Synthesis of Evidence from Research Using Diverse Study Designs: A Review of Selected Methodological Work

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Abstract

This report presents a review of current research on developing methods for synthesising evidence from research using diverse study designs. The review, which does not attempt to be comprehensive, draws from experts in the field and a survey distributed through the Cochrane Qualitative Research Methods Group mailing list during February – March 2003 requesting information on relevant methodological research. The report focuses on three broad areas of methodological work: search strategies, study quality appraisal and approaches to synthesis. The work identified is primarily drawn from the fields of health care and public health and includes: (1) reviews of methodological literature; (2) methodological research on the synthesis of qualitative evidence; and (3) methodological work on the synthesis of qualitative and quantitative evidence.

Key Words

Evidence synthesis, mixed methods, qualitative research, health, methodological development, systematic review, search strategies, study quality appraisal.

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Introduction

This report presents a review of some of the current work aiming to develop methods for synthesising evidence from research using diverse study designs. In this introductory section we briefly describe how the review has been undertaken and we seek to contextualise the material that follows.

The review has not been systematic in the sense of involving an extensive and exhaustive search for literature or other information on relevant methodological work. Rather, it is based on the authors’ existing knowledge of the field, contact with experts in the field, and a survey distributed through the Cochrane Qualitative Research Methods Group mailing list and related networks. Three further contextual points need to be emphasised:

- The comprehensiveness of the review: Experience in The Cochrane Collaboration has demonstrated that a systematic approach to searching for literature and/or on-going work usually reveals that a particular body of work is more extensive than originally thought. In our enquiry it soon became evident that, while it would be relatively easy to identify larger externally funded programmes and/or projects, we would only be able to scratch the surface of a more extensive body of relevant literature and on-going work.

- The biases involved: Given the limited nature of the formal searches conducted for this review, it is inevitable that the information reported will be biased. The most obvious biases relate to:
  - The UK focus of the work reported: Not surprisingly, given where we started from, most of the work reported here is based in the UK
  - The type of methodological work identified: We have focused the review on three broad areas of methodological work: search strategies, study quality appraisal and approaches to synthesis. This classification reflects key stages in a Cochrane-type systematic review. Framing the review in this way may mean that we have missed work that does not sit readily within a systematic review framework. Additionally, although we focused on three aspects of evidence review – searching, quality appraisal and synthesis – our own interests lie particularly in quality appraisal and synthesis. We therefore have more knowledge of work underway in these two areas than in relation to search strategies, thus biasing the review in this direction.

- The depth of the review: The review seeks to provide a description of the methodological work identified rather than offering a more detailed analysis.

This review therefore provides only a partial picture of methodological work now underway on the synthesis of evidence from research using qualitative and/or mixed methods. Although personal experience and anecdotal evidence would suggest that the picture presented through this report may be a reasonable reflection of current activity in this field, more work is required to ensure that relevant methodological research outside the UK, on other topics and from other substantive fields of enquiry is not overlooked.

The remainder of the report consists of three sections. Section 1 describes the reviews of methodological literature identified; Section 2 describes examples of methodological research currently underway and Section 3 describes examples of on-going systematic review work that is aiming to incorporate evidence from research involving diverse methods.

Reviews of Methodological Literature

Three reviews of methodological literature relevant to this report have been identified through our enquiries. (A more comprehensive search including searching electronic databases may well have identified more reviews of relevant methodological literature but the timeframe for this work precluded this.)

- Mary Dixon-Woods (Department of Epidemiology and Public Health, University of Leicester) and colleagues have recently completed a review of approaches to synthesising qualitative and quantitative evidence for the Health Development Agency (HDA). This will identify a range of issues including problems in appraising qualitative research that arise from the diverse...
Disciplinary traditions and allegiances evident in qualitative inquiry. The report will also consider in some detail how the findings of qualitative and quantitative evidence may be synthesised. It will offer an overview and critique of the following strategies: informal narrative review; thematic analysis; grounded theory; meta-ethnography; aggregation of findings; qualitative meta-synthesis; meta-study; Miles & Huberman’s data analysis techniques; content analysis; case survey methods; qualitative comparative analysis; and Bayesian meta-analysis. It will identify some of the similarities and commonalities between these approaches, and comment on the theoretical and procedural problems to be resolved in moving forward.

- James Banning and colleagues (School of Education, Colorado State University) are carrying out a series of three systematic reviews focusing on interventions aimed at: assisting secondary aged students with disabilities (i) to make a successful transition from high school to work; (ii) to stay at school; and (iii) to succeed in academic performance. The review paper referenced here has been produced by Banning and colleagues as a project resource. It provides brief abstracts of papers focusing on different approaches to the synthesis of findings from qualitative studies. The abstracts are organised into four sections: 11 texts that the authors argue ‘contribute to the understanding, issues, and strategies associated with qualitative meta-analysis’; seven texts that focus on the possible relationships between qualitative and quantitative meta-analysis; 14 examples of studies that have attempted a synthesis of findings from qualitative and quantitative studies; and 29 examples of studies that have attempted a synthesis of findings from multiple qualitative studies. There is no attempt to classify the different approaches to synthesis identified here.

- Jane Lewis (National Centre for Social Research, London) and colleagues are carrying out work for the UK Cabinet Office. It involves developing a framework for quality-appraising evaluative studies that use qualitative methods. The authors provide a review of a diverse range of quality appraisal frameworks described as being appropriate for use with qualitative research.

### Methodological Research

For the purpose of structuring this review, we have drawn a distinction between research with a primary aim of developing methods for evidence synthesis and research that involves undertaking a synthesis of evidence/systematic review. This section describes research we have identified which focuses on methodological development under two headings:

- Methodological work on the synthesis of qualitative evidence.
- Methodological work on the synthesis of qualitative and quantitative evidence.

#### Methodological work on the synthesis of qualitative evidence

- **Meta-ethnography**: A significant development in the UK is the methodological research funded by the NHS Health Technology Programme on the use of meta-ethnography for synthesising findings from qualitative research. This work is being undertaken by Rona Campbell (Department of Social Medicine, University of Bristol) and colleagues. This team is undertaking two syntheses of qualitative research, focusing on: (1) lay experience of medicine taking and (2) lay experience of rheumatoid arthritis. Pilot work on lay experience of diabetes and diabetes care has already been published. Although not its primary focus, this work will also contribute to developments in methods for searching for qualitative evidence and in study quality appraisal. In the latter case the researchers are using an amended version of the CASP framework.

- **Metasummary & meta-synthesis**: Sandelowski and colleagues (University of North Carolina, Chapel Hill) have a NIH grant to undertake a programme of methodological work on the synthesis of evidence from qualitative studies. They are using studies of HIV-positive women as the method case and studies of women/couples receiving positive diagnoses of foetal impairment as the test case. They have distinguished between producing meta-summaries of findings (surveys of data) and meta-syntheses of findings (syntheses of data). These approaches involve appraisal of studies for form and relevance.

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ii. For more details on CASP see: http://www.phru.org.uk/~casp/casp.htm
of findings rather than methodological quality. Several papers are available from this work.4-8

• The Qualitative Assessment and Review Instrument (QARI): Pearson and colleagues (The Joanna Briggs Institute, Adelaide, Australia) have produced the software package, QARI, to manage, appraise, analyse and synthesise textual data as part of a systematic review of evidence. The QAR Instrument has been designed as a web-based database and incorporates a critical appraisal scale; data extraction forms; a data synthesis function; and a reporting function. A hierarchy of evidence involving three levels has also been incorporated into the software. (While QARI does not consider non-research based evidence, another module in SUMARI – the NOTARI module – does.) The software was developed over a period of two years through participatory processes at three consensus workshops. It aims to support the systematic review of qualitative evidence to address questions of appropriateness, meaningfulness and feasibility in order to augment evidence of effectiveness in evidence based health care. An in-depth discussion of the premises on which QARI is based and a detailed users manual have been produced.9

• Appraising the quality of qualitative evaluation research: This work (also noted in the above section on ‘Reviews of Methodological Literature’) has been funded by the UK Cabinet Office and has involved a review of current approaches to the appraisal of quality in qualitative research as the basis for the development of a new framework. The work involved a literature review and in-depth interviews and a workshop with policy makers, researcher managers, representatives from funding bodies, academics and other researchers.

Methodological Work on the Synthesis of Qualitative and Quantitative Evidence

The EPPI-Centre

The Evidence for Policy and Practice Information and Coordinating Centre (Social Science Research Unit, Institute of Education, University of London) undertakes methodological development as well as both undertaking and supporting systematic reviews.10 The EPPI-Centre methods are developed with the aim of answering a wide range of research questions and thus include both quantitative and qualitative research data. There are currently three strands to the EPPI-Centre’s work:

Health promotion

The Centre is funded by the Department of Health (England) to undertake a programme of work concerned with advancing evidence-based health promotion. This involves carrying out systematic reviews in relevant topic areas and methodological work on reviewing ‘non-trial’ research, including ‘qualitative’ studies. Recent reviews have integrated the findings of qualitative and quantitative studies of people’s views and experiences of particular health issues with the findings of experimental evaluations of interventions to tackle those health issues. This work has led to the development of appraisal and synthesis methods for diverse study types. These continue to be refined and tested by other reviews within and beyond the health promotion stream at the EPPI-Centre.

Education

The Centre is funded by the Department for Education and Skills (England) to support the development of review groups in education undertaking reviews with EPPI-Centre training, support, methods and tools. In addition, the Teacher Training Agency and other funders support further review teams and in-house reviews so that there are currently approximately 25 EPPI collaborative groups.

Perspectives and participation

The Centre is developing methods and providing support to enhance roles for lay people in: (a) the commissioning and conduct of health research; (b) the use of research findings to inform decisions; and (c) experimental evaluations of interventions to tackle health issues.

In addition, several members of the EPPI-centre are involved in other research synthesis work. In the past few years, the EPPI-Centre has developed an innovative approach to reviewing studies that involve both descriptive and experimental/evaluative methods and that generate both qualitative and quantitative data. This work is making methodological contributions to all elements of the
systematic review process including study search/selection strategies, study quality appraisal and synthesis. The EPPI approach involves a number of stages including: a user-led review question, systematic mapping of the research field, using the map to refine the question for the in-depth review and synthesis, and a Weight of Evidence (WoE) system. The WoE system involves judgements of:

(A) quality of execution of study,
(B) relevance of study design to addressing the systematic review question,
(C) appropriateness of focus of the study to addressing the systematic review question, leading to
(D) overall judgement about how the findings of study contribute to answering the review question.

Systematic mapping and the WoE system allow broad review questions including varying study designs and types of data to be addressed. These methods are supported by specialist web-based software for coding and managing the various types of quantitative and qualitative data that may be included in a review. Papers describing these methods in more detail have been presented at conferences and will be published shortly.\(^{10}\)

**Mary Dixon-Woods (University of Leicester) and colleagues**

The review of current work on the synthesis of qualitative evidence by Dixon-Woods and colleagues has been described earlier. Dixon-Woods and colleagues are also undertaking methodological research funded from several sources, including the Economic and Social Research Council (ESRC)\(^{iv}\), the NHS Health Technology Programme and the Health Development Agency. Specific topics on which evidence is being reviewed include: support for breastfeeding, access to healthcare by vulnerable groups; and patient satisfaction with general practice. The methodological work includes the identification and evaluation of a range of study quality appraisal frameworks/tools and of different strategies for the synthesis of qualitative and quantitative evidence including, but not restricted to, the application of Bayesian techniques to evidence synthesis.\(^{11}\)

**James Banning (Colorado State University) and colleagues**

The programme of work being carried out by James Banning and colleagues is funded by the US Department of Education and involves a series of systematic reviews of ‘what works for young people with disabilities’ around transition from school to work and/or higher education. The reviews include any studies that seek to evaluate a relevant intervention regardless of research methods or design. The team have developed an approach (and related software) to the appraisal of study quality – the Design and Implementation Appraisal Device – which is embedded in the data extraction process. They have links with the EPPI-Centre and are using some of the Centre’s software to support their review process. They are using the software package – NVivo – to build a descriptive map of studies included in the reviews; to aid the analysis of qualitative evidence; and to integrate syntheses of qualitative and quantitative findings. The approach to the synthesis of qualitative data is described as ‘ecological triangulation’. This focuses on ‘the mutual interdependence among theory, method, and findings to provide insights into what interventions work to produce what outcomes with what persons in what settings or environments. For example, the trustworthiness or validity of a positive outcome for an intervention is enhanced if it is shown to occur under diverse conditions with diverse groups using diverse methodological and theoretical approaches.\(^{12}\) Papers describing this approach are available but they do not explain how the synthesis of qualitative and quantitative evidence are ‘integrated’.\(^{12}\)

**The UK Centre for Evidence-Based Policy**

Work on the development of realistic synthesis has been undertaken by Ray Pawson (Leeds University), whilst based at the ESRC-funded Centre, at Queen Mary University of London.\(^{vi}\) This work involves a theory-led approach to evidence synthesis. It may incorporate non-research based evidence alongside research findings, and it is centrally concerned with the relevance of evidence to the synthesis topic rather than being concerned with study quality appraisal. This work adopts a purposive approach to study identification rather than attempting to identify all possible relevant studies. A new grant from the ESRC.\(^{vii}\) Research Methods Programme to Ray Pawson and Annette Boaz will allow further methodological development of this approach. Researchers at the UK Centre for Evidence-Based Policy have also been involved, iv. In this context, ‘user-led’ refers to the users of research
v. The ESRC is a key funding body in the UK and is mentioned a number of times in this report. URL: http://www.esrc.ac.uk/
vi. The ESRC-funded UK Centre for Evidence-Based Policy URL is: http://www.esrc.ac.uk/ESRCContent/researchfunding/ebp&pi_annex1.asp
vii. The ESRC-funded UK Centre for Evidence-Based Policy URL is:
with others, in exploratory work funded by the Social Care Institute of Excellence (SCIE) on a classification of different types of evidence – research and non-research based – that could inform policy and practice and on how the quality of this evidence might be assessed. Additionally, there is work underway within the UK Centre for Evidence-Based Policy on search strategies for diverse evidence sources.

The UK Evidence-Based Policy Network

Alongside the UK Centre (detailed above), the ESRC has also funded a network of evidence-based ‘nodes’ each with a different substantive focus. A number of these nodes are making important contributions to the development of systematic review methods. For example, the public health node, involving the Universities of Glasgow, Liverpool and Lancaster, has a series of non-traditional systematic reviews underway which are seeking to incorporate qualitative and quantitative evidence. This includes, for example, a systematic review of epidemiological evidence on the relationships between child health, income and parental employment and reviews on aspects of child health that are seeking to be more sensitive to the needs of users in local health systems.iii

Incorporating Evidence on Implementation into Effectiveness Reviews

This work, undertaken by Popay (Lancaster University, Roberts, City University, London) and colleagues, involved exploratory work extending two existing systematic reviews of the effectiveness of interventions aiming to reduce child accidents to include evidence on factors impacting on the implementation of these interventions. The work funded by the Health Development Agency explored issues involved in searching for relevant studies of implementation, study quality appraisal and approaches to synthesis. It used the notions of ‘thin’ and ‘thick’ description from qualitative research to describe the differing quality of the evidence on implementation identified. A report is available ix.

The Development of Narrative Synthesis of Qualitative and Quantitative Findings in the Context of Systematic Reviews

Popay (Institute for Health Research, Lancaster University) and colleagues have recently been awarded a grant with the ESRC Research Methods Programme to undertake research on the development of methods for the narrative synthesis of qualitative and quantitative findings in systematic reviews. This work has begun in May 2003 and will result in the publication of good practice guidance on narrative synthesis.

Specific Projects involving Methodological Developments

In this final section we describe some of the examples of evidence synthesis and systematic review projects we have identified that are also making important contributions to methodological developments in evidence synthesis. The work by Dixon-Woods and colleagues described earlier will also be including a large number of similar examples. This highlights how, in a situation where methodological standards are under-developed, anybody seeking to undertake research in an area will necessarily become involved in developing methods. It also highlights how dispersed the existing methodological work on evidence synthesis is and how difficult it is, therefore, to review this field.

The research projects identified through our survey are detailed further in the appendices to this report. Here, we briefly comment on some of these in order to illustrate the nature, if not the scale, of the innovation involved. The Cochrane Qualitative Methods Group and the Campbell Implementation Process Methods Group are developing a database of protocols, reports and other publications from relevant projects. This will be available on the group’s website ix and will serve to disseminate information about the nature and scope of the methodological work underway on the synthesis of evidence from diverse sources.

• Philip Satherley (University of Wales College of Medicine) has been developing methods for locating studies for review, and a framework for appraising the quality of qualitative and quantitative studies, in the context of systematic reviews of effectiveness. The appraisal, the only one we have identified which claims to be relevant to both qualitative and quantitative studies, is to be tested in another review in the near future.

• David Evans (currently at the University of Adelaide) has conducted a series of systematic reviews of qualitative and quantitative evidence on the use of physical restraints in acute and residential settings. This work, that he carried out at the
Joanna Briggs Institute, has involved evidence from descriptive studies and has made a number of useful methodological contributions in relation to searching, quality appraisal and synthesis that have been published. (See references in Appendix 3).

- Carl Thompson (York University) is seeking to include qualitative and quantitative findings in the update of his systematic review of interventions to support carers of people with dementia. This work includes some testing of alternative approaches to searching (comparing the results of the Rochester filter with hand searching) and to quality appraisal (comparing the CASP tools with the JAMA appraisal guides). Similarly, they are using a meta-ethnographic approach to synthesis but comparing the results of this with other methods.

- Andrew Herxheimer (UK Cochrane Centre) has published a systematic review of adverse effects of melatonin for jetlag, and adverse experiences reported by people treated with paroxetine (an SSRI antidepressant). Both studies have involved the interpretation of single case reports. The melatonin review, published in the Cochrane Library, is now being updated and the work on paroxetine has been published. Herxheimer has also done work with colleagues on the development of DIPEx, the Database of Individual Patients’ Experience of illness, which involves drawing together qualitative accounts that are understood to be common experiences of patients who have undergone a particular course of treatment. These accounts describe important effects that the intervention and the disease have on people’s lives. The qualitative data collected within DIPEx is used alongside Cochrane reviews that are predominantly based on the data from RCTs. The database now includes collections of experience of hypertension, prostate cancer, breast cancer and colorectal cancer.

- Jo Garcia (Institute of Education, University of London) has undertaken a series of reviews of evidence from diverse sources in the field of pregnancy and childbirth. These include (a) a review of women’s views of pregnancy ultrasound which involved synthesis of various types of research evidence and (b) a recently completed review of women’s views about childbearing and poverty which has included primarily qualitative research and an attempt to link this review to an existing review of the effectiveness of anti-smoking interventions. A new review of women’s views of maternity care is making specific efforts to identify and include research from the poorest countries.

- Peter Bradley (Agency for Health and Social Welfare, Norway) is undertaking a systematic review of qualitative research on experiences of providing and/or receiving educational interventions in Evidence Based Practice. The review aims to provide insight into factors that might explain heterogeneity in the results of quantitative research. The review also seeks to identify factors that shape effective learning in groups, subgroups and individuals and to identify the outcomes that providers and participants feel are important. The reviewers are aiming to contribute to methodological developments in searching, appraising and synthesising findings from diverse study designs.

- Jane Noyes (Department of Health Sciences, University of York), with colleagues at York, Lancaster and Liverpool universities, is undertaking a systematic review of qualitative research. This review will extend an existing review of the results of experimental studies of the effectiveness of Directly Observed Treatment interventions to increase uptake of TB medication. This work is testing various approaches to quality appraisal and synthesis.

### Concluding Comment

The body of this report has provided a descriptive overview of methodological work that has been recently completed, or is currently in progress, in relation to the process of systematic review and evidence synthesis. It highlights specific pieces of research, and particular groups of researchers, concerned to include evidence from research using a range of study designs in the processes of systematic review and evidence synthesis. What follows are three appendices describing the results of a survey we undertook to contribute to the above review. A brief description of how the survey was undertaken is included together with a summary of survey responses and a list of publications suggested by respondents.

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x. The Rochester search filters are a series of ‘evidence based filters’ for OVID which are adaptable to other platforms and created by the University of Rochester, NY, USA. See: http://www.urmc.rochester.edu/Miner/Educ/ebnflt.htm

xi. Database of Individual Patients’ Experience of illness URL: www.dipex.org
Acknowledgements

The work for this report was funded by the Social Care Institute for Excellence (SCIE, UK). The authors would like to thank all the researchers who have contributed to this report by providing information on their methodological work-in-progress and by giving us feedback on earlier drafts. We would also like to thank Mike Fisher, of SCIE, for editorial comments on an earlier draft of this report.

xii. Social Care Institute for Excellence URL: http://www.scie.org.uk/
References


9. Pearson A. Balancing the Evidence: Incorporating the synthesis of qualitative data into systematic reviews; JBI Reports; 2003 (in press).


Appendix 1


The response

In February 2003, a brief survey was sent out to researchers who were known to be – or likely to be – undertaking work of interest in this report. The survey was distributed to members of the Cochrane Qualitative Research Methods Group and to some colleagues of group members. The survey was sent to over 100 people. Respondents were asked to identify various details about their work, including the topics covered, the funding sources, the methods being used, and any work that was being done on methodological development.

Relatively few responses were received. At the end of March, a total of 17 questionnaires had been returned. Details of responses are provided in the table in Appendix 2. An overview of the responses is provided here.

Topics covered

The focus of the research identified is heavily weighted towards health topics, ranging from being drug-related issues and clinical processes and practices to a wide array of public health concerns. Topics identified are as follows:
- Physical restraint in acute and residential care
- Melatonin for jetlag
- Adverse effects of paroxetene (SSRI antidepressant)
- Preventing childhood accidents
- Infant growth
- Income studies
- HIV-positive women and their experiences of
  1) motherhood
  2) stigma & disclosure
  3) abuse of drugs
- Wound care / pathways of care
- The role of arts-based interventions in counselling and psychotherapy work with refugees
- Health Impact Assessment
- Nursing innovations for chronic obstructive airway disease
- Promoting children’s physical activity and healthy eating
- Reducing HIV amongst men who have sex with men
- Interventions to support carers of people with dementia
- Lay views and experiences of medicine taking
- Support for breast-feeding
- Access to healthcare by vulnerable groups
- Patient satisfaction with general practice
- Women’s views of pregnancy ultrasound
- Communication issues in stillbirth and infant death
- Poverty and maternity
- Interventions that are designed to assist secondary-aged students with disabilities in:
  1) making a successful transition from high school to work or post-secondary education
  2) staying in school
  3) succeeding in academic performance
- Lay experience of medicine taking
- Lay experience of rheumatoid arthritis

Sources of Funding

Around a fifth of the projects reported did not yet have funding. In one case, the respondent wrote that the work had been done as doctoral research. In other cases, respondents signalled that the work was at an early stage of writing proposals and seeking funding.

Table A: Studies with and without funding

| Number of studies with identified funding source(s) | 20 |
| Number of studies for which there is not (yet) any funding | 5 |
Sources of funding that were identified include: BBC, Health Development Agency (UK), Department of Health (UK), Barnardo’s, NINR/NIHN 2000-2005, ESRC Methods Programme, Cabinet Office (UK), HTA funding, NHS SDO Programme, CESDI, WHO, US Department of Education.

Types of Research Included

Given the options that follow, respondents were asked to indicate whether their study involved:

1) Only evaluative qualitative research
2) Both qualitative and quantitative evaluative research
3) Basic and evaluative research
4) Other

In cases where the option ‘other’ was selected, respondents were asked to describe further the nature of their research.

Table B: Types of Research Included

<table>
<thead>
<tr>
<th>What the study involved</th>
<th>Number of studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Only evaluative qualitative research</td>
<td>6</td>
</tr>
<tr>
<td>Both qualitative and quantitative evaluative research</td>
<td>11</td>
</tr>
<tr>
<td>Basic and evaluative research</td>
<td>4</td>
</tr>
<tr>
<td>Other</td>
<td>1 (descriptive studies)</td>
</tr>
</tbody>
</table>

Some people did not respond to this question and one answered that it was not possible to understand their research in terms of the categories we were suggesting.

Methodological Work

Respondents were asked what work they were doing towards methodological development in relation to their review and synthesis of qualitative research. We were particularly keen to find out what work was being done on: search strategies; quality appraisal; and synthesis of findings from multiple studies. Of the 16 respondents who answered this question, most (n=13) indicated that they were doing some methodological work in all three of these areas. Of the remaining three: one indicated that they were doing work only on quality appraisal and synthesis of findings; one indicated that they were doing work only on the synthesis of findings; and one indicated that they were not doing methodological work on any of the three areas of central interest.

Respondents were invited to elaborate briefly on their methodological work. Respondents who identified existing methods, tools, or software referred, variously, to using: the Rochester search filter, CASP and JAMA appraisal tools; Meta-ethnography, Reference Manager software and NVivo. Some provided details of new software and/or methods they were developing. Researchers in Australia, for example reported that they were developing a Qualitative Assessment and Review Instrument (QARI) as part of a suite of applications called System for the Unified Management of Information (SUMARI). Researchers in the USA described a new approach to synthesis called “ecological triangulation”. They describe this as being concerned with ‘what works with what kind of folks in what kinds of settings’.
## Appendix 2

### Summary of Survey Responses

<table>
<thead>
<tr>
<th>Name and Institution</th>
<th>Research Topics</th>
<th>Stage of progress and indication of external funding source</th>
<th>Given the following selection, respondents indicated what kinds of studies were included in their work:</th>
</tr>
</thead>
</table>
| David Gough, Institute of Education, University of London | 1. All research questions in education  
2. Research on initial teacher education  
2. Programme of managing review teams for Teacher Training Agency  
3. Single review for Learning and Teaching Support Network | - Only evaluative qualitative research  
- Both qualitative and quantitative evaluative research  
- Basic and evaluative research  
- Other |

Respondents were asked to identify any tools or methods they were using and to specify if they were doing methodological work in any of the following areas:  
- Search strategies  
- Quality appraisal  
- Approaches to synthesis of findings from multiple studies

EPPI-Centre methods and tools are designed for all research questions and so can involve both qualitative and quantitative research data.  

- a. The mapping stage involves searching (i)  
- b. The synthesis stage involves quality appraisal (ii) and synthesis of findings from multiple studies (iii)  

These methods are supported by EPPI-Reviewer, a web based software tool for coding and managing the data from reviews.
Dr David Evans,  
Department of  
Clinical Nursing,  
The University of  
Adelaide, Australia

Physical restraint in acute and residential care. A series of reviews addressing different aspects of this problem including:
- Patient and relative experience of the use of physical restraint  
- Reasons why restraint is used in health care  
- Injuries secondary to restraint use  
- Restraint minimisation  
- Restraint alternatives  
- How restraints are used

Completing the write up of the series of restraint reviews. Starting to look for a new topic to further explore the use of qualitative data in systematic reviews

Descriptive studies included

Based on methods used in existing published reviews as much as possible. However, in a number of areas there has been little methodological development and this is acknowledged as a limitation of the reviews

Involved a range of methodological development in the areas of:
- Search strategies
- Quality appraisal
- Approaches to synthesis of findings from multiple studies

Andrew Herxheimer

1. Melatonin for jetlag  
2. Adverse effects of paroxetine (SSRI antidepressant)

Paroxetine paper in press  
Melatonin review being revised/update  
Some funding from BBC

Both qualitative and quantitative evaluative research included

Study methods include searching, study quality appraisal, and synthesising findings from multiple studies.

Methodological work being carried out on:
- Search strategies
- Quality appraisal
- Approaches to synthesis of findings from multiple studies

Helen Roberts, Lisa Arai, Patricia Lucas, Sandra Dowling, City University, London

a. Childhood accidents (Popay, Roen, Arai, Roberts)  
b. Infant growth (with Law and Baird, Southampton; Kleinjen, York; Lucas and Roberts, City University)  
c. Income studies (with Logan, PMS; Laing, Hackney, QM; Dowling, Joughin, and Roberts, City University)

d. Completed - HDA funded  
e. Just starting - DH funded  
f. Just starting - Barnardo's funding

Both qualitative and quantitative evaluative research included

Study methods include searching, study quality appraisal, and synthesising findings from multiple studies.

Methodological work being carried out on:
- Search strategies
- Quality appraisal
- Approaches to synthesis of findings from multiple studies
<table>
<thead>
<tr>
<th>Name</th>
<th>Activity Description</th>
</tr>
</thead>
</table>
| Philip Satherley        | Will be starting another review in the next 6 months into ecology/pathways of care. A substantive purpose of which will be to test out the emergent appraisal methods. Appraisal framework is to be tested on a body of literature and compared to other methods. Working on method to incorporate research findings from multiple studies. Focus on qualitative evaluative research at this stage, but quantitative to be included as well. The methods we are using involve:  
  i. Searching - currently developing ways of locating qualitative studies effectively  
  ii. Study quality appraisal (stage 1) - will be using our developed framework  
  iii. Integrating findings from multiple studies (stage 2) - building on the idea of a 'realist evaluation' by Ray Pawson as a logical development of stage 1  
  iv. Working on incorporating process evaluations to compliment stage 2 of the study  
Methodological development on:  
  i. Search strategies - we are looking at working out an efficient method for locating studies, building on the work of our first review (Barriers to Change, 2000)  
  ii. Quality appraisal - we are working on further refining our evaluative framework (which can be used for appraising qualitative & quantitative studies) and will be applying it to a body of literature this year. This will be of use to systematic reviewers, researchers and practitioners  
  iii. Approaches to synthesis of findings from multiple studies. To answer overall question 'what works, why and where?'
|
| Margarete Sandelowski,  | Method case: Studies of HIV-positive women  
Test case: Studies of women/couples receiving positive prenatal diagnoses  
On-going work to develop metasummary and metasynthesis techniques. Also will produce metasyntheses of findings concerning motherhood, stigma, and drug abuse in HIV+ women  
NINR/NIH 2000-2005 Funding  
ONLY qualitative studies  
Focus on developing appraisal and synthesis tools and guides (relevant papers cited)  
  i. Search Strategies - yes  
  ii. Quality appraisal - yes, but we argue against exclusionary quality appraisal and for findings type appraisal  
  iii. Approaches to synthesis of findings from multiple studies - yes
| University of North Carolina at Chapel Hill |
| Alan Pearson, The Joanna Briggs Institute, Adelaide, Australia | QARI at final testing stage - due for release in March | We are working on methodological development in the areas of:  
i. Search strategies  
ii. Quality appraisal  
iii. Approaches to synthesis of findings from multiple studies  
Our group has developed an electronic system for appraising and synthesising qualitative findings. The system is called Qualitative Assessment and Review Instrument (QARI) and is part of a suite of applications called System for the Unified Management of Information (SUMARI) |
|---|---|---|
| Garth Allen, Professor and Director, Centre for Social & Educational Research, The College of St Mark and St John/Research Associate, Refugee Studies Centre, University of Oxford | The role of arts-based interventions in counselling and psychotherapy work with refugees: a 2 stage study: scoping then systematic review of key interventions  
The RSC at Oxford will be the lead organisation | We are working on methodological development in the areas of:  
i. Search strategies  
ii. Quality appraisal  
iii. Approaches to synthesis of findings from multiple studies  
I am new to the work. Have had discussions with Cochrane people at Bristol. The problem is that we will be working inside 3 broad ‘traditions’:  
• The arts  
• Counselling and psychotherapy  
• Refugees  
We have ‘experts’ from each area lined up to be part of the core team. The idea of scoping then reviewing is an attempt to overcome the difficulties of diverse fields. We will need a defence - a method - for the selection of interventions from the scoping study |
| Annette Boaz, Senior Research Fellow, UK Centre for Evidence-Based Policy, Queen Mary, University of London | Three review topic areas:  
ESRC research methods review project with Ray Pawson. Beginning autumn 2003 - review topic about to be finalised ([www.evidencenetwork.org/project3.asp](http://www.evidencenetwork.org/project3.asp)). Health Impact Assessment project led by Jenny Mindell at the London Health Observatory, email: jenny.mindell@lho.org.uk)  
Probably looking at existing reviews rather than doing new ones  
NHS SDO programme review on nursing innovations for chronic obstructive airway disease living in the community (I am involved as a member of the scientific advisory committee, rather than as a reviewer)[http://www.smd.qmul.ac.uk/gd/copdreview/copdreview.html](http://www.smd.qmul.ac.uk/gd/copdreview/copdreview.html) | The ESRC methods project is about to start  
The HIA project is awaiting a funding decision from the Department of Health  
The nursing innovation review began two months ago | All three projects involve a wide range of different sorts of evidence, both qualitative and quantitative, basic and evaluative | All three projects address issues of searching, quality appraisal and synthesis  
Methodological work is being done in the areas of:  
i. Search strategies  
ii. Quality appraisal  
iii. Approaches to synthesis of findings from multiple studies  
In particular the projects are looking at ii and iii, although colleagues (Alan Gomersall and Lesley Grayson are engaged in work on searching). The COPD nursing innovation project involves the application of existing tools for appraisal. The ESRC project will further test Ray Pawson’s ‘realist synthesis’ approach. A project for SCIE has explored the issue of quality appraisal across the social care knowledge base |
<table>
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<tr>
<th>Angela Harden, Research Officer, Institute of Education, Social Sciences Research Unit, University of London</th>
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<td>The health promotion team at the EPPI-Centre are currently working on three reviews which are combining trials of intervention effectiveness with ‘qualitative’ and ‘quantitative’ studies of views and experiences in the following areas: promoting children’s physical activity and healthy eating (reviews 1 and 2) and HIV health promotion amongst men who have sex with men (review 3)</td>
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| Review 1 has just been finalised.  
Review 2 is at the data extraction stage.  
Review 3 is at the protocol and searching stage.  
All three reviews are funded by the Department of Health (England) as part of a broader programme of work on advancing evidence based health promotion.  |
| 1. Both qualitative and quantitative evaluative research.  
2. Basic and evaluative research.  |
| The methodological work for these three reviews involves extending and further testing methods we developed in a previous review series focused on young people in the areas of:  
a. Mental health  
b. Physical activity  
c. Healthy eating  
d. Peer delivered health promotion  
We are using a modified version of a tool we developed for assessing the quality of qualitative research in these earlier reviews.  
We are using qualitative synthesis techniques to combine findings across studies of people’s views and experiences. The results of this synthesis are then juxtaposed against the findings from our synthesis of trials in a theoretical and methodological matrix.  |

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<tr>
<th>Dr Carl Thompson, Research Fellow &amp; Programme Lead MSc Evidence Based Practice, Department of Health Sciences, University of York</th>
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<td>Interventions to support carers of people with dementia.</td>
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</table>
| Early stages.  
We are pursuing the possibility of buying in a researcher assistant to help for three months (there aren’t that many studies).  |
| Both qualitative and quantitative evaluative research. |
| We are engaged in Searching, Study quality appraisal, and Synthesising findings from multiple studies.  
We are involved only in the application of existing tools and possible refinement and development for the ‘real world’ of qualitative research in the clinical area.  
Rochester search filter versus hand searching;  
CASP versus JAMA qualitative appraisal guides  
Meta ethnography where possible and exploration of alternatives. |
| Jane Lewis,  
National Centre for Social Research, London | Not carrying out any reviews | Draft report delivered to Cabinet Office, to be finalised end March  
Funded by the Cabinet Office | The relevant study I’ve been involved in an attempt to develop a framework by which the quality of evaluations using qualitative research could be assessed. The study isn’t itself a review, although systematic reviews are one of the possible areas to which the framework we develop could have an application. The study involves a review of existing frameworks for judging the quality of qualitative research studies, and is generating its own framework |

| Dr Mary Dixon-Woods,  
Department of Epidemiology and Public Health, University of Leicester | 1. Support for breast-feeding  
2. Access to healthcare by vulnerable groups  
3. Review of approaches to integrating qualitative and quantitative evidence  
4. Patient satisfaction with general practice | Early stages  
Funding:  
1. ESRC  
2. NHS SDO Programme  
3. Health Development Agency | Both qualitative and quantitative evaluative research  
Study methods include Searching, Study quality appraisal, and Synthesising findings from multiple studies. Methodological work being carried out on:  
i. Search strategies  
ii. Quality appraisal  
iii. Approaches to synthesis of findings from multiple studies  
We are:  
• Evaluating a range of search strategies for identifying qualitative research  
• Evaluating the impact of a range of quality  
• Appraisal methods on the selection of qualitative studies for inclusion in a review  
• Identifying and critiquing a range of strategies for synthesising qualitative and quantitative evidence |
| Jo Garcia, Institute of Education, Social Sciences Research Unit, London | 1. My review of women’s views of pregnancy ultrasound  
2. Work with Rachel Rowe (also NPEU) on communication issues in stillbirth and infant death  
3. Current project at NPEU on poverty and maternity. This includes reviews of women’s views about childbearing and poverty – mainly qualitative work. We have linked one part of this to a review of effectiveness of anti-smoking interventions  
4. This project also includes some reviews of non-RCT studies about access to care. Quantitative mainly (e.g. studies of access to antenatal screening for women of different ethnic backgrounds)  
5. A study for WHO of women’s views of maternity care that is trying to access studies from poorest countries | 1. Published in an updated form in the December issue of Birth  
2. Various reports and publications available on this  
3. Just finishing - will be available soon  
Funded as part of bigger projects by DH, CESDI, WHO, HTA | Work does not fit clearly within given categories | Study quality appraisal - adapted the EPPI Centre guidelines |
We are performing three systematic reviews of interventions that are designed to assist secondary-aged students with disabilities in:

a. Making a successful transition from high school to work or post-secondary education;

b. Staying in school; and

c. Succeeding in academic performance

We are in the key-wording process, using the EPPI-Centre’s EPPI-Reviewer processes

Grant from the U. S. Department of Education

We are including in our three reviews studies that use both quantitative and qualitative (and mixed) methodologies as long as there was an intervention that was assessed by those studies

Methods or tools used:

i. Searching - Our primary searching software has been Reference Manager

ii. Study quality appraisal - We have included a quality appraisal activity within the extraction process

iii. Synthesising findings from multiple studies - We are using a software package called NVivo to help us build a descriptive map of the studies that are included in our reviews; to help us perform the analyses of the results of qualitative studies; and to help us integrate the analyses of both quantitative and qualitative studies

In terms of methodological development, we have developed a concept that we are calling “ecological triangulation” – what works with what kind of folks in what kinds of settings.
| Dr Rona Campbell, Dept Social Medicine, University of Bristol | Pandora Pound is working on lay views and experiences of medicine taking and Gavin Daker-White is working on lay experience of rheumatoid arthritis. We are working as a group, with two teams for each of the substantive areas. The group is headed by Rona Campbell and consists of Pandora Pound, Nicky Britten, Myfanwy Morgan, Lucy Yardley (medications team and Gavin Daker-White, Roisin Pill, Rona Campbell and Jenny Donovan (rheumatoid arthritis team) | We have completed the searching and appraisal of studies and have just embarked on synthesising the figures. HTA funding | Only qualitative studies in each of the substantive topics | Study methods include Searching, Study quality appraisal, and Synthesising findings from multiple studies. Methodological work being carried out on: i. Search strategies ii. Quality appraisal iii. Approaches to synthesis of findings from multiple studies All of the above, but particularly iii) developing methods of synthesising findings from multiple qualitative studies. For ii) we have used an amended version of the CASP quality appraisal tool |
| Fiona Stevenson PhD, Lecturer in Medical Sociology, Department of Primary Care & Population Sciences, Royal Free and University College School of Medicine, London | Clinician, client and population interventions to change antibiotic prescribing in primary care | Revising proposal in light of referees’ comments In negotiation with Dept of Health | i. Both qualitative and quantitative evaluative research ii. Basic and evaluative research | Study methods include: i. Searching – grey literature and searches of medline, embase, psychlit. WOS, Cochrane, CINHAL ii. Study quality appraisal – unsure at the moment iii. Synthesising findings from multiple studies – unsure at the moment Methodological work possibly to be carried out on: ii. Quality appraisal iii. Approaches to synthesis of findings from multiple studies |
Appendix 3

Relevant Reports and Publications Identified by Survey Respondents


Health Care Reports

Aims and Scope
Health Care Reports focus on full systematic review reports and scholarly works related to the translation, transfer or utilisation of evidence in health care. Papers in any of these areas (10,000-30,000 words) may be submitted to the Receiving Editor for consideration by the Editorial Team. Submission is not restricted to JBI Centres, staff or members.

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Health Care Reports focus on full systematic review reports and scholarly works related to the translation, transfer or utilisation of evidence in health care. HCR provides an opportunity for students and other reviewers to publish their evidence based research.

Papers in any of the abovementioned areas (10,000-30,000 words) may be submitted to the Receiving Editor for consideration by the Editorial Team.

Text is to be provided as a word document with minimal formatting. The only formatting to be contained within the document should be normal, bullets, up to 4 heading levels along with tables and graphics.

Acceptance criteria

The acceptance criteria for all papers are the quality of the work; its significance to our readership; and its suitability for publication in monograph format. Manuscripts are peer reviewed by two anonymous reviewers. The Editorial Board reserves the right to refuse any material for publication. Final acceptance or rejection rests with the Editorial Board.

Where manuscripts are judged as acceptable for publication on the basis of content, the Editor in Chief and the Publisher reserve the right to modify manuscripts.

Manuscripts are accepted for publication on the understanding that the content has not been published or submitted for publication elsewhere. This must be stated in a covering letter, which should contain an acknowledgement that all authors have contributed significantly, and that all authors are in agreement with the content of the manuscript. Authors should declare any financial support or relationships that may pose conflict of interest.

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Preparation of the manuscript

Submissions should be prepared in word-processing software. The text file should be set with top, bottom and side margins of 25mm. Manuscripts should follow the style of the Vancouver agreement detailed in the ‘Uniform Requirements for Manuscripts Submitted to Biomedical Journals’, as presented in JAMA 1997; 277: 927–34: (www.acponline.org/journals/annals/01jan97/unifreqr.htm)

The Vancouver system of referencing should be used.

Health Care Reports use UK spelling and authors should therefore follow the latest edition of the Concise Oxford Dictionary.

All measurements must be given in SI units.

Drugs should be referred to by their generic names, rather than brand names.

Title page

The title page should contain (i) the title of the paper, (ii) the full names of the authors and (iii) the addresses of the institutions at which the work was carried out together with (iv) the full postal and email address, plus facsimile and telephone numbers, of the author to whom correspondence about the manuscript, proofs and requests for offprints should be sent. The present address of any author, if different from that where the work was carried out, should be supplied in a footnote.

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