations have the in-house skills to undertake this. Exceptions might be the NHS Centre for Reviews and Dissemination.

In relation to Campbell, foundations have invested substantial funding in reviewers to produce reviews, and in work on methodological issues. However, foundations are not usually willing to fund infrastructure costs. The Social Welfare Group has recently been fortunate enough to secure some administrative assistance from Norway, and the services of a half-time librarian to assist reviewers in searching (a skilled activity). The editorial base is now in Oslo. This is likely to increase the workload on what is a very small editorial team. Editing systematic reviews is quite different from other forms of editorial work. It is often more like a collaboration (for which editors are sometimes acknowledged), and often entails a teaching and mentoring role. It is not clear how much longer the Social Welfare Group can support the work of what is a rapidly growing number of reviewers. In so far as the editorial process is crucial to the production of high quality systematic reviews, this is a significant issue, particularly given the lack of capacity in this area. Adequate funding to cover at least some of the editorial work needed to produce high quality reviews would encourage more people to be involved, and would help to persuade institutions to allow their staff to undertake this work. Social Welfare is now poised to

produce more reviews in Campbell than its sibling groups. The issue is becoming critical.

8. **The importance of external review and scrutiny:** the Cochrane Group, which I coordinate, has extensive 'in-house' editorial procedures, but it still sends all protocols and reviews for external scrutiny to someone with methodological expertise, another with content expertise and to one or more service users. This undoubtedly improves the quality of every review that passes through the Group.
9. **Study design:** There has been considerable debate about what kinds of study design are 'good enough' for settling questions of effectiveness*.⁶ This is not just about the study designs themselves, but whether they should be considered in light of what exists, or at a more general, 'in principle' level with regards to what is technically and ethically feasible. Most American review teams to date have been 'data driven', that is, they set their thresholds in terms of what they think they will find. This may well reflect a 'meta-analytic' conceptualisation of the task rather than a systematic review conceptualisation. Making assumptions about what studies are available typically means deciding on quasi-experimental studies as the minimally acceptable study design, that is, studies in which the progress of a group, receiving the intervention of interest, has been compared to a similar group (matched in a variety of respects), which has not. Some would argue that where experimental studies

* It is important to remember that this discussion only relates to systematic reviews of outcome research and that systematic reviews of other kinds of research would result in very different discussions about study design.

are technically and ethically feasible there is merit in setting the inclusion criterion bar there, irrespective of whether such studies exist or not. This is partly because we are never certain about what we might find in the literature, but mainly because it is important to know what we don't know, and these designs are generally better able (all things being equal) to provide secure answers to questions of efficacy. There are risks in setting the evidential threshold too high. Too often, telling policy makers 'we know nothing' is a risky strategy. It requires more political sophistication than is currently evident to draw the distinction between 'not having evidence that something works' and concluding that no evidence is in fact 'evidence that it does *not* work'. It is also a very uncomfortable state of affairs for policy makers and practitioners. However, too 'laissez-faire' a pragmatic approach can obscure real gaps in our knowledge about the effects of particular kinds of intervention. At the end of the day, it is users and carers who pay the ultimate price for these decisions. Others, perhaps more pragmatically, argue that in the 'known' absence of experimental studies, we have to do what one can with what is available. This is another reason put forward for being more 'inclusive'. Still others would argue that to place one's eggs in the experimental basket is, in any case, misguided. To date, most reviewers who have wrestled with these difficult issues have decided to set the inclusion threshold at the level of the experimental study.

To some extent there is little mileage in arguing about the issue of study design. There are many areas where neither experimental nor quasi-experimental designs are technically or ethically possible. One could argue

that the transparency of a systematic review, starting with a protocol, should ensure that whatever inclusion criteria are chosen, the reader can in principle appraise the robustness and/or relevance of the review to their situation. To some extent this is true, but where it can become problematic is: (i) when reviews exist which have employed different inclusion and exclusion criteria, producing different results, and decision makers have to choose between them; and (ii) when reviewers seek to combine data from non-experimental studies, that is, to undertake a meta-analysis. This is a problematic area because when a synthesis of the results of experimental studies is compared with a synthesis of the results of quasi-experimental studies (for example, matched comparison groups) the pattern of results is consistently different, but not consistently in the same direction – although predominantly the results of quasi-experiments are more favourable.^{8,9,10} This is not just a sterile academic debate. It matters. When we intervene in people's lives we have a responsibility to try to get it right.

In terms of methodology, what is needed is collaboration with those who are seeking to find reliable ways of combining data from quasi-experimental studies, and indeed other study designs such as interrupted time-series. Work in the US to explore this issue is being funded by the Smith Richardson Foundation, and systematic reviews have also been conducted within the UK, albeit within health. Given that we cannot always undertake experimental studies, and that in the UK there is considerable antipathy towards them in some quarters, we need to develop reliable methods of synthesising the findings of quasi-experimental studies, and other, non-

experimental designs. SCIE should perhaps explore partnerships with others working in this field.

At present, the majority of reviews registered with the Social Welfare Group are intending to, or have already, set their inclusion criterion for study design at the level of experimental or quasi-experimental methods.

10. One review, two reviews or more?

One of the most common discussions with reviewers is whether or not they should be conducting one review or several. The issue usually concerns the advisability of trying to evaluate the effects of a series of interventions targeted at a particular problem (for example, 'psychological interventions for anorexia nervosa') versus a series of related reviews, each of which examines the effects of particular interventions such as 'family therapy for anorexia nervosa', 'cognitive-behavioural therapy for anorexia nervosa' and so on. The debate is usually referred to as the lumping or splitting debate. There are unfortunately perverse incentives in favour of 'splitting' (for example, more publications, and possibly more funding and very real methodological reasons why we should be cautious about lumping too much in one review*.⁷ It is easier to write an overview of a series of well-conducted single reviews (and little extra work to

reach that point) than to run the risks inherent in attempting a 'mega-review'. That said, different Cochrane Groups have rather different approaches. Judgement again. The sensible approach seems to be a balance between rigour and relevance.

11. All things to all people: perhaps because of the erroneous belief that 'evidence-based' means making decisions *solely* on the basis of research evidence, and because in this context research evidence *is* the systematic review, there is a view that the repository of all relevant information should therefore be the systematic review itself. One of the most lively debates is whether or not it is possible within one review to address issues of outcome, process and implementation, including the experience and perceptions of service users. Again, different people will have different views on this, but it is the underlying issues that are important, rather than a particular 'solution' or response. Decisions in social care are typically complex. Decision makers need information about effectiveness, and effective implementation, as well as the views of key stakeholders. Only rarely will single studies combine such a range of data. For example, few studies are designed to examine outcome efficacy *and* process *and* implementation. This is one reason why it is not usually possible to undertake one systematic review that can address a wide range of questions. This does not mean that we should not set out to undertake a series of systematic reviews that together shed light on the range of issues that decision makers need to consider. One example of the latter approach is that adopted by the EPPI-

*For example, the more interventions we include, the more sub-group analyses we are likely to wish to conduct, that is, examining the effect of each intervention, possibly with different age groups, perhaps in different settings or different 'exposures'. There is strong evidence to caution against conducting too many sub-group analyses as it effectively does for systematic reviews what 'data-dredging' will do for single studies, namely we will eventually find some combination that looks effective.^{11,12}

Centre*.⁸ Where such opportunities exist they are welcome. For an organisation like SCIE, with a brief to do more than simply collate evidence or knowledge, the EPPI model might provide a model for aspects of its work, that is, pulling together evidence of different kinds in an easily accessible way. Whether or not the evidence is produced by the same teams is not central. In fact, because policy contexts, resources, values and priorities shift across individuals, organisations, groups and countries, there is sometimes merit in working with building blocks rather than integrated systems of evidence. The latter carry embedded within them values and assumptions which may not 'travel' well, and could limit the usefulness of such products to other potential users.

12. Finding the evidence: when talking of research evidence we can only review the evidence that exists in primary studies, and we can only review this if we can track it down. This is a considerable challenge, both for the reasons related to publication bias cited above, and because it is simply difficult to track down studies which are published in a wide variety of sources, both published and unpublished (the so-called 'grey literature'). The Campbell and Cochrane Collaborations have taken on the task of establishing registers of all randomised controlled trials relevant to their scope (and of course there is considerable overlap in places), but for reviews where the

evidence lies in other forms of study design, we currently lack any cost-effective way of assisting reviewers. There is increasing expertise among librarians and other information scientists. The Economic and Social Research Council (ESRC) UK Centre for Evidence-based Policy and Practice is playing a key role in developing capacity here.

13. Transferability of findings: concerns about the relevance of studies conducted outside of our geographical, cultural or national boundaries is a general concern, but it presents a serious dilemma in the UK as so little outcome research is conducted here.^{13,14} The contrast is even greater in rigorous evaluations, that is, those involving at least a comparison group. Concerns about primary studies inevitably translate into concerns about the applicability of systematic reviews conducted elsewhere, or including a majority of studies conducted elsewhere. Protocols help to some extent. By explicitly stating the participants, the kinds of intervention, the setting and so on (see Figure 2), it is possible to determine which studies are relevant to the review question one we have out to answer. The process of doing the review entails providing a careful, structured account of the included studies, together with an evaluation of the methodological quality of each. This enables reviewers to explore the pattern of results in relation to aspects they think are important, such as the origin of studies, differences in the populations from which samples were drawn, or settings. They can then highlight those factors that might need to be taken into account by practitioners wishing to make use of interventions that appear effective. The most common problems arise not from the origin of the studies

*The Department of Education and Skills has funded a centre to support the development of a systematic approach to evidence in education. EPPI stands for 'Evidence for Policy and Practice Information' Centre. It is located within the Social Science Research Unit, Institute of Education, University of London.

(although this is an important consideration, particularly in terms of the methods of recruitment of research participants in the US), but from the better resourced conditions that typically operate within evaluation studies, and their somewhat more controlled environments. Within the Cochrane Collaboration, the basic policy is that reviewers should not state implications for practice, although they can voice their own views on implications for practice. It may seem a subtle distinction, but the systematic review is only the starting point for an informed decision. Something may work in the UK or in Sweden, but is not likely to work in another country or in a different setting without changes in resource allocation, training of staff and so on. Drawing out the implications for policy and practice should rest with the review's readers, and SCIE has an important role to play in ensuring that reviews are appropriately contextualised and interpreted in line with other sources of evidence.

- 14. The need for more and better designed studies of the effectiveness of social interventions:** in health, the preparation of systematic reviews has served to highlight areas of policy and practice where little is known in terms of good quality outcome studies. These gaps are largely due to the poor quality of the studies available (both in terms of design and execution), but poor reporting of studies in journals is also implicated. The CONSORT Statement agreed among science journals is going some way towards improving both reporting and study design.¹⁵ Systematic reviews have also highlighted that in some areas there are clear messages about what does and does not appear to work, thereby

questioning the ethics of involving consumers in further, unnecessary studies. In general, it is now an expectation that before commencing primary research in healthcare, researchers should undertake a systematic review to establish what is known. This helps to ensure that scarce resources are not wasted on re-ascertaining the known, and patients are not abused in this respect. In commissioning, or searching for and using, systematic reviews, SCIE is well placed to act as an essential source of information about what primary research is necessary in relation to questions of 'what works' in social care.

- 15. Maintaining currency and improving quality:** once produced, reviews need to be regularly updated, even if this update serves merely to confirm that no further primary studies have been conducted. Securing resources for this is not easy, as indicated elsewhere. The methodology of research synthesis is also improving and developing, and when reviews are updated the need for a new protocol is sometimes identified. This can be to remedy errors or inadequacies. The 'Comments and Criticisms' function within the Cochrane Library, which allows readers to register their observations or queries with reviewers, is helpful in improving future revisions of reviews.

3.1. Key players in the field

Appendix B contains a list of reviews currently registered with the Campbell Social Welfare Group. Appendix C contains a list of groups preparing systematic reviews of potential relevance to SCIE. Given the changing face of social

care, the fact that agency boundaries do not reflect the boundaries of social problems but rather our way of seeking to manage them, and given that the origins of problems faced in social care may well lie elsewhere (education, primary healthcare), it is important that SCIE continues to take a broad approach when searching for relevant research syntheses. Both the Crime and Justice and Education Groups in Campbell may well be nurturing reviews relevant to SCIE's work programme, and National Institute for Clinical Excellence (NICE) and several groups in the Cochrane Collaboration have scopes that considerably overlap with social care in its broadest sense. The Campbell Collaboration is slowly building its capacity, both in terms of recruiting reviewers and in developing its support for them. The process has taken longer than anticipated, but not longer than might have been predicted given the lack of infrastructure support, and the dearth of capacity in many areas of social welfare. If its growth mirrors that of Cochrane, it will be a substantial resource for those responsible for guiding decision making in social care.

A group of Cochrane and Campbell review groups, together with the York Centre for Reviews and Dissemination, collated evidence from systematic reviews relevant to implementing the Wider Public Health enquiry (<http://www.york.ac.uk/inst/crd/wph.htm>). Many of these reviews focused on social, economic and environmental interventions relevant to the work of SCIE, and covering mental health, child protection, bullying, injuries, substance misuse and crime and justice. The York Centre for Reviews and Dissemination has responsibility for updating this database. This is only one of a number of sources of systematic reviews that need to be checked before commissioning new reviews (even if what is found prompts a decision that a new review is needed).

A systematic review methodology suitable for social care

Summary

- SCIE's biggest potential methodological contribution lies in establishing sound methods for developing its practice guidelines, building on its unique experience within social care in the UK.
- Systematic reviews should be an essential ingredient in the development of all practice guidelines, but need to be set in the context of other factors and other kinds of evidence.
- Guidelines are the most appropriate place for bringing together different kinds of evidence, and interpreting these in the light of other factors such as policy priorities, resources and so on.
- There are some criteria which SCIE might consider in developing this area of its work.

As may be apparent, I do not think that SCIE needs to develop a particular methodology suitable for social care, although the challenges of finding reliable ways of synthesising data from non-experimental studies is more pressing here. The principles of systematic reviews travel well from other fields in which they have become common currency, particularly

once the myths associated with them are dispelled.

One of the pressures to try to develop a particular systematic review methodology for social care comes, I think, from a wish to make decisions based on all relevant evidence, and all relevant information. Systematic reviews are an important ingredient in this, and an ingredient that has not been too freely available to date. Systematic reviews are only one ingredient, however, and – as argued above – good decision makers need to take other things into account. In so far as SCIE also has a role in developing practice guidelines, it is on this process that SCIE would reap most reward in terms of methodological development. What is the best way to bring to bear on issues of practice guidance the wisdom and experience of service users, carers, practitioners, citizens (in some cases) and policy makers on issues of practice guidance? What role should systematic reviews have in this process? Is there a way to ensure, when systematic reviews are commissioned by SCIE, that the interests and/or involvement of service users and others key players is safeguarded? What support do these groups need to contribute meaningfully to these processes? This report concludes by addressing the issue, not explicitly part of its brief, of methodological development in the context of practice guidelines.

4.1. A systematic approach to developing practice guidelines

There are a number of parallels to be drawn between a systematic approach to research synthesis and a systematic approach to guideline development. Transparency and explicitness are again essential. Guidelines developed on the basis of 'expert opinion' have been shown frequently to be out of kilter with current best evidence, and are highly susceptible to bias, for example, vested interest groups (experts versus generalists, one discipline versus another). SCIE already has experience of developing practice guidelines, and an admirable track record in testing their utility. In terms of its mission to deliver better knowledge for better practice, SCIE's biggest methodological impact can come through developing robust mechanisms for drawing together the range of available evidence and ensuring that a range of perspectives is brought to bear. At the very least, the kinds of issue SCIE needs to address are as follows.

What should be the membership of a guideline development group? A development group needs to be composed in such a way that it can address a range of tasks. First, it needs to include representatives of all key stakeholders, including service users. A multi-disciplinary group may be essential in some areas, possibly most areas of interest to SCIE. The absence of a multi-disciplinary perspective can undermine the interpretation of available evidence and, consequently, the validity of recommendations made on the basis of that evidence. The group also needs to have available to it a range of skills covering: literature search and retrieval, content expertise, research expertise, the expertise of users and practitioners, and expertise in writing and editing.¹⁶ Because of the dynamics and technical challenges of quality decision-making in groups,¹⁷ in general, they should

not be too large and roles should be clear. The process requires leadership by someone who has both content expertise and a knowledge of group process.¹⁶

Identifying, assessing and synthesising the evidence: the evidential base of guidelines is central to their validity. Without this, the guideline process is reliant upon the knowledge and experience of group members (see above). Systematic reviews or meta-analyses are a necessary ingredient. If such reviews are not available, relevant studies should be identified and synthesised following the guidelines for systematic review.^{18,19}

Quantifying risks and benefits: the effectiveness of a particular intervention is not the only consideration in decision making. Service users and practitioners need to evaluate the relative effectiveness of a range of intervention options, and the costs, risks and benefits associated with each. Ease of interpretation is important for both users and practitioners. Guidelines should identify exceptions in applicability, and, where appropriate, indicate how user preferences are to be incorporated into decision making.²⁰

Categorising evidence: systematic guidelines take care to categorise bodies of summarised evidence in terms of their susceptibility to bias. Although a number of schemes exist, empirical data testify to the importance of research design as a major factor in influencing outcomes.^{21,22} Campbell is currently considering the possibility of grading systematic reviews or 'evidence reports' according to the kinds of study design included.

Making recommendations: research evidence requires interpretation, particularly since conclusive evidence about the effectiveness of social care interventions is rarely available. Research evidence also needs to be considered in the light of other influences, such as the

policy context in which someone is operating, or the costs of alternative options.¹⁶ In so far as recommendations are incorporated into guidelines, the links between these and the quality of supporting evidence should be made explicit.

Recommendations in the absence of research evidence: the approach advocated so far depends on the availability of evidence beyond clinical wisdom or experience. Advocates of evidence-based practice have never discounted the relevance of practice wisdom, but have urged that it be evaluated in the light of other sources of evidence which are less susceptible to bias. Sometimes, however, practice wisdom or experience are all that is available. As throughout the production of practice guidelines, what is important in these circumstances is that the basis of recommendations is made explicit, and the need for more secure evidence is acknowledged.

Timescale for review: as with systematic reviews, practice guidelines have an unpredictable shelf life. It is important that they are regularly reviewed and, where appropriate, updated. Therefore, a quality criterion of guidelines is the identification of a timescale for review.

Final considerations: because clinical guidelines are specifically designed to influence practice, some other considerations are important. Factors such as clear writing, precise definitions, unambiguous language and user-friendly formats are desirable in systematic reviews, but become essential in practice guidelines. Anything short of this will increase the risk that they will be misunderstood, poorly implemented, or not implemented at all. There is also a need for simplified versions of guidelines to be available to service users, in a variety of languages and forms.

4.2. Recommendations

1. The principles underpinning systematic reviews, that is, transparency and explicitness, have broad relevance to the work of SCIE. It should seek to ensure that all those who produce work under SCIE adhere to these principles.
2. SCIE should establish and maintain collaborative arrangements with those organisations engaged in the business of systematic reviews. It can usefully influence the work of these organisations, particularly in terms of relevance.
3. SCIE should ensure that it has optimally sensitive systems for identifying systematic reviews of relevance to its work programme. As well as reviews from organisations identified in Appendix C, numerous systematic reviews are produced and published by teams working alone. Even if these reviews are not quite 'fit for purpose', it is important to ensure that there is no duplication of effort. Moreover, even a review that is *either* not very good, *or* out of date, *or* may have ignored aspects of an intervention, can provide a useful source of primary studies for those commissioned to do a better, or more up-to-date job.
4. SCIE should commission systematic reviews where none exist that are relevant or adequate to the work it is seeking to undertake. These reviews may be concerned with questions of effectiveness, with process, implementation or other issues, for example, a review of theory. The methodology of systematic reviews should apply to all reviews, to enable SCIE to assess their worth or relevance.

5. SCIE should ensure that all its commissioned reviews are carried out systematically. This would typically mean clearly identifying two or more questions (perhaps one concerned with outcomes, one with process and implementation, one with the views of service users), each of which need to be undertaken separately before the results can be brought together.
6. SCIE should require those commissioned to prepare a systematic review (whatever its focus) to first publish a protocol. This should then be carefully and independently scrutinised by people with relevant expertise, spanning content, methodology and experience. There is merit in following the Cochrane Collaboration's example and developing a system for comment and criticism.
7. SCIE might consider whether to encourage those from whom it commissions systematic reviews of the effects of social interventions to register their review with either Campbell or Cochrane. This would provide technical support to reviewers, and additional procedures for quality control.
8. Relevant systematic reviews should be at the heart of practice guidelines, even if they demonstrate that little is known about a particular issue. They are only one aspect, however, and a major focus for SCIE should be the development of its procedures for generating practice guidelines. This is the most acute challenge – interpreting research evidence, assessing its relevance or adequacy, and placing it in contexts of other sources of evidence, other sources of knowledge, and other legitimate influences on policy and practice.
9. When SCIE commissions broader pieces of work, that is, those which include the systematic review of both outcome studies and process and implementation studies, together with consultations with key stakeholders, it should ensure transparency as to how conclusions and recommendations are reached.
10. SCIE should ensure that its work programme includes the updating of both commissioned reviews and practice guidelines.

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Appendix A: Titles of systematic reviews registered with the Campbell Social Welfare Group

1	The impact of welfare reform on family structure	Matthew Stagner, Jennifer Ehrle and Jane Reardon-Anderson
2	The health effects of housing improvements: A protocol for a systematic review of intervention studies	Hilary Thomson and Mark Petticrew
3	Cognitive-behavioural interventions for sexually abused children	Geraldine Macdonald, Paul Ranchandani and Julian Higgins
4	The health and social impacts of new road building	Matt Egan, Mark Petticrew and Val Hamilton
5	Effectiveness of the Families and Schools Together (FAST) programme	Haluk Soyudun and Chad Nye
6	Individual and group based parenting for improving psychosocial outcomes for teenage parents and their children	Esther Coren and Jane Barlow
7	School feeding programmes for improving outcomes of low-income children and for reducing socioeconomic inequalities in health	Betsy Kristjansson, Vivian Robinson, Peter Tugwell, Mark Petticrew, Trish Greenhalgh, Barbara Macdonald, Jessie McGowan, Bev Shea, George Wells, Helen Thomas and Jeremy Grimshaw
8	Cognitive-behavioural training interventions designed to assist foster carers in the management of difficult behaviour	Ioannis Kakevalakis and Geraldine Macdonald
9	Home based support for socially disadvantaged mothers	Esther Coren, J. Patterson and Jo Abbott

10	Supported housing for the seriously mentally ill	Rupa Chilvers, Alex Hayes and Geraldine Macdonald
11	Interventions for learning disabled sex offenders	Lorraine Ashman and Lorna Duggan
12	Family and parenting interventions in children and adolescents with conduct disorder and delinquency aged 10-17	Katrina Williams and Sue Wolfenden
13	Group based parent-training programmes for improving emotional and behavioural adjustment in 0-3 year-old children	Jane Barlow and J. Parsons
14	Media-based behavioural treatments for behavioural disorders in children	Paul Montgomery and H. Roberts
15	Parent-training programmes for improving maternal psychosocial health	Jane Barlow and Esther Coren
16	Work and activity programmes for social assistance recipients	Kåre Birger-Hagen
17	The impact of marriage and relationship programmes	Matthew Stagner, Jennifer Ehrle, Jane Reardon-Anderson and Katherine Kortenkamp
18	Kinship care for children and youth	Anthony Mallucio and Frank Ainsworth
19	Impacts of multisystemic treatment on youth outcomes	Julia H. Littell, Burnee Forsythe and Melania Popa
20	Early childcare education* ⁹	Tina Rostgaard
21	Teen pregnancy prevention interventions	Lauren Scher, Matthew Stagner and Doug Kirby
22	Interventions to increase work participation among physically disabled people	Asbjørn Steiro, Geir Smedslund, Therese Kristine Dalsbø, Torill Johme and Kåre Birger Hagen
23	Treatment foster care	Ioannis Kakavelakis and Geraldine Macdonald
24	Family preservation and reunification	Geraldine Macdonald, Emma Williamson and Ioannis Kakavelakis

* Title is under discussion as there is overlap with existing reviews. Not yet registered.

Appendix B: Example of a completed protocol

Title

Cognitive-behavioural interventions for sexually abused children

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Contribution of reviewers

Geraldine Macdonald, Paul Ramchandani and Julian Higgins each contributed to all drafts of the protocol.

Intramural sources of support

None

Extramural sources of support

None

Background

Definition

Methodological problems, including problems of definition, mean that estimates of the incidence and prevalence of child sexual abuse vary considerably. Unlike the majority of health problems, child sexual abuse typically refers to an event or series of events, and like other forms child abuse definitions vary accordingly among professionals and the public and between the public and professionals. One commonly used definition is that by Schechter and Roberge (Schechter et al, 1976) "the involvement of dependent, developmentally immature children and adolescents in sexual activities that they do not fully comprehend, and to which they are unable to give informed consent, and that violate the social taboos of family roles". Despite differences in perceptions of what constitutes child sexual abuse, there is a general consensus among clinicians and researchers that this is a substantial social problem that affects large numbers of children, of both sexes, of all ages, and across culture and social class (Prentky, 1996; Finkelhor, 1994).

Consequences of sexual abuse

The consequences of sexual abuse on the social and emotional well being of children and on their development are increasingly well documented, although there is a need for methodologically more appropriate and more robust studies in this field. To date, cross-sectional studies have pointed to a number of factors that appear to influence the extent and severity of the effects of sexual abuse, such as age of child, frequency and duration of abuse, severity of abuse (including penetration), and relationship of child to perpetrator (see Friedrich et al, 1986). A growing number of longitudinal studies shed some light on the likely developmental trajectory of problems over time and on those factors which limit adverse consequences and/or aid recovery (Oates et al, 1994; Tebutt et al, 1997). The effects of child sexual abuse manifest themselves in a wide range of symptoms that typically cluster around developmental age bands. For example, pre-school children are more likely to experience anxiety, nightmares, general post-traumatic stress disorder, internalising, externalising and inappropriate sexual behaviours (see Kendall-Tackett, 1993; Trickett, 1997). Fear, aggression, nightmares, school problems, hyperactivity and regressive behaviour are more typical of school age children. Adolescents are more likely to suffer from depression, withdrawal, suicidal or self-injurious behaviour, substance misuse or offending.

Impact on adult functioning and use of services

Not all victims of sexual abuse have consequent psychological problems throughout their life. However, there is an association between having suffered such a trauma in childhood and experiencing higher rates of a wide range of problems in psychological and social functioning in adult life. Many of these difficulties are similar to those reported by children who have been more recently abused,

including: depression, anxiety, phobias (Briere and Runtz, 1988), low self-esteem, sexual dysfunction and relationship and parenting difficulties (Green, 1993). Although often based on retrospective studies and so subject to biases, these findings appear consistent enough across studies to warrant acceptance of long-reaching adverse effects of childhood sexual abuse.

There are two other consequences that are particularly associated with sexual abuse, as opposed to other forms of abuse in childhood. First is the sexualising effect of sexual abuse. Young women have been reported to engage in high risk sexual behaviour (Farmer and Pollock [Farmer et al, 1998]), and experience higher rates of sexual revictimisation (Miller et al, 1978). Second is the small but important minority of abuse victims who go on to sexually abuse others. Factors associated with becoming a subsequent abuser are still far from clear, but early studies suggest that being brought up witnessing or experiencing intra-familial violence may combine with the experience of sexual abuse to increase the risk of a young man subsequently abusing others (Skuse et al, 1998). Longer-term prospective studies testing and examining these consequences are awaited.

Successful intervention may not only reduce the psychological and social impact of sexual abuse for a victim and their family, but also modify the impact on future generations, through improved functioning as a parent, or by reducing the number of potential abusers for future generations.

Cognitive-behavioural approaches

Cognitive-behavioural approaches derive philosophically, theoretically and empirically from four theories of learning: respondent conditioning (associative learning, for example, of sexual arousal and trauma), operant conditioning (the

effect of the environment on patterns of behaviour, particularly reinforcement and punishment), observational learning (learning by imitation) and cognitive learning (the impact of thought patterns on feelings and behaviour). They combine to provide an integrated approach to assessment and intervention that pays careful attention to the developmental and social contexts in which learning occurs. In the treatment of children who have been sexually abused, cognitive-behavioural approaches focus particularly on the meaning of events for children and non-offending parents, endeavouring to identify and address maladaptive cognitions (for example, being permanently 'soiled'), misattributions (for example, feelings of blame and responsibility), and low self-esteem. In addition, interventions drawn from respondent, operant and observational learning paradigms are used to address more overtly behavioural problems such as externalising behaviours (aggression or 'acting out'), internalising behaviours (anxiety, self-blame or deprecation), or sexualised behaviour, usually through mediation by the non-offending parent.

Cognitive-behavioural approaches also have a promising record of experimental evidence of effectiveness in dealing with a wide range of emotional and behavioural problems, many of which feature in the symptomatology of children who have been sexually abused, for example, anxiety (Kendall, 1994), internalising and externalising behaviour (Harrington, 1998; Kazdin, 1989) and post-traumatic stress symptoms (Deblinger et al, 1996). Conceptually, they provide a broad, evidence-based framework for assessing the effects of sexual abuse on personal, inter-personal and familial relations, and planning interventions tailored to individual circumstances. As a focused, time-limited form of intervention, it may also be a cost-effective way of helping a

larger number of children than currently receive help.

Previous reviews within the field (Finkelhor et al, 1995; Stevenson, 1999) also suggest that cognitive-behavioural interventions, as part of a broader psychosocial intervention, may be an effective form of treatment for sexually abused children. However, these reviews have included studies of a wide range of methodological type, and have not selected studies on the basis of methodological rigour, and have included a range of therapeutic interventions.

Objectives

The aim of this review is to assess the effectiveness of cognitive-behavioural approaches in treating the immediate and longer-term consequences of child sexual abuse.

Criteria for considering studies for this review

Types of studies

Studies are eligible for the review if the allocation of study participants to experimental or control groups was by random allocation or quasi-random allocation i.e. by day of week, case number or alphabetical order.

Studies comparing one type of intervention with another with or without placebo control, and studies comparing one intervention versus control will be included.

There are no language restrictions.

Types of participants

Children and adolescents up to age 18 years with recent experience of sexual abuse (viz. within the 12 months prior to participation in the study) defined as: "the involvement of dependent, developmentally immature children and adolescents in sexual activities that they do

not fully comprehend, and to which they are unable to give informed consent, and that violate the social taboos of family roles" (Schechter et al, 1976).

Types of interventions

Interventions which are described by the authors as behavioural or cognitive-behavioural or which describe the use of cognitive-behavioural interventions.

Treatments may or may not include parents. If possible, sensitivity analyses will be used to explore the differential impact of parental involvement in treatment.

Types of outcome measures

A. Psychological functioning of child:

- i) depression;
- ii) post-traumatic stress disorder;
- iii) anxiety.

B. Child behaviour problems:

- i) sexualised behaviour;
- ii) externalising behaviour (for example, aggression, 'acting out').

C. Future offending behaviour:

- i) of child when adolescent and/or adult.

D. Parental skills and knowledge:

- i) of child sexual abuse and its (possible) consequences;
- ii) belief in their child's story;
- iii) accurate attributions for their child's behaviour or psychological problems;
- iv) behaviour management skills.

Rating scales. A wide range of instruments is available to measure behavioural and psychosocial problems associated with the consequences of child sexual abuse. These instruments vary in quality and validity. For this analysis, the minimum standards for the inclusion of data from outcome instruments will be (i) that the psychometric properties of the instrument have been described in a peer-reviewed journal; and (ii) that the instrument was

either (a) a self-report, or (b) completed by an independent rater or relative.

Search strategy for identification of studies

The Cochrane Controlled Trials Register (CCTR), published in the Cochrane Library will be searched. This is a compilation of about 250,000 published trials identified so far by handsearching by individuals within the Cochrane Collaboration. Search terms will include all terms likely to capture studies by type of participants i.e. children who have been sexually abused, and intervention, that is, cognitive-behavioural approaches. Full details of the sources and search strategies are published in The Cochrane Library.

A search using the same terms will be conducted within the specialist register of the Developmental, Psychosocial and Learning Problems Review Group.

The following databases will also be searched from March 1998 in order to identify studies that may not yet have been catalogued in CCTR: PsycLIT, EMBASE, CINAHL, Sigle, (Clinpsych) (Lilacs) and Psylndex.

Search terms will be combined with the Cochrane highly sensitive search strategy for identifying randomised controlled trials. Details of this can be found in Appendix 5 of the *Cochrane Handbook*.

Latest searches performed:

Cochrane Library: December 1999

MEDLINE: December 1999

EMBASE: December 1999

CINAHL: December 1999

Previous reviews will be used, and references will be checked on all studies and reviews. Authors and known experts will be contacted to identify any additional or unpublished data. Efforts will be made to establish contacts in

countries in which English is not the dominant language.

Methods of review

Selection of trials

Two reviewers (GM and PR) will independently select studies for inclusion in the review. Where possible, disagreement will be resolved by discussion. Where this is not possible, the third reviewer (DJ) will be asked to assess the study in question. Where disagreement may be resolved with additional information, this will be sought from the authors.

Assessment of methodological quality

Two reviewers will independently assign each selected study to quality categories described in the Cochrane Collaboration Handbook (Mulrow, 1996). This is as follows:

A – indicates adequate concealment of the allocation (for example, by telephone randomisation, or use of consecutively numbered, sealed, opaque envelopes).

B – indicates uncertainty about whether the allocation was adequately concealed (for example, where the method of concealment is not known).

C – indicates that the allocation was definitely not adequately concealed (for example, open random number lists or quasi-randomisation such as alternate days, odd/even date of birth, or hospital number).

Data management

Data collection. Data will be independently extracted by two of the three authors. Again, any disagreement will be resolved by discussion where possible, and when not possible, the third author will adjudicate. All decisions will be documented and where necessary, the authors of studies will be contacted to assist in resolving problems or disputes.

Data synthesis

1. Incomplete data: where there is evidence of a significant differential drop-out rate between the experimental and control groups, data will not be included in any meta-analysis.
2. Binary data: for binary outcomes, for example, 'attempted suicide' or 'not attempted suicide', a standard estimation of the Odds Ratio with the 95% confidence interval will be calculated. NNT (Number Needed to Treat) will not be calculated from these data given the uncertainty about base rates of symptomatology in children who have been sexually abused.
3. Continuous data: continuous data will be analysed if: (i) means and standard deviations are available; and (ii) there is no clear evidence of skew in the distribution. Where scales are measuring the same clinical outcomes in different ways, mean differences will be standardised in order to combine results across scales.
4. Meta-analysis: if there are sufficient data and it is appropriate to do so, a random effects meta-analysis will be performed.
5. Investigation of heterogeneity: if significant statistical heterogeneity is identified within a meta-analysis, we propose the following potential sources which will be investigated by subdividing the studies into studies which include non-offending parents in the treatment programme and those which do not, and/or studies which focus on abuse-specific behaviour and those which do not.

6. Sensitivity analyses: primary analyses will be based on available data from all included studies relevant to the comparison and outcome of interest. In order to assess the robustness of conclusions on quality of data and approaches to analysis, sensitivity analyses will be performed. These will include:
- Intention to treat. For dichotomous outcomes, such as 'offended' or 'attempted suicide', the authors will assume that those who were lost to follow up: (i) had proportionately the same outcomes as those who completed in the control group; (ii) experienced the successful outcome; or (iii) all experienced the unsuccessful outcome.
 - Differential drop-out. Studies with severe imbalance in terms of numbers of attrition will be excluded from the analysis to assess their influence on the overall result.

Description of studies

Methodological quality of included studies

Results

Discussion

Reviewers' conclusions

Implications for practice

Implications for research

Acknowledgements

Potential conflict of interest

None known.

Other references

Additional references

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Appendix C: Groups producing systematic reviews

NHS Centre for Reviews and Dissemination <http://www.york.ac.uk/inst/crd/crdrep.htm>

Cochrane Review Groups <http://www.update-software.com/Cochrane/default.HTM>

Cochrane Methods Groups for example, <http://www.mrc-bsu.cam.ac.uk/cochrane-smg/>

Campbell Social Welfare Group, Crime and Justice Group and Education Group

Campbell Methods Groups for example, http://mysite.freemove.com/Cochrane_Qual_Method/index.htm

ESRC Evidence Network <http://www.evidencenetwork.org/>

NICE <http://www.nice.org.uk/>

SCIE <http://www.scie.org.uk/>

EPPI-Centre, Institute for Education. <http://eppi.ioe.ac.uk/EPPIWeb/home.aspx>

Using systematic reviews to improve social care

This report examines the relevance of systematic reviews in promoting better knowledge for better services in social care. It focuses on the approach of the Campbell Collaboration, an international research organisation, founded in February 2000, with a mission to prepare, maintain and promote the accessibility of systematic reviews of the effects of social interventions. The report identifies key research teams using this approach and their work, emerging issues in the methods of systematic reviews, and recommendations to the Social Care Institute for Excellence.



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ISBN 1-904812-06-6

