



## Dissemination and implementation of research findings

Professor Richard Velleman,  
Professor Nick Heather,  
Leonard Hay  
and Dr John Kemm

## Summary

Traditionally, the findings of most alcohol research have been disseminated only through academic peer-reviewed journals. Because these have a narrow circulation the findings have had less impact in terms of changing policy and practice. If research is to influence policy and practice greater emphasis needs to be given to the dissemination process and barriers to the implementation of research need to be addressed.

This paper examines the dissemination process and, through selected case studies, suggests ways in which to bridge the gap between academic publication and drawing research findings to the attention of those who are in a position to implement them.

It also examines the implementation process as an integral component of the research process, utilising a third case study to demonstrate this issue.

## Dissemination and implementation

### What is dissemination?

At its most basic level, dissemination of research means the communication of research findings. Most research findings appear only in academic, peer-reviewed journals, read mainly by other academics and by the people who undertake the peer reviews. This present paper is not aimed at denigrating this activity, and indeed, it is the central lifeblood of academic endeavour: the undertaking of research, and the informing of others in the research community of findings so that theory and understanding of a subject continue to grow.

If dissemination is defined as making people aware of the findings of research, then dissemination in this sense is often insufficient to bring about the desired result. Put simply, people may be well aware of research findings without ever making practical use of them; changes in awareness do not necessarily lead to changes in behaviour. What are needed to complement the dissemination process are additional measures aimed at implementation. This involves attention to overcoming identified obstacles to the implementation of policy measures and preventive or treatment interventions that are clearly indicated as potentially beneficial by the research evidence. The incentives and disincentives to implementation must be identified in each specific case and ways found to increase the former while decreasing the latter.

The stance, therefore, informing this present paper is that dissemination (in the sense used in this paper) involves communicating research findings in such a way that they inform decisions about policy or practice, or the communication of research findings in such a way that they are taken up.

It can be argued that there is a fine line between dissemination and implementation. The purpose of the dissemination of results is that they should be taken up; when they are taken up, they are implemented. Hence for this brief paper, the two will be used interchangeably: the purpose of dissemination is that the findings will be implemented.

This is not meant to imply that the only research which should be undertaken is that which has immediate implementability. It is of course the case that in much research, the possible practical or policy implications are only realised some time after the research has entered the public domain; and indeed, it is vital that some funding streams are held apart from the short-term view of research being undertaken only because of its potential practical or policy implications. Implementability is certainly not the only driver for research, nor should it be! There must be a place for more speculative work, more theory-driven work, as well as for research which has immediate practical application. But it is the case that some funders will want to concentrate their efforts on applied or applicable work, and it is in this domain that the issues of dissemination become more central.

There is also an important quality control issue here. It is not necessarily the case that all research should be disseminated and implemented. Clearly, there needs to be a quality control process that must be gone through before research is disseminated and implemented. Not all research is of good quality, and hence not all findings should be implemented. Even with good quality research, it is quite easy for work to be taken out of context, and hence it would be possible for some commentators to suggest implementation of research findings in a direction which would be inappropriate.

However, this paper is based on the premise that there are good quality control mechanisms at work, with research being adequately peer-reviewed before being placed within the public domain, and that any dissemination and implementation strategy is undertaken carefully, with due regard to the appropriateness and generalisability of the implementation of its findings.

### **Why disseminate?**

In the context of this discussion, the purpose of dissemination is to ensure that research findings are appropriately taken up: ie that findings are used to inform decisions about policy and practice changes. These changes can be both:

- in national and local policy and
- in national and local practice.

It is important that whoever is attempting to disseminate is clear about what they are trying to influence (policy or practice or both) and the level at which they are trying to make these changes (national or local or both).

### **What research should be disseminated and implemented?**

For purposes of dissemination and implementation, research findings can be grouped into:-

- those that add to or challenge understanding of alcohol issues but do not suggest a need for immediate change in policy or practice.

- those that have implications for the management of patients / clients with alcohol problems.
- those that have implications for policy in relation to the provision of services or the prevention of problems.

Evidence for a change in practice or policy is built upon replication of results by different teams and in different places. Very few individual studies are by themselves adequate evidence for a change in policy or practice, but many should stimulate attempts to replicate them and prompt questioning of current practice. It follows that change in policy or practice should more often follow dissemination of systematic reviews of areas which demonstrate that several individual studies point in the same direction, rather than dissemination of individual studies. This suggests that individual studies and systematic reviews should normally be disseminated differently. Individual studies should be disseminated to those who are likely to attempt replication or compile systematic reviews, while systematic reviews should be widely disseminated to practitioners or policymakers who may be expected to change their practice as a result.

### **Why is dissemination an important topic at this time?**

There is major interest in this topic at the present time, both nationally and internationally. The drive into evidence-based practice, evidence-based medicine and evidence-based social care is very strong, and numerous bodies and research organisations have added their weight to the area. Hence the Commission for Health Improvement (CHI), the National Institute for Clinical Excellence (NICE), the Social Care Institute for Excellence (SCIE), the Centre for Evidence-based Social Care (CEBSC) and the York Centre for Dissemination and Reviews, amongst others, are all fronting this drive towards basing all new policy and practice changes on high quality evidence.

Similarly, the research community, both researchers and funders, have supported a move away from thematic reviews of research areas, into systematic reviews where evidence is much more carefully selected and weighted than previously (Mulrow and Cook, 1998).

Finally, the international Cochrane Collaboration is underway (Chalmers, 1993). This is a huge endeavour, comprising of hundreds of research groups who are all collaborating to ensure that the best evidence is filtered out and clarified, so that the unanswered questions can be clearly seen, and so that the results so far of where research in any area has reached are clearly delineated, and the implications set out. The Health Development Agency has recently published a report looking at systematic reviews of research on the prevention and reduction of alcohol misuse (Waller, Naidoo and Thom, due for publication 2002).

Some of the many web-sites linking to these organisations are listed at the end of this paper, as are some of the key references relating to dissemination and implementation.

### **Evidence-based practice: to what extent has it worked?**

Although there is the huge emphasis on evidence-based practice, medicine, social care, etc, the extent to

which practice or policy has actually changed as a result of the dissemination of knowledge is unclear and many would say extremely limited! There is ample evidence in alcohol services and in other fields of medicine that even when there is strong evidence to support a change in practice, practitioners may persist with less effective practices. Text books are frequently out of date and it is totally impossible for any practitioner to read more than a tiny fraction of the published literature.

Many commentators have attempted to put forward suggestions for improving the take-up of research findings (eg Waddell, 2001; Lomas, 1997; Cabana et al., 1999). Abstracts of evidence, and 'guidelines' published by national bodies add to the volume of literature, but have proved little more effective in changing practice than traditional publications. There is a lag of several years before published evidence reaches guidelines. The mean age of papers cited in one study of guidelines was 8 years (Grant et al. 2000). Guidelines are only effective when they are owned by the groups that they are intended to influence. This requires a process in which local champions working with key local stakeholders develop their own guidelines. In most cases this will amount to little more than customising and endorsing a national guideline but it is an essential step (Feder et al. 1999; Woolf et al. 1999). The process also provides an opportunity to address issues such as time, resources, skills, and support which may be relevant to implementation.

Nevertheless, even with these suggestions, take up of evidence-based findings does not seem to have improved markedly. This may not be surprising. Rogers (1995) has argued for many years that the diffusion of any innovation is a slow process in its initial stages, only taking off significantly when a critical mass of key opinion leaders has taken it on board.

Within the alcohol field a similar story is apparent. For example, an early illustration of the gap between research evidence on the effectiveness of treatment for alcohol problems and actual practice in the field was supplied by Miller and Hester (1986) who showed that there was little overlap between therapeutic methods commonly employed in treatment centres in the USA and those methods that were supported by the results of controlled outcome research. While Miller and Hester's discussion was focused on the American treatment system, a similar gap applies to treatments routinely on offer in most countries of the world, including the UK.

Other examples within the treatment field can be seen with both the Prochaska and DiClemente transtheoretical model of change, and Miller's motivational interviewing. These ideas first appeared in 1983 (and were both greeted with acclaim in those quarters where the ideas were initially disseminated). However it is only recently that the majority of substance misuse counselling agencies have started to adopt these approaches. It is also still the case that the vast majority of agencies which do state that they use for example motivational approaches, have utilised no specialist training to equip their workers with the advanced motivational skills which adopting the approach would imply.

A further example arises not in the field of treatment techniques as such, but in overall theoretical models. Although Heather and Robertson first published their ground-breaking book "Problem drinking, the new

approach” in 1985, and although the main views expressed in this book (that alcohol problems were not diseases in the way that they had been thought of hitherto, that people did not 'lose control' of their drinking, that some people could return to unproblematic drinking, etc) had arisen in the 1960's and early 1970's, the main approaches to the treatment of alcohol problems in the UK did not start to shift significantly until the mid-1990's.

The list is endless. A similar situation applies to relapse prevention and relapse management (eg Marlatt and Gordon, 1985) introduced in the early and mid-1980's, and still only taken up in a relatively tokenistic fashion. Another similar situation exists with respect to brief and minimal interventions, especially within primary care (see case study, page 11).

Nor is there any reason to think that these gaps between research knowledge and understanding on the one hand, and their impact in the field on the other, have significantly decreased in the years since Miller and Hester, or Heather and Robertson, wrote. Clearly, the gap exists because of a general failure to disseminate the results of research to practitioners and then to ensure that this dissemination leads to desired changes in practice.

### Examples of dissemination and implementation

A number of models exist whereby people or organisations have attempted to speed up this process of change. This paper will examine two of these in detail: the strategy and processes developed recently by the Alcohol Education and Research Council (AERC), and those being developed by the National Treatment Agency for Substance Misuse, and will comment briefly on a recently developed publication which is very useful in the process of dissemination.

#### 1. AERC

This strategy owes much to the dissemination policies of the Joseph Rowntree Foundation, notably the Findings series. Dissemination should be seen as a multi-staged process. The AERC dissemination strategy follows a structured sequence including clarification of what changes should result from a particular study, market research to identify interested individuals and/or organisations, and investigation of appropriate channels to use for dissemination:

- First, the potential disseminability of a project is one of the essential criteria used in deciding whether to fund it. If it is likely that the work will lead to results which could potentially have a significant impact on policy or practice, then it is more likely that the project itself will be funded.
  
- Every funded project is required develop a clear and coherent dissemination strategy:
  - Towards the close of the project, the lead researcher meets with the responsible AERC officer and council member to review and assess whether the project findings have sufficient value to merit dissemination by the AERC.

- The implications of the project are then clarified (as far as this is possible at this stage) and the persons / organisations with an interest in their implication are identified. This will clarify whether the implications of the work are for policy, practice, or both, and whether it will be hoped to influence take-up locally, regionally, nationally, or any combination of these.
- Once this is clarified, an individual dissemination strategy is developed. Identifying who should be targeted and how is a key element of this strategy. So if a major policy change is mooted as a result of the research, key figures (named ministers, civil servants, media figures, etc) will be listed, and a strategy for influencing them will be developed.
- Essential tools used in the strategy include:
  - the usual full academic report
  - a short *Accessible Report*,
  - a brief *Alcohol Insight* which summarises the key findings and their major implications.
  - The *Alcohol Insights* and *Accessible Reports* are then used as part of a targeted mailing to interested individuals and organisations.

Clearly, implementing policy or practice change at any major level is beyond the scope of a relatively small organisation such as the AERC. However, the Council does have a central role in communicating the findings of the research projects it supports to those who are in a position to implement them through changes in policy and procedures. Key partners in this process are:

- government,
- Royal Colleges and other professional bodies,
- commissioners and providers of services,
- professionals in the field.

So for example if the principle implementation aim as a result of a particular project is to alter nursing practice within A&E Departments, key partners might include the Royal College of Nursing, any A&E special interest nursing groups, and postgraduate and undergraduate A&E nursing training courses, amongst others.

One recent example of how the AERC's research dissemination strategy has contributed to a change in policy is the change in the law on test purchasing, after the findings of the Wilner study (2000) (on the ease with which young people were able to buy alcohol from retail outlets), were drawn to the attention of the Home Office.

## **2. The role of the National Treatment Agency for Substance Misuse**

The National Treatment Agency (NTA) was created by the Government on the 1st April 2001 with a remit to increase the capacity, quality and effectiveness of drug treatment in England. The NTA's role in alcohol treatment is not yet determined but is actively under consideration. The NTA does already have a role in considering the impact of alcohol use in the effectiveness of the treatment of drug problems.

The NTA seeks to work in partnership with service providers, commissioners and communities to improve the quality and effectiveness of treatment. One of its principles is to operate according to the best available evidence. The NTA therefore has a key role in promoting practice that is evidence-based, appropriately delivered, outcome focused and integrated into a system of co-ordinated drug treatment and care. In order to support this the NTA distils and disseminates best practice drawn from research, and collaborates with others to initiate research into effectiveness and support the development of quality systems of treatment promoting and building on existing good practice.

The NTA is, of course, only one of a number of NHS bodies charged with improving the quality of treatment. The NTA therefore works closely with the National Institute for Clinical Excellence (NICE), the Commission for Health Improvement (CHI), the Modernisation Agency, the Health Development Agency and others, to share best practice, develop joint initiatives and avoid duplication of effort.

Building an evidence-base and the dissemination and incorporation of this evidence-base into practice is seen as crucial to improve treatment. This involves the identification and dissemination of what works best to reduce harms to individuals and the community. The NTA therefore promotes evidence-based commissioning and practice (including linking in with 'Clinical Governance' structures). The NTA works by:

Identifying and disseminating what works best:

- This includes supporting current research projects (such as crack, amphetamine and heroin treatment studies) and the development of a research strategy.

Promoting evidence-based commissioning:

- This includes developing commissioners' packs that include ideal service specifications, standards and briefings related to the evolving evidence base.

Promoting evidence-based practice:

- This includes the production and distribution of monthly "What works" briefings to commissioners and providers, including using the approach of Drug and Alcohol Findings discussed elsewhere in this paper.
- A joint project with CHI on standards, with the production of a guidance pack to all trusts.
- The NTA will also be developing a project to identify good practice in prescribing, involving expert and peer support.

The NTA is a new special health authority that will be developing a key role in the dissemination of drug treatment research evidence and focusing on the implications for practice. It will draw upon experts to interpret the evidence to ensure timely and useful dissemination to the commissioners and providers of services. It may take on a specific remit for dissemination of the research evidence on alcohol treatment in the future (including working with others in this field) and the current model of dissemination for drugs would be consistent with that remit.

### 3. Drug and Alcohol Findings

Since it appeared two years ago this publication has made a very substantial contribution to the dissemination of research on alcohol and drug interventions. In particular it has distilled the research findings in distinct areas and has pointed to how they can influence practice in the care of problem drinkers. It is important therefore that all bodies that are involved in disseminating research findings should include the Editor of Drug and Alcohol Findings in their distribution lists.

#### The implementation process as an area of research

The implementation process is itself an important area of research. Indeed, implementation can be regarded as the last phase in a logical sequence of phases of research running from basic to more applied studies and in which each phase builds on the achievements of the previous one. Holder et al. (1999) have described such a sequence of phases for alcohol problems prevention research, applying to preventive interventions that target change at community or social levels (e.g., adjustments to price, taxation policies) or at the individual level (e.g., public information campaigns, school-based education). In this model, research moves along a series of continua:

- from basic to increasingly applied research,
- from descriptive, hypothesis-generating pilot studies to fully-fledged, methodologically sophisticated, hypothesis-testing studies,
- from smaller to larger samples for testing,
- from more artificial 'laboratory' environments to real-world, geographically-defined communities;
- from testing the effects of single preventive strategies to more complex studies of multiple strategies integrated into intervention systems and
- from research-driven outcome studies to 'demonstration' projects that evaluate the capacity of various types of community to implement prevention programmes based on previous evaluations (Holder et al., 1999).

Although developed in the context of alcohol problems prevention, the model of phases of research described by Holder and colleagues applies in principle to any area of evidence-based practice in the alcohol field.

#### 4. Implementation research case study

As outlined above, although this sequence of research-based activity should proceed in this way, there is often a significant time lag between earlier phases and final and more generalisable implementation. An example of the need for attention to be given to implementation, over and above more traditional dissemination via publication in peer-review journals, can be found in the area of opportunistic screening and brief intervention (SBI) among excessive drinkers attending primary health care facilities.

The evidence for the effectiveness of SBI has been available for many years and there is little question that the routine implementation of it would have considerable benefits for the health of many heavy drinking

patients and for public health in general (Heather, 1996). Yet despite strenuous efforts over the last 20 years to get this information across to general practitioners and other health professionals, other evidence shows that routine implementation in primary health care is still rare in the UK and that the great majority of hazardous and harmful drinkers presenting to general practice are missed (Deehan et al., 1998; Kaner et al. 1999). There is no doubt that many health professionals remain unaware, or perhaps unconvinced, of the evidence relating to the effectiveness of SBI and the attempt to disseminate this information should therefore continue. There is also no doubt, however, that many are aware of the evidence but are still unwilling to take the step of translating the findings into everyday practice. They may be able to cite very good reasons for this unwillingness - shortage of time, perceived lack of the necessary skills, absence of support from other agencies or from government policies, etc. - but the crux of the matter is that alcohol SBI is given a lower priority than other types of clinical intervention they are expected to carry out.

Figure 1 (see page 11) provides an illustration of the model for the development and implementation of SBI in the primary health care setting. Several features of this model are worthy of note here. First, there is a clear distinction in principle between "efficacy" trials of SBI conducted under optimal research conditions, where the aim is to maximise internal validity, and 'effectiveness' trials which also aim to maximise external validity or generalisation to real-world conditions (Flay, 1986). In other words, it is not enough to show that SBI can work in the artificial conditions of rigorously controlled trials; it is also necessary to show that it does work in practice in the naturalistic conditions of primary health care if practitioners are to be persuaded to incorporate it in their routine work. Secondly, in later phases of the research sequence, attention must also be paid to economic issues; this applies both to questions of the cost-effectiveness of various methods of dissemination and to the cost-benefits expected from widespread implementation of SBI. This is necessary if practitioners and policy-makers are to be convinced of the overall health-care benefits of widespread dissemination and implementation. Lastly, initial dissemination of a novel intervention such as SBI is of little value unless ways are found to ensure that implementation is maintained over extended periods of time; too often, the achievements of dissemination projects dissipate as time goes by (Lock et al., 1999) and special measures are needed if changes to practice are to endure.

### Further research

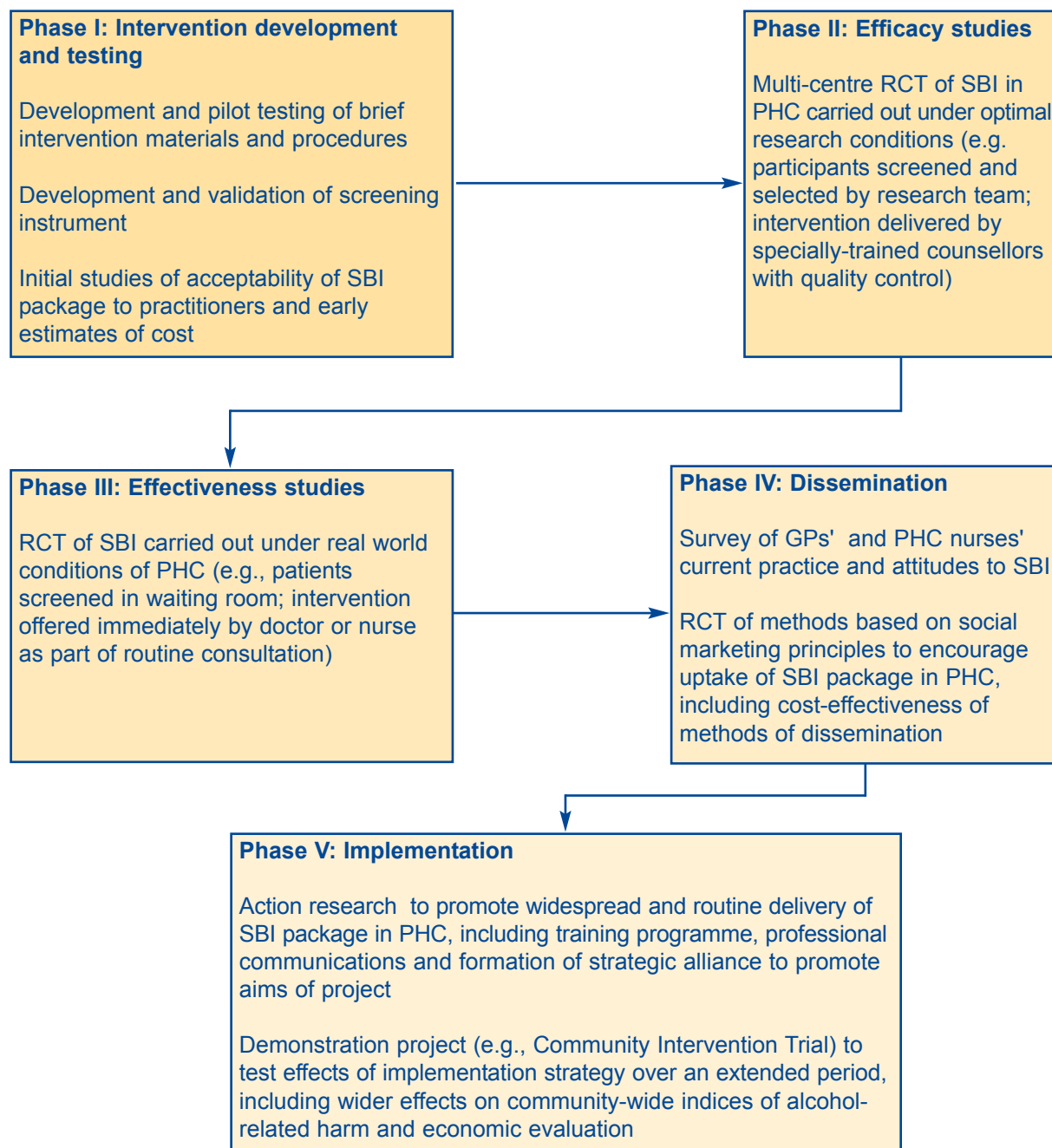
While the main outlines of the dissemination and implementation process are understood, it is all too evident that most attempts are relatively ineffective. There is a need for further trials to test the effectiveness of different strategies, and investigative studies that provide a better understanding of the processes leading to change in practice.

### Conclusion

Dissemination of research in traditional ways via peer-review journals is important, but it is vital to go beyond this if one wishes to influence policy or practice, and to speed up the process of diffusion of innovation. This chapter documents some examples of how this can be developed in the alcohol field.

**Figure 1**

**Illustration of phases of research for development and implementation of screening and brief intervention (SBI) for excessive drinking in primary health care (PHC) settings**



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**Some useful web-sites:**

Bandolier Home Page: <http://www.jr2.ox.ac.uk/bandolier/> or <http://www.ebando.com/>

Campbell Collaboration: <http://learning.gse.upenn.edu/campbell/intro.html>

Cochrane Collaboration:

<http://www.vichealth.vic.gov.au/cochrane> or [www.update-software.com/ccweb](http://www.update-software.com/ccweb)

Evidence-Based Mental Health: <http://ebmentalhealth.com/>

HDA evidence base: Introduction and welcome page:

<http://www.hda-online.org.uk/evidence/eb2000/corehtml/intro.htm>

Health Evidence Bulletins - Wales Home Page: <http://hebw.uwcm.ac.uk/>

National Research Register: <http://www.doh.gov.uk/research/nrr.htm>

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

**Some useful documents and sources:**

AERC dissemination strategy

Scottish Executive, Effective Interventions Unit, Dissemination Policy

Evidence-based Mental Health (a journal)

Systematic Reviews from the York centre

Cochrane Collaboration reviews ([www](http://www.cochrane.org))

**Contributors**

Professor Richard Velleman, Director of Development & Research, Avon & Wiltshire Mental Health Partnership NHS Trust / Professor of Mental Health Research, University of Bath.

Professor Nick Heather, School of Psychology and Sports Sciences, Northumbria University

Dr. John Kemm, Honorary Senior Clinical Lecturer, Department of Public Health and Epidemiology, University of Birmingham.