



*National Institute for
Mental Health in England*

measured success

a scoping review of evaluated
psychosocial interventions training
for work with people with
serious mental health problems



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Background to the Review:

The Role of the National PSI Implementation Group

Although the importance of providing psychosocial interventions (PSI) for people suffering with psychosis has now been recognised at a national level, implementation of evidence based practice remains inconsistent and patchy, relying on local priorities, expertise and resources. The National Institute for Mental Health in England (NIMHE) provides an ideal opportunity to develop a coherent, strategic approach to facilitate implementation of PSI in local services. A National PSI Implementation Group has therefore been established with NIMHE that aims to increase the availability of evidence-based approaches for psychosis in routine practice, addressing obstacles that can hinder successful implementation.

Appropriate training, although merely one of a number of issues to consider when implementing evidence and values based practice, remains absolutely fundamental to any strategy. PSI training has been developed to meet local need and aims to be responsive to both advances in the evidence-base and in national mental health policy. From the origins of the two Thorn Training programmes that were set up in 1992 there are now at least 80 PSI training programmes in England, ranging from short introductory courses, through to diploma and MSc level programmes (Brooker, 2001). These programmes provide the skills and knowledge required to implement the holistic

during and post-training with clinical supervisors, service leaders and managers. These programmes are also quite unique in that there is active collaboration with service users and carers in both curriculum development and teaching activities.

The NIMHE PSI Implementation group have commissioned the current review to gain a better understanding of what the evidence base is for PSI training, to compare training programmes with similar content, to review what outcomes have been evaluated and to summarise the findings. With this knowledge the group hopes to be able to provide advice to training providers, researchers and commissioners that is both objective and informed.

The NIMHE PSI Implementation Group

The NIMHE PSI Implementation Group is made up of representatives from each NIMHE Regional Development Centre alongside key stakeholders in the implementation of evidence-based care including implementers, practitioners, researchers, trainers, commissioners, service users and carers. In addition, all members have a detailed appreciation of psychosocial interventions and associated implementation issues.

approach to care that is promoted by the Department of Health's National Service Framework for Mental Health (1999) and the associated Policy Implementation Guidance An additional aspect of many advanced PSI courses is that they seek to ensure that skills taught are actually implemented in clinical practice. Therefore, unlike other training or academic programmes, strong links are established prior to,



Details of current members are listed below:

- ▶ Grainne Fadden-Chair, Roslyn Hope (NIMHE West Midlands)
- ▶ Mike Kelly-Secretary, Frank Burbach & Margaret Cogan (NIMHE South West).
- ▶ Alison Brabban, Mick Fleming, Nick Arkle (NIMHE North East, Yorkshire and Humberside).
- ▶ Nigel Wellman (NIMHE South)
- ▶ Martin Jones, Catherine Gamble (NIMHE London Development Centre)
- ▶ Dean Repper (National Lead), Sarah Davenport, Hilary Mairs, Steve Trenchard (NIMHE North West)
- ▶ David Fowler (NIMHE Eastern)
- ▶ Ian Baguley, Stanley Riseborough, Itai Nyamore (BME), (NIMHE East Midlands).
- ▶ David Tombs. Service User Rep.

For a full description of the work of the NIMHE PSI Implementation Group see Brooker and Brabban (2003).

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A Scoping Review of Evaluated Psychosocial Interventions Training for Work with People with Serious Mental Health Problems

Executive Summary

Background

There is now sufficient evidence to support the effectiveness of psychosocial interventions for psychosis (PSI) for the National Institute of Clinical Excellence (2002) to conclude that family interventions and cognitive behaviour therapy should be routinely available for service users with schizophrenia and their families or carers. Unfortunately, a gulf exists between these recommendations and the reality of what services can provide. Part of this difficulty is that many practitioners do not have the necessary skills to implement what are now considered effective interventions. Training is therefore a significant issue in terms of the delivery of an evidence-based service. In particular, appropriate types of training need to be available to provide the workforce with the entire range of skills to deliver an efficient and effective modern mental health service. This paper reviews the evidence base for training in Psychosocial Interventions in an attempt to determine what is known about the impact of PSI training, the quality of such research/evaluation, and how this knowledge might best be used to inform future purchasing and provision.

Method

A comprehensive search of the literature was undertaken to identify all research papers written after 1990 that had evaluated training in PSI. Using systematic review methodology, Kirkpatrick's (1967) framework for the evaluation of training was used to structure the review which examines four different types of outcome, namely, trainees' reaction to training, learning, behaviour change and benefits to those who receive a service from the trainees. In addition, the *focus* and *level* of training was differentiated to allow for short in-service training, undergraduate and postgraduate training in family interventions, specific individual interventions and generic training to be reviewed independently.

Results

Thirty-seven papers met the criteria for inclusion in the review. The greatest proportion of these papers had evaluated training in family interventions or generic PSI training. The studies that addressed specific individual interventions had only evaluated short term training programmes leaving it unclear how outcomes differ from longer-term training.

Fourteen of the papers were controlled studies (6 being randomised controlled trials), 11 were cross sectional and 12 used an uncontrolled pre-post design.

Using Kirkpatrick's framework for the evaluation the outcomes can be summarised as follows:

Trainee Reactions:

Satisfaction with 'PSI' training has been evaluated both in short in-house programmes and in longer term postgraduate programmes. Studies illustrate that trainees were consistently satisfied with the training they received. Although only two studies specifically evaluated the supervision associated with postgraduate training, results were not so positive. In sharp contrast to the reaction towards specialist supervision provided by the trainers, for example the majority of trainees in the Milne *et al* (2003) study did not believe the routine supervision they received from their employing Trust met their needs.

Evidence:

Consistent results were found in all eight studies that evaluated trainee satisfaction with training: two of these were controlled and six uncontrolled. A number of rating scales were used to measure trainee satisfaction, therefore, it is impossible to compare results directly. In two in-depth, independent external evaluations, Carpenter *et al* (2003) and Milne *et al* (2003) specifically assessed satisfaction with supervision associated with postgraduate training.

Attitudes and Beliefs:

Because of the fundamental values base within PSI training it is not surprising that nine studies, just under a quarter of the total sample, evaluated changes in attitudes and beliefs. On the whole, it would appear that PSI training in all its forms has a positive effect on the attitudes and beliefs that trainees hold about psychotic conditions (particularly beliefs about cause and therapeutic optimism), on service users with a psychosis and about available psychosocial interventions to help service users and carers.

Evidence:

Of the nine studies looking at attitude change, only two used the same assessment tool (Leff and Gamble, 1995; Lancashire, 2003), making it impossible to make general comparisons between studies. However, a number of studies compared trainee attitudes pre and post training, three of which were controlled. Significant improvements were reported at the end of training (Brabban, 2003; Ewers, 2002; Lancashire, 2003; Leff & Gamble, 1995; Thomas *et al*, 1999).

Acquisitions of Knowledge:

Studies that evaluated knowledge gain, tended to find that specific elements of trainees' knowledge had improved when tested immediately post training, irrespective of the length or specific type of training they had received. Based on the results of the Kavanagh *et al* (1993) study it is less clear how long newly acquired knowledge is retained and what factors preserve learning.

Evidence:

Thirteen of the studies included in the review looked at knowledge gain as a result of PSI training (see section 3.4.2), four of these were controlled trials (Lancashire, 2003; Thomas *et al*, 1999) two of which were randomised (Ewers, 2002; Gray *et al*, 2003). At the end of training, which ranged from 18 hours to two years, only two studies failed to find a significant increase in knowledge (Laube and Higson, 2000; Willetts and Leff, 1997). However, both of these

studies had small sample sizes which could have contributed to the non-significant results. Only Kavanagh *et al* (1993), however, followed up trainees some time later, post-training. They found that recall of certain topics including CBT and behavioural strategies to be minimal. This was despite only 4% of trainees reporting they had a problem with knowledge.

A variety of measures were used to determine level of knowledge within the 13 studies making it impossible to make cross study comparisons of trainees' knowledge either pre or post training

Acquisition of Skill:

On the whole trainees develop targeted skills when attending PSI training in all forms. However, because of the variety of methods used to rate skill development within the research and the frequent use of self report, it is difficult to determine exactly what *level* of expertise is reached in each study and thereby ascertain what type of training is required (length and type) to teach skills to different levels. Haddock *et al* (1999) and Gray *et al*, (2003) both used the CTS, a validated measure of Cognitive Behavioural Therapy skills to determine skill level pre and post training. Although both studies showed that trainees had acquired significant skills, their actual level of skill post-training as rated by the CTS was moderate in relation to possible achievable scores. Only one study addressed specific trainee variables in an examination of which individual factors contribute to the greatest skill acquisition. Gray *et al*, (2003), found that clinical skills pre-training, academic qualifications and attendance were significant factors.

Evidence

Skill development has been evaluated most extensively within generic PSI training, however only two studies (Haddock *et al*, 1999; Gray *et al*, 2003) used a validated measure to measure this. Brooker and Butterworth (1993) rated audiotapes of trainees' clinical work to determine skills acquisition and four studies relied on self report (Brooker *et al*, 1996; 2003; Repper, 2000; Bailey *et al*, 2003).

Change in Behaviour (Implementation):

Most of the studies that relate to implementation are well designed cross-sectional surveys that achieve a high response (see section 3.3.1). There is greatest consistency in the research methods reported where the implementation of PSI training has been evaluated. For example, five studies have used the same instrument to evaluate the difficulty of implementing family interventions in routine clinical practice (see Table 4, page 27). Common barriers to implementation of family work include: allowance of time in the service; integration with existing caseload and the availability of families. In addition, common 'boosters' to implementation have been consistently reported in all related studies: a critical number of staff trained in the team; access to high quality supervision; having the time to do the work and possessing enough skill to apply the intervention flexibly. Several studies point to the importance of organisational ownership of the implementation of PSI through Steering Groups constituted with senior manager involvement.

Evidence:

Implementation of family intervention training:

A number of well-designed cross sectional studies, achieving a high response, have reported similar barriers to the implementation of family interventions training (Kavanagh *et al*, 1993; Fadden, 1997; Campbell, 1999; Baguley *et al*, 2002; Bailey, 2003)

Implementation of PSI Training: A number of high quality cross-sectional studies have shown that there are identifiable factors that can facilitate the implementation of PSI training: team training (Bailey, 2003; Lancashire, 2003); access to appropriate supervision (Brooker *et al*, 2003; Bailey, 2003; Teamwork, 2001) and organisational ownership and support (Brooker *et al*, 2003; Milne, 2000 and Carpenter *et al*, 2003).

Benefits to Service Users and Carers:

Benefits to service users and carers have been found in the majority of relevant studies. There are three times as many studies reporting outcomes for service users (n=12) compared to carers (n=4). The service user studies are of variable quality with just seven out of 12 employing controlled designs. Improvements in service users' symptoms were reported in six out of seven controlled studies. The one study where symptoms did not improve was underpowered and suffered from serious problems with attrition (Kapur,

2002). Social and general functioning improved in seven of the nine studies where it was measured but only three of these studies were controlled.

Only four studies have examined outcomes for carers. Three of these studies relate to the same 20-day training for family intervention reported by Brooker and colleagues (Brooker, 1992a; 1992b; 1994). In the other paper, Leff *et al* (2001) the impact of training in family intervention on family environment was examined. There are too few studies, measuring diverse outcomes, to draw any meaningful conclusions. It is clear that more research is needed that examines the impact of PSI training from the relative's perspective.

Whether outcomes focus on service users or carers it is difficult to extricate the essential ingredients of a successful training programme as it would seem that most findings seem to occur independently of either the *length* or *type* of training.

Evidence:

Improvement in service users' symptoms:

In the vast majority of the controlled studies service users' symptoms improve at variable follow-up periods following PSI training (Brooker *et al*, [1992; 1994]; Carpenter *et al*, 2003; Gray *et al*, 2003; Miklowitz *et al*, 2000; Turkington *et al*, 2002).

Improvement in service users' social functioning:

It is possible that after PSI training service user's social functioning improves but the evidence is not strong (Brooker *et al*, [1992; 1994]; Carpenter *et al*, 2003; Farhall and Cotton, 2002; Lancashire *et al*, 1997; Lancashire *et al* [in submission]; Milne *et al*, 2002).

Discussion

Although training in psychosocial interventions is a relative newcomer to the mental health arena it has been evaluated more extensively than other types of post qualifying mental health training (Bailey *et al*, 2003). Moreover, results show that PSI training has potential benefits for trainees across a number of domains including positive changes in knowledge, attitudes and beliefs as well as skills and behaviour change. In addition, PSI training appears to have a positive impact on the experiences of service users and their carers.

PSI training comes in many different forms both in terms of the focus and the length of training. However, it is difficult to determine what particular training is required to achieve specific levels of

knowledge and skill in this field. In addition, it is evident that a wide range of factors contribute to the successful transfer of learning into practice: caseload size, supervision and peer support are particular issues that need to be addressed by organisations.

Conclusions

The range of attitudes, values and skills incorporated within 'PSI' have been recognised as necessary components of a mental health service underpinned by an evidence and values base. However, implementation of these diverse capabilities will require a substantial investment in training. Studies to date, although varying widely in methodological quality, suggest that PSI training programmes do promote a 'recovery' focused perspective and provide the knowledge and skills for trainees to implement evidence based psychosocial interventions, though an individual training programme will not necessarily provide *all* of these elements. Owing to a lack of operational benchmarks, it is less clear what level of skills can be attained from different forms of PSI training or what constitutes the most efficient form of training. Evidently, mental health team members require different types of skill and levels of expertise in the numerous components of PSI: stakeholders in mental health training need to be mindful of this and ensure that available training opportunities reflect this span.

Recommendations

Research and evaluation of PSI programmes

- ▶ The national PSI implementation group within NIMHE should create a national forum for all PSI training providers in order to agree consistent methods and measures to audit outcomes and quality of training. *(This has recently been undertaken by the group)*
- ▶ Research money is required in order to develop reliable validated measures of all PSI skills.
- ▶ More follow-up studies should be conducted to determine the preservation of trainees' attitudes, knowledge and skill over time.
- ▶ More *controlled* studies are required to measure the impact of PSI training, particularly from the service user and family perspective.
- ▶ To date there has been a paucity of research considering outcomes of training for families and carers. More work is required in this area.

- ▶ Secondary analysis of the studies included in this review should be undertaken in an attempt to examine the relationship between factors such as the quality of the research, the type of training and outcomes for service users.

Commissioning of PSI programmes

- ▶ Commissioners and training providers should use the typology of skill types outlined on page 15 to negotiate the likely outcome for trainees from each programme.
- ▶ In line with the findings from this review, commissioners and Trusts should be mindful that upon completion of PSI training practitioners may not have the skills to implement complex formulation driven therapies (level 3 skills) and may require additional experience, supervision and/ or training to acquire this level of skill.
- ▶ The National PSI Implementation Group should review the content of current PSI training programmes and recommend a core-curriculum for courses taught at different levels. This should reflect the evidence and values base, national policy and guidelines including topics such as Cultural Competency, Recovery Based Practice and Risk Management.
- ▶ Discussions should take place between local stakeholders to determine local training needs prior to the commissioning process. This should include commissioners, training providers and Trusts. A good example of this is illustrated within the South Yorkshire PSI Implementation Strategy Document (Brooker and Linde, 2002)
- ▶ Commissioners and Trusts should consider putting in place mechanisms to address the complex issues related to implementation in different service areas. From the evidence base it would be expected that different functional teams will have distinct issues to address in relation to implementation. For example, Early Intervention teams with small caseloads, a clear focus, and a PSI philosophy should find it easier to translate theory into practice than a Community Mental Health Team with larger caseloads, a diverse client group and competing demands.

Over the coming months the National PSI Implementation Group will be addressing potential implications of this review for commissioners. However, it is evident that commissioners will need to consider a number of issues including the following:

- ▶ *Should individuals or teams be trained?*
- ▶ *Is expert supervision available within the student's organisation?*
- ▶ *Is there support for the training at the highest organisational level?*
- ▶ *Is sufficient resource available to the student to undertake the intervention (e.g. caseload size)?*



A Scoping Review of Psychosocial Interventions Training for Work with People with Serious Mental Health Problems

1 Background

In the last fifteen years, there has been a radical paradigm shift in the understanding and treatment of psychosis. Until recently the Kraepelinian view of schizophrenia as a chronic deteriorating condition appears to have prevailed across the UK; mental health care has focused on symptoms rather than the sufferer and service users have been given little if any hope of recovery. In this climate, pharmacological interventions have often been seen as the only effective treatment option available for people with severe mental illness with psychosocial interventions perceived as offering little more than auxiliary support.

Times have changed however, and the dialectics of recent national guidance is evidence of this swing. Moving away from symptoms towards service user orientated services, mental health care is now focussed on 'recovery' (National Institute for Mental Health, [NIMHE], 2003) and the crucial role that psychosocial interventions can play has been established. After reviewing the research evidence, the National Institute for Clinical Excellence (NICE) concluded that family interventions for people with schizophrenia and their families could effectively reduce the relapse rate compared to standard care (NICE, 2002). In addition, they summarised that cognitive behavioural therapy (CBT) could improve mental state and could also lead to reduced relapse when the treatment was implemented for more than three months. As a result, NICE recommended that both family interventions and CBT should be available routinely for people diagnosed with schizophrenia.

The trend towards psychosocial interventions being available routinely is also reflected in National Policy Implementation Guidance that emphasises the need for family interventions and cognitive therapy as integral to new service models and delivery.

One example of this is assertive outreach where structured family interventions are advocated (see page 31, Department of Health, 2001). These national recommendations have been perceived as a breakthrough in the treatment of psychosis, with mental health services moving towards a more holistic treatment approach. However, providing guidance on what should be available is only the start of a long and difficult implementation process: the gulf between theory and practice is enormous and the difficulties of implementing evidence-based practice have been extensively documented (Repper and Brooker, 2002; Fadden, 1997).

Providing staff with the skills to implement psychosocial interventions, although by no means the only means to achieve implementation, is a crucial determinant of whether services are able to provide best practice that is based on evidence. Ensuring the availability of appropriate, cost-effective training is therefore vital and to achieve this requires a well informed, strategic approach to the commissioning and provision of PSI training programmes. Commissioners should be aware of exactly what training is needed, at what level, how it should be delivered and to whom (Brooker *et al*, 2002).

1.1 What training should be provided?

Knowing exactly what training is required to skill the workforce to deliver psychosocial interventions is obviously fundamental to effective implementation. However, it is not always clear exactly what is embraced by the now ubiquitous term 'PSI'. The PSI acronym has its origins in the Thorn Training programmes that began in the early 1990s in London and Manchester. These programmes targeted community mental health nurses and sought to address the paucity of available training in problem-centred case management, cognitive behaviour therapy and family interventions (see for example Baguley *et al*, 2000). As our understanding of effective interventions has increased, so PSI has evolved and the term is now used as shorthand for 'evidence based psychosocial interventions for psychoses'. However, the simplification of Psychosocial Interventions for Psychosis into the singular, brand name of 'PSI' has brought with it some disadvantages. The 'PSI' abbreviation condenses a diversity of attitudes, models, and skills into a simple singularity that can be readily dismissed or misunderstood. This reductionism can account for many of the misconceptions that are apparent: "*We already do PSI*", "*our service isn't ready for PSI yet*", "*It's the latest fad*", "*I don't agree with it.*" These dichotomous arguments become more difficult to support once 'PSI' gets unpacked to acknowledge the broad spectrum of psychosocial interventions that exist and that can be understood and practised at varying levels of sophistication and skill.

The range of attributes required to practice PSI include a set of core values, attitudes and interpersonal skills, through assessment and therapeutic techniques to the capability to deliver complex formulation driven therapies. Successful implementation of PSI does not require each person in a mental health team to have every skill; however, the full range of competencies does need be evident within that particular service. Unpacking PSI into its essential components should enable stakeholders involved with workforce development to assess whether training programmes are meeting local needs and should also help in the process of identifying gaps in provision.

Most often, PSI is seen as equivalent to cognitive behavioural orientated family and individual psychological interventions such as CBT, however,

these interventions are only the 'tip of the iceberg' and have to be built upon a core set of values and capabilities. These essential skills should be intrinsic within all PSI training and practice and include an emphasis on respecting and supporting service users and their carers, promoting recovery, identifying and working with people's needs and strengths, recognising and dealing with social inequality and exclusion as well as working with the complex balance between promoting safety and positive risk taking. These core competencies are reflected in the "The 10 Essential Shared Capabilities" that have been developed jointly by the National Institute of Mental Health in England and the Sainsbury Centre (2004).

At the other end of the PSI spectrum, and in line with national guidance (NICE, 2002), service users with a diagnosis of schizophrenia and their carers should also have access to CBT and family interventions. Once again, however, implementing this guideline can sometimes be hindered by confusion with the terminology. These apparently straightforward therapy terms encompass a myriad of 'sub-species' or brands of individual CBT and family intervention - not all of which have an evidence base in the treatment of psychosis. In addition these interventions can be practiced at varying levels of expertise, for example, practitioners who can implement a few cognitive therapy *techniques* should not be regarded as cognitive *therapists* who would have the skills to offer a full course of cognitive therapy. Similarly, practitioners who can provide stand-alone psycho-education to families should not be perceived necessarily as offering family interventions per se. PSI training programmes provide CBT and family intervention training at many different levels: introductory and intermediate courses will often not equip students to implement therapies as such but will introduce students to concepts and theories; a reality that can be at odds with the expectations of service managers. PSI training can, therefore, be conceptualised at the three main levels of training described below in Figure 1.

1.2 How Should PSI Training Be Delivered?

Since 1992, over 80 new PSI programmes have been established in England, ranging from short introductory courses, through to diploma and MSc level programmes (Brooker, 2002). However, despite the substantial investment in PSI training over the

last decade there remains a substantial shortage of staff with skills to implement the requirements of a Modern Mental Health Service laid out in the Mental Health National Service Framework (2000) and related Policy Implementation Guidance. For the gold standard to be reached a strategic approach must be taken towards training provision and commissioning - it is essential that training is both effective and efficient. Although the evidence base provides direction in service provision, the same principles do not appear to drive the training agenda: little attention appears to be paid to the outcomes of *training* programmes and whether these are the most effective and efficient methods of delivery. Analogous to treatment provision, outcomes of training should be assessed properly and key stakeholders, especially commissioners, should also be aware of the evidence of 'what works for whom' (Roth and Fonaghy, 1986).

1.3 Aims of the review

This review has synthesised the available evidence on PSI training since 1990 with the aim of establishing:

- The extent to which PSI training has been evaluated
- The types of PSI training that have been evaluated
- The outcomes that have been assessed for service users, carers and trainees

Overall, the aim of the review is to determine what is known about the impact of PSI training, the quality of such research/ evaluation, and how this knowledge might best be used to inform future purchasing and provision.

Figure 1: A Model of Skill Types within Psychosocial Interventions

Type A skills could be seen as the 'core' values, understanding and skills needed to practice psychosocial interventions. Intrinsic within would be general therapeutic optimism with an appreciation of a philosophy of 'recovery'. Practitioners at this level would display good interpersonal and engagement skills.

Type B equates to the toolbox of manualised/prescribed skills. Practitioners with these skills would have varying levels of competency to administer and interpret a variety of psychometric assessments and be capable of executing prescribed interventions such as psycho-education or problem solving. Practitioners with these skills (without Type C skill) would be working as technicians, in other words would be able to carry out skilled interventions but may not understand fully the theoretical models behind their actions.

Type C skills equate to the ability to devise a sophisticated therapeutic intervention based on the sound understanding of a range of relevant therapeutic models (potentially wider than merely cognitive-behavioural). With C type skills practitioners should be capable of providing complex, formulation driven and individually adapted therapeutic interventions.

Note: It should be noted that this model of skill types does not propose that the three categories are interdependent – one can possess one type of skill without the other. A practitioner may have very good B type skills (be able to carry out a standardised assessment and intervention) but might not hold the appropriate values (e.g. therapeutic optimism) that one would equate with a psychosocial approach to psychosis (Type A skills). Alternatively it could be that a person has a broad understanding of theoretical models and is capable of devising complex treatment plans accommodating a variety of variables (Type C skills) and yet lack practical skills (B Type skills) to implement them. In addition it should be noted that each skill type, be it A, B or C, can be present at varying levels of competence.

SOURCE: Brabban, A (2001) Internal Strategy Document – County Durham and Darlington Priority Services Trust



2 Method

A comprehensive literature review was undertaken drawing upon systematic review methodology (NHS Centre for Reviews and Dissemination, (2001).

2.1 Search Strategy

A comprehensive literature search was undertaken in August-September 2003 to identify all literature relating to the evaluation of psychosocial interventions training. A wide range of electronic bibliographic databases were searched, covering the medical, health, nursing, psychological/ psychiatric, educational, social science, science, and grey literature (including current research):

1. AMED
2. ASSIA
3. British Nursing Index
4. CENTRAL
5. CINAHL
6. Cochrane Database of Systematic Review (CDSR)
7. Cochrane Collaboration EPOC Register of Studies
8. Embase
9. ERIC
10. Health Management Information Consortium (HMIC)
11. Medline
12. Medline In Process
13. National Research Register (NRR)
14. NHS Database of Abstracts of Reviews of Effects (DARE)
15. NHS Economic Evaluation Database (EED)
16. NHS Health Technology Assessment (HTA)
17. PsycINFO
18. Research Findings Register (ReFeR)
19. Science Citation Index
20. Social Sciences Citation Index

'Psychosocial intervention' search terms (e.g. psychosocial intervention, psychosocial care, psychosocial treatment, psychotherapy, cognitive therapy, family intervention, psychiatry, etc.) were combined with 'education' terms (e.g. education, teaching, training, CPD, CME, short course, diploma, certificate, masters, study programme, taught programme, taught course, curriculum, etc.), and 'evaluation' terms (e.g. evaluation, feedback, attitude, summative, formative, exam, satisfaction, dissatisfaction, outcome, effectiveness, impact, knowledge, etc.). No date, study or publication type restrictions were applied to the strategy. However, searches were restricted to English language papers only. A sample search strategy (Ovid Medline) is provided in Appendix 1. A general Internet search was also performed on Google™. In addition, citation searches were performed on key authors and papers, identified by the review team, in the Science and Social Sciences Citation Indexes and the reference lists of included studies were checked for additional studies.

In order to identify the grey literature an e-mail message was sent to the representative of each Higher Education Institution (HEI) that had been identified as the lead member of the Academic Network for Mental Health Nursing. The aim of the review was outlined and a request was made for unpublished evaluations of PSI training that met the criteria outlined in Appendix 2 and section 2.2 below. A similar request was made of members of the National PSI Implementation Group in NIMHE.



2.2 Inclusion criteria

Studies were included in the final list of included papers if they met the following criteria:

- a)** The population being trained was anyone working with or caring for someone with a psychotic disorder
- b)** The intervention that was taught was to have been delivered to service users who had a psychotic disorder
- c)** The training could be predominantly defined as PSI (see definition in Appendix 2)
- d)** The study reported at least one quantifiable outcome
- e)** The evaluation of training had been planned and was not part of routine course/programme audit.
- f)** The report of the study was published in or after 1990 (no studies published in or before 1989 were included) when the term PSI was first coined.

2.3 Assessing the Quality of Included Studies

In order to extract data consistently a checklist was designed (see appendix 3), adapted from one previously reported by Walburn *et al* (2001). The studies were then independently assessed.

2.4 Structure of Review

A number of stakeholders have an investment in psychosocial interventions training programmes particularly trainees, service users, carers as well as the wider organisation; for this reason the outcomes for each of these groups are reviewed independently within Kirkpatrick's (1967) framework for the evaluation of training. Kirkpatrick's model identifies four different levels of outcome namely: reaction to training, learning, behaviour change and results for those who receive a service from the trainees. Recently Barr *et al* (1999) expanded the model and subdivided 'learning', separating out the impact on attitudes from the impact on knowledge and skills. The 'results' level was also expanded to differentiate between impact on those that the training is designed to benefit, (which for the purpose of this review, equates to users of services and their carers) and the effect on practice within organisations. All studies drawn upon for this aspect of the review are listed in Appendix 7.

Figure 2: Kirkpatrick's Framework for Outcomes (1967) as Adapted by Barr *et al* (1999)

Level	Outcome	Level	Outcome
1	Learners' reactions	3	Change in behaviour
2a	Modification of attitudes & values	4a	Change in organisational practice
2b	Acquisition of knowledge & skills	4b	Benefits to service users & carers



3 Results

3.1 Total of included studies

Approximately 400 abstracts were identified from an initial list of approximately 2000 generated from the initial search described in Section 2.1. All three members of the review team (CB, AB and PR) assessed the abstracts. It was agreed that 96 studies might meet the criteria given their titles. Two of the team (AB and PR) then assessed the full versions of the papers independently. There was 100% agreement that 31 studies met the inclusion criteria and that 59 did not. There was disagreement about the remaining six studies. A meeting was held, chaired by CB, where the remaining 6 studies were discussed. It was agreed by all three of the team (AB, PR and CB) that a further 3 out of these six studies met the *a priori* criteria. The formal search thus generated 34 studies for inclusion. The search of the grey literature uncovered 3 studies – all local evaluations of training not in the published literature - that it was agreed should also be included. Thus a final total of 37 studies were finally included and these are listed in Appendix 7. The included studies are also categorised into those that contain outcomes for service users (Table 6); those that contain outcomes for carers (Table 7) and those that include outcomes for trainees (Table 2). A number of studies measured outcomes for more than one of the three groups so total numbers do not sum to 37. The 59 studies that were excluded are listed at Appendix 8 where more detail is presented about reasons for exclusion.

3.2 Course type by course content

In the Background section it was argued that ‘psychosocial interventions’ (PSI) is a broad term that covers all non-pharmacological evidence-based interventions used in work with people with a psychosis and their families. Similarly the type of training that has been evaluated is almost as varied with accredited courses offered in HEIs (at undergraduate and postgraduate levels) and a wide range of in-house programmes offered within mental health services. The distribution of evaluated programmes by course type and provider is shown in Table 1 below. There are features of this distribution that are worthy of comment.

First, it is clear that the overwhelming focus of evaluated PSI training is on generic courses (17 studies) and family work programmes (15 studies). The evaluation of generic programmes is evenly spread across in-house, undergraduate and postgraduate programmes whereas all family programme studies are either in-house or undergraduate. The only courses that have reported outcomes for individual interventions, (where the course has been designed specifically to teach trainees one intervention targeted at the service user), have all been short in-house programmes. In total there have been very few evaluations of postgraduate courses, however, only four such programmes exist (Sheffield, Birmingham, Manchester and Sunderland) and each of these has at least one reported study.



Table 1: PSI Course Type by Focus of course

In House	Family Work	Generic	Individual Interventions
	Campbell (1999) Fadden (1997) Laube & Higson (2000) Leff <i>et al</i> (2001) Miklowitz <i>et al</i> (2000) Kavanagh <i>et al</i> (1993) Thomas <i>et al</i> (1999)	Bailey (2004) Brooker <i>et al</i> (1996) Ewers (2002) Kapur (2002) Milne <i>et al</i> (2000a) Milne <i>et al</i> (2000b) Milne <i>et al</i> (2001) Willets & Leff (1997)	Brabban (2003) Farhall & Cotton (2002) Gray <i>et al</i> (2001) Gray <i>et al</i> (2003) Turkington <i>et al</i> (2002)
Undergraduate	Baguley <i>et al</i> (2000) Bailey <i>et al</i> (2003) Brooker <i>et al</i> (1992a) Brooker <i>et al</i> (1992b) Brooker & Butterworth (1993) Brooker <i>et al</i> (1994) Leff & Gamble (1995) Lancashire (2003)	Brooker <i>et al</i> (2003) Gray <i>et al</i> (2001) Haddock <i>et al</i> (1999) Lancashire <i>et al</i> (1997) Lancashire <i>et al</i> (2004) Teamwork Management Services (2004)	
Postgraduate		Brooker <i>et al</i> (2003) Carpenter <i>et al</i> (2003) Milne <i>et al</i> (2003) Repper (2000) Teamwork Management Services (2004)	

3.3 Design of included studies

3.3.1 Cross-sectional studies

Appendix 4 describes several important features of the cross-sectional studies. In many of these studies the focus is on the extent to which taught skills have been maintained, often in the specific area of family work for psychosis. An important strand of this research has shown, mostly through trainee's self report, that the implementation of family work is highly problematic. Most studies report survey response rates ranging from 45% to 100% over reasonable follow-up periods (often 1-2 years after training). Although some caution is necessary the likelihood of systematic bias being introduced through high non-response is accordingly low in most of the studies. Very often the same tool has been used to compare aspects of the implementation of family work and this allows a useful comparison to be drawn (Tables 6 and 7).

3.3.2 Uncontrolled studies

The features of uncontrolled studies are outlined in Appendix 5. The vast majority of these are simple before and after designs (n=9) with different varieties of training designated as the intervention. In addition, three studies also include a variable period of follow-up. A variety of outcomes are assessed including trainees' knowledge, skills and attitudes; the frequency and severity of service users' symptoms and social functioning; and success in the implementation of the taught skills. In the great majority of studies the outcomes reported are usually significant improvements in the direction of the researcher's hypothesis. However, without any controls, it is difficult to ascribe these changes to the training interventions. A number of the studies triangulate the findings with qualitative data (see for example, Barnes *et al* 2000) thereby adding weight to some of the uncontrolled quantitative findings.

3.3.3 Controlled studies

Appendix 6 outlines the features of the 14 controlled studies that have been undertaken. Only two of these 12 studies have used a power calculation to estimate sample size (Turkington *et al*, 2002; Gray *et al*, 2003). The longest follow-up period reported is 12 months (4/11 studies) with three papers reporting follow-up at 6 months. Attrition of the samples at follow-up varies from 0-43%. The randomised controlled trial reported by Turkington and colleagues, cited above, was probably the highest quality study on

methodological grounds, i.e. power was calculated, sample size was large, and attrition at follow-up was low (12%). Similarly, and using the same criteria, Gray *et al*'s paper, also cited above, was also a well conducted trial. Both papers are concerned with short in-house programmes for individual interventions. Turkington and his colleagues trained mental health nurses to deliver CBT in a short training programme - the primary outcome measure of interest was the overall symptomatology of service users. Gray and his colleagues described a short training intervention for mental health nurses that assessed the primary outcome of service user's compliance with medication. Methodological problems notwithstanding, all the papers reported a significant training effect

3.4 Kirkpatrick's Framework for the Evaluation of Training

3.4.1 Level 1 Outcomes: Trainee Reactions

In this section, studies that have evaluated trainees' satisfaction with a PSI training programme are reviewed.

Satisfaction with the training programme was considered in eight of the papers with results showing unanimous satisfaction for both short in-house training (Campbell, 1999; Milne *et al*, 2000(a); Brabban, 2003; Willetts & Leff, 1997; and Kapur, 2002) and two-year postgraduate programmes (Milne *et al*, 2003; Carpenter *et al*, 2003; and Teamwork Management Services, 2001). Trainees on the Birmingham University postgraduate programme (Carpenter *et al*, 2003) commented that the inter-professional nature of the training was particularly beneficial for overcoming professional differences and prejudices - for this reason the trainees (nurses, social workers and occupational therapists) were disappointed that the training had not attracted more psychiatrists and psychologists. Nevertheless, some professional stereotyping was still evident. Trainees on a postgraduate programme at Sunderland University also commented on the benefits of having a shared inter-profession conceptual framework for psychosis in the form of the stress-vulnerability model (Milne *et al* 2003).

Supervision is also provided or at least considered on most post-basic PSI training courses, however, the form this takes varies between programmes with some courses providing 'in house' supervision and others contracting employing organisations to provide this. Milne *et al* (2003) evaluated trainees' reaction to 'in



house' supervision and reported that the majority perceived the supervision as meeting their needs to 'a large extent' or 'fully'. This was in stark contrast to trainee's evaluation of routine Trust supervision which 74% rated as not meeting their needs. Worryingly, this finding was repeated when evaluating a second cohort attending the Sunderland programme. On the Birmingham programme, where aspects of supervision were provided by the sponsoring Trust, experiences were more wide ranging - varying between 'excellent' and 'failed'. Students specifically mentioned the advantages of having clinical psychologists as tutors because of their skills and experience in psychological methods (Carpenter *et al* 2003).

3.4.2 Level 2 Outcomes: Learning

The second level of Kirkpatrick's framework for evaluating training (1967) focuses specifically on learning gained from the training. Barr *et al* (1999) divided this second level into two separate categories: changes to attitudes and perceptions and the acquisition of knowledge.

Level 2a: Impact on Attitudes and Perceptions

Positive attitudes towards service users with psychosis and their carers are fundamental to all mental health service provision. Within PSI training the values base is often promoted strongly. Nine studies have evaluated whether PSI training has had an impact on the attitudes and values of the trainees (Brooker & Butterworth, 1993; Leff & Gamble, 1995; Thomas, 1998; Repper, 2000; Ewers, 2002; Brabban 2003; Carpenter *et al* 2003; Lancashire, 2003, Brooker *et al*, 2003).

a) Attitudes Towards Schizophrenia

The concept of 'Attitudes towards schizophrenia' incorporates a wide range of beliefs and attributions about the cause and outcome of schizophrenia and subsequent values and beliefs regarding the treatment and management of a person with schizophrenia and his or her carers.

The in-house PSI training course evaluated by Ewers (2002) aimed "to move staff away from a medical model of 'cure or ill' towards a 'more flexible and creative way of seeing patients' problems". Changes in attitudes were measured on a previously untested scale developed specifically for the study. Forensic mental health nurses who had received training showed significant improvements compared with a control group who had not - this related to more "realistic and positive attitudes towards their patients' care".

In an evaluation of an undergraduate family interventions programme Leff & Gamble (1995) assessed attitude change using the Attitudes and Assumptions Questionnaire (AAQ) that focuses on issues relating to schizophrenia and associated family interventions. Four cohorts of students showed significant improvements in attitudes towards family interventions - for three cohorts this was evident after two months of training, though all four groups showed significant positive change at nine months. Lancashire (2003) used the same measure of attitudes and beliefs to evaluate changes in trainees completing two modules of family intervention training and found changes of a similar magnitude to that of Leff and Gamble (1995). Thomas *et al* (1999) also found a shift in staff attitudes (n = 20) where six sessions of 'Practitioner Training about Families' were provided. Compared to a control group who did not receive training, staff showed a significantly positive attitude towards providing information to families and teaching skills to families. No significant difference between the groups was found in attitudes towards providing support to families.

In her study of the Sheffield University postgraduate PSI programme, Repper, (2000) reported that all the students in the study acknowledged that their attitudes had changed towards people with psychosis.

"They came to see them as people with experiences that had meaning and could be understood in the context of their lives: essentially 'people who had value and could be helped.'"

She found that that overall, trainees developed a more positive and hopeful attitude towards the client group that permeated all aspects of their work. The change in attitude found by Repper was also evident in a follow up study that targeted students on the same training programme. Students who had undergone training in PSI at either the University of Sheffield (postgraduate course) or the Institute of Psychiatry (undergraduate Thorn Training) at least one year earlier, were asked to rate themselves compared to pre-training (Brooker *et al*, 2003). Respondents (n = 96) stressed how their attitudes had changed, 31 reported that they were more optimistic that outcomes could be improved - 30 believed they had increased understanding and 18 stated an increased recognition of the value of engaging and working with families, collaborative work with clients and normalising their experience.

Table 2: Outcome Studies for Trainees

Author	Year of publication	Focus of Training	Type of Training Group	Length of Training	Number in Experimental
Baguley I <i>et al</i>	2000	Family Interventions	Undergraduate	Manchester Thorn (72 Days)	21
Bailey, C.	2003	Generic PSI	In Service	20 days	27
Bailey, R <i>et al</i>	2003	Family Interventions	Undergraduate	1 year (accredited)	15
Brabban, A.	2003	CBT	In Service	5 days	12
Brooker, C. <i>et al</i>	1996	Generic PSI	In Service	8 days	49
Brooker C & Butterworth, C	1993	Family Interventions	Undergraduate	20 days	17
Brooker, C <i>et al</i>	2003	Generic PSI	Postgraduate	Institute of Psychiatry Thorn & Sheffield Uni PSI M.Sc. (36 & 72 Days)	96
Campbell, A	1999	Family Interventions	In Service	4 days	108
Carpenter, J <i>et al</i>	2003	Generic PSI	Postgraduate	Birmingham University Community Mental Health Programme (72 days)	131
Ewers, P	2002	Generic PSI	In Service	20 days	10
Fadden, G	1997	Family Interventions	In Service	39 hrs + 10 x 1.5 hr supervision sessions	59
Farhall, J and Cotton, S.	2002	CBT	In Service	1.5 days	11
Gray <i>et al</i>	2001	Generic PSI	Undergraduate	36 days	64
Gray, R <i>et al</i>	2003	Individual Intervention	In Service	10 days	25
Haddock G <i>et al</i>	1999	Generic PSI	Undergraduate	36 days	14
Kapur	2002	Generic PSI	In Service	Intro course + 18 further days: over 5 months	11
Kavanagh, D.J. <i>et al</i>	1993	Family Interventions	In Service	30 – 35 hours	30
Lancashire, S	2003	Family Interventions	Undergraduate	20 days plus supervision	19
Laube, R.E. & Higson, F	2000	Family Interventions	In-Service	14 hours tutorials. 16 hours of multi-family group programmes	8
Leff, J & Gamble, C.	1995	Family Interventions	Undergraduate	Institute of Psychiatry: Thorn 36 days	43
Milne D <i>et al</i>	2000	Generic PSI	In Service	8 days	45
Milne D <i>et al</i>	2000	Generic PSI	In Service	8 days	8
Milne, D <i>et al</i>	2001	Generic PSI	In Service	Not specified	155
Milne, D <i>et al</i>	2002	Generic PSI	Postgraduate	Sunderland University P/G Programme 72 days	33
Repper, J	2000	Generic PSI	Postgraduate	Sheffield University P/G Programme 72 days	7
Teamwork Management Services Ltd	2001	Generic PSI	Undergraduate/Postgraduate	Manchester University COPE Programme 36 – 72 days	80
Thomas, C. <i>et al</i>	1999	Family Interventions	In Service	18 hours	20
Willets, L.E. & Leff, J.	1997	Generic PSI	In Service	18 hours (over 10 weeks)	6



Research Design	Outcomes
Single Cross Sectional Measure	Half of former trainees use taught approach in practice with 3 or more families. Three trainees had not used approach at all since training. Eighty per cent respondents reported moderate and impossible difficulties in implementation
Single Cross Sectional Measure	Trainees were using specific skills learned in training within their work but identified a number of barriers to effective implementation
Single Cross Sectional Measure	Trainees continued to work with families one year post training with few reported difficulties in implementation
UCBA [Uncontrolled Before & After Design]	Trainees report high satisfaction with training, increased knowledge, and increased acknowledgement of role of psychosocial factors in psychosis
UCBA	Post training, trainees reported increased knowledge and use of certain aspects of PSI.
UCBA	CPNs were competent in skills of PSI at end of training. Training did not change attitudes to schizophrenia. No change in caseload mix or size following training. Significant increase in length of sessions with clients and families
Single Cross Sectional Measure	Trainees were using specific skills learned in training in their work but identified a number of barriers to effective implementation
Single Cross Sectional Measure	Training was high quality. Intervention is delivered in practice. Limits to delivery include organisational difficulties
UCBA	Changes in trainees' attitudes, knowledge, skill and practice were reported.
RCT	Experimental group showed significant improvement in knowledge and attitudes about serious mental illness and significant reduction in burnout rates
Single Cross Sectional Measure	Reported using training in practice but identified number of trained colleagues and location of service as limits to implementation
UCBA	Identified high levels of unmet need in own service. Identified clients for whom they perceived therapy would not be appropriate
Single Cross Sectional Measure	Thorn Graduates were using significantly more standardised assessments to measure neuroleptic side effects and psychopathology than CPNs without Thorn training.
RCT	Trainees were satisfied with training and showed significant increase in CBT skills & knowledge about medication management
CBA [Controlled Before & After Design]	Training led to significant increase in clinical skill
CBA	Trainees were satisfied with the training but no significant differences were found in use of PSI between the experimental group and control group at follow up
Single Cross Sectional Measure	Very limited impact of family training on clinical work
CBA	Trainees showed a significant reduction in stress, improved attitudes towards family interventions and schizophrenia plus increased knowledge about schizophrenia. Post training, trainees were delivering family interventions
UCBA	More regular inclusion of family in routine practice; increased knowledge
UCBA	Significant improvement in knowledge, attitudes and assumptions about schizophrenia at 9 months follow up
UCBA	Significant effects of training on knowledge and skill and generalisation to routine settings
CBA	Transfer of training decreases over time following end of training
Single Cross Sectional Measure	Trainees reported increased use of PSI activities, with a number of service users. Trainees and their managers had different perceptions of the importance of barriers & boosters to implementation
UCBA	Training resulted in increased use of PSI, particularly CBT techniques. Increased use of assessment instruments and clinical rating scales. Rated impact of their work as moderate
Single case study design with repeated measures.	Trainees reported change in attitudes and values, increased confidence and increased range of skills
Single Cross Sectional Measure	Trainees reported being satisfied with the course and believed their practice had improved and more psychosocial interventions were being employed.
CBA	Experimental group had greater knowledge and improved attitudes towards working with families. No change in patterns of contact observed
UCBA	Staff reported finding the training helpful. No significant changes in EE found in staff interviews post training. Some changes in strategies for helping service users were reported

Brabban (2003) used a validated questionnaire to compare beliefs about the causes of psychosis in a small group of students ($n = 12$) before and after completing a five-day training programme in CBT of psychosis. Read and Law (1999) had found that beliefs about aetiology of schizophrenia influenced attitudes towards service users, with biogenetic causal beliefs associated with more negative attitudes and psychosocial perspectives associated with more positive attitudes. Brabban found a significant increase in psychosocial causal attributions at the end of the training whereas beliefs about the contribution of biological factors remained unchanged.

Brooker and Butterworth (1993) also looked at changes in students' beliefs about the causes of schizophrenia after attending an undergraduate programme in family interventions. Despite student's high baseline scores, the psychosocial perspective evident at the outset of training was strengthened further at six month follow-up ($\chi^2 = 7.2, p = 0.06$) this, however, did not attain significance and so is reported here as a trend.

b) Attitudes Towards Treatments

Three studies examined whether there was a post-training change in attitude towards treatment of schizophrenia.

Twelve months after completing undergraduate training in Family Interventions, Brooker and Butterworth (1993) found that a group of CPNs ($N = 8$) had changed their rank order rating of the usefulness of general interventions. Family stress management packages replaced major tranquilizers as the top-ranked item. In an American study Thomas *et al* (1999) also found a significant improvement in attitudes towards providing families with information and to teaching them skills following 18 hours of 'Practitioner Training about Families' (PTF) compared to the control group.

Brabban (2003) also looked at beliefs about treatment before and after a short multi-disciplinary training in-house programme in CBT of Psychosis. Though the sample size was small ($n = 12$) she found a significant increase in rating the importance of 'Individual Therapies for Psychosis' at the end of the training. No significant changes were found in the ratings of other treatment modalities including medication or family interventions.

c) Attitudes Towards Community Mental Health Services

In a comprehensive evaluation of the West Midlands postgraduate Community Mental Health training programme that incorporates tuition on PSI, Carpenter *et al* (2003) looked at changes in specific attitudes intrinsic to community health care.

From the outset trainees endorsed the values and principles of good community care and although some further significant shifts were reported, consistent positive attitudes were recorded throughout. However, after receiving training two out of the three cohorts showed a stronger agreement with the proposition, "To set up a community mental health service, traditional practices must be challenged and replaced by new approaches". Multi disciplinary training should impact on trainees' perception of professional roles. At the end of training, trainees had not lost a sense of their own professional identity. Unfortunately, professional stereotyping was in evidence throughout the training. Nurses, occupational therapists (OTs), social workers and others on the course were reasonably positive about one another on issues such as interpersonal skills, professional competence and life experience. However, psychiatrists and psychologists, who were not represented on the course, were rated as having less practical skill and life experiences and were perceived as being poor team players.

Level 2b: Acquisition of Knowledge and Skills

Acquisition of Knowledge

Thirteen studies have examined the acquisition of knowledge following training in psychosocial interventions. Five studies have been focussed on training in family intervention (Laube & Higson, 2000; Kavanagh *et al*, 1993; Thomas *et al*, 1999; Leff & Gamble, 1995 and Lancashire, 2003); six have looked at the impact of generic PSI training (Brooker *et al*, 1996, Ewers, 2002; Willetts and Leff, 1997; Milne *et al*, 2000, 2002; Carpenter *et al*, 2003) and two examined knowledge gain after specific skills programmes (Gray *et al* 2003; Brabban, 2003).

Training in Family Interventions

Short 'In-house' Training

Thomas *et al* (1999) asked a multi-disciplinary group of staff ($n = 20$) to complete a validated knowledge test before and after receiving 18 hours of training spread out across six teaching sessions. At the end of training significant increases in knowledge about helping

families with medication and helping families to manage stress were reported compared to a control group who had not received tuition. Knowledge gain was not found in all domains, however, no significant changes were found in knowledge about family needs or of managing symptoms and problem behaviours. In addition, no follow up was conducted at a later stage to determine whether knowledge was maintained. In an Australian study, Kavanagh *et al* (1993) followed up practitioners who had completed training in family interventions six months to three years previously and tested their knowledge. Although only 4% had reported that their knowledge of behavioural techniques was problematic, in a written test most therapists did not display minimum recall of the material on cognitive therapy, social skills training or behavioural strategies. Laube & Higson (2000) used a personally developed questionnaire based on that designed by Kavanagh *et al* (1991) to measure knowledge acquisition at the end of a 27-hour training package. They found some increase in knowledge but this did not reach significance.

Undergraduate Training

Leff & Gamble (1995) asked four cohorts of mental health nurses who attended a nine month training programme in family interventions to complete a multiple choice questionnaire testing factual knowledge about schizophrenia and family work. All four groups showed a significant increase in knowledge in the first two months of training and this was sustained up to the end of the course. In his controlled study, Lancashire (2003) incorporated Leff and Gamble's measure in a more comprehensive multiple-choice questionnaire that was used to evaluate knowledge in trainees after 20 days of team based family intervention training. Highly significant increases were found across all domains tested including knowledge of schizophrenia and family intervention, theoretical principles of family intervention and application of therapeutic principles to case examples. The control group who did not receive training showed no change in knowledge.

Generic PSI Training

In-house Training

Three studies have examined changes in trainees' knowledge following in-house training in psychosocial interventions for psychosis. Results of a randomised controlled trial conducted by Ewers (2002) found that after 20 days of training, forensic mental health nurses

had significant improvements in knowledge about schizophrenia and psychological approaches as measured by a 30 item multiple choice questionnaire (MCQ) when compared to a control group who did not receive training. Willetts & Leff (1997) used an adapted version of the MCQ used by Leff & Gamble (1995) to measure knowledge gain in eight hostel staff. The group who had received nine two-hour PSI training sessions delivered over ten weeks showed no significant changes in knowledge, however, this could be attributable to the small sample size. Milne *et al* (2000) chose to use a case study format to assess knowledge gain in a group of 45 trainees who received an eight-day introductory training programme in PSI. At the end of the course the scores for the group were significantly higher than at baseline.

Postgraduate Training in PSI

The impact of postgraduate PSI training on knowledge has also been evaluated (Milne *et al*, 2003 and Carpenter *et al*, 2003). Milne *et al* (2003) used the case study exercise referred to above to determine whether knowledge had improved in two cohorts of students. Both cohorts scored significantly higher at the end of their first year compared to pre-training scores. This suggests that the trainees were more likely to use appropriate theory to formulate an understanding of service users' problems and to devise and evaluate appropriate interventions.

Carpenter *et al* (2003) also found substantial increases in knowledge of psychosocial interventions in students who attended a two-year postgraduate programme in Community Mental Health. Psychosocial interventions were covered within the teaching. However, this was only one element of a broad syllabus. At the end of two years, students' self-ratings indicated a substantial increase of knowledge and skill in PSI from a relatively low baseline. However, even after training, students' scores reflected only a moderate level of competence and students' comments, included below, reflect that they did not consider themselves trained as therapists.

"I've certainly learnt a lot about CBT, but we are not trying to be therapists: that takes years of training. It's more a case of putting a name to what you have been doing already"

"We could have spent a lot longer on these modules. The expectation was that we had three sessions and were then an expert. We could have spent less time on other modules. These were relevant to work."

Individual Interventions: CBT & Medication Management

Brabban (2003) evaluated trainees' knowledge after brief training in CBT of psychosis. She used an adapted version of Milne's (2000) case-study assessment tool and found significantly higher scores in trainees after five days of CBT training, thus, suggesting that they were more able to apply cognitive therapy theory to formulate and devise an appropriate intervention. It is unclear whether this impacted on their clinical practice as this was not evaluated at all.

Gray *et al* (2003) evaluated the knowledge gained by a group of community mental health nurses ($n = 42$) after attending a ten-day training programme in medication management. At pre-training baseline, trainees showed a moderate level of knowledge and were able to correctly answer approximately half of the questions on the Knowledge of Medication Management Questionnaire (KAMMQ). After training, significant improvements in knowledge were observed with the nurses able to get around 75% of questions correct.

Acquisition of Skill

Family Interventions

The development of skills has been evaluated most extensively in trainees who have undertaken generic PSI training, however, Brooker and Butterworth (1993) looked at the competence of CPNs who undertook training in family intervention. Audiotapes of eight CPNs who had completed a six-month part-time training programme were rated post training. At two months, the CPNs were rated as competent in all nine dimensions of behavioural family therapy that were measured. Re-assessment of skills four months later showed significant improvement in trainees' skills on 'assessment and review', 'feedback' and 'coping with therapeutic difficulties'. Although no pre-training baseline measures were obtained the discernible improvements during the training period itself were encouraging.

Generic PSI Training

In-house Training

In a study in the North West region, Brooker *et al*, (1996) evaluated 67 practitioners from a variety of disciplines who attended one of four, eight-day in-service training programmes aimed at improving knowledge and skills to work with service users with a serious mental illness. Self-reports of "practical experience of utilising skills" were collected at the

beginning and at the end of the programme.

Significant improvements were found in the 'cognitive behavioural management of stress'. Mean scores also increased on all other dimensions including the use of the stress-vulnerability model, systematic quantified assessment, optimising the effects of medication and psychosocial family intervention techniques. However, none of these reached significance.

Bailey (2003) employed the same study design and measures as the Brooker *et al* (2003) study (see below) to evaluate whether trainees attending a validated 20-day in-service training programme – the so-called Thorn satellite programme - had acquired skills in components of PSI. Twenty seven practitioners from the Tameside and Glossop psychosis service who had received training some time between 1993 and 2002 completed a questionnaire asking them to rate their perceived level of skill (currently and retrospectively, pre-training) on a number of items related to practice in PSI. The group reported significant increases in target skills including conducting an assessment, CBT, family interventions plus interventions with a person with a first episode of psychosis. Although these changes were not as great as in the Brooker study, baseline scores in Bailey's study were higher. It is likely that trainees self-report in these two studies are optimistic although in both cases trainees' skills had been consolidated for at least 12 months following the training intervention.

In order to assess skills pre and post in one of three, eight-day in house PSI programmes Milne *et al* (2000) asked trainees ($N = 30$) to conduct a functional analysis of a client shown on a video clip. There was a significant shift in scores, indicating that learning had taken place.

Undergraduate Training in PSI

Haddock *et al* (1999) used the Cognitive Therapy Checklist (CTC) to rate audiotapes of trainees' clinical work throughout nine months of Thorn PSI training at Manchester University. These were compared with the tapes of a control group who were not in receipt of training. Fourteen out of 21 students submitted tapes before and after the course. Results showed significant improvements in clinical skills compared with the control group who were employed to do similar work. Blind, independent ratings on the CTC showed improvements had been made in trainees' technical skills, general therapy skills and overall competence skills. Nevertheless, even with significant improvements in skill, trainees were still only demonstrating "modest" abilities post training.

Postgraduate Training in PSI

Trainees who participated in the West Midlands two-year postgraduate programme in Community Mental Health were asked to rate their level of competence in various aspects of PSI before training, after one year and also at the end of their second year (Carpenter *et al* 2003). Students clearly reported an increase in competence at the end of the programme compared to the start of the course - however, they were clear that they had not been trained to a level of competence of a skilled CBT or family interventions practitioner.

Repper (2000) in her evaluation of the two-year undergraduate PSI programme in Sheffield also commented on the level of competence in CBT at the end of training:

In the present study, clients were visited with the same frequency but, apart from three clients, received only weak and unsustainable cognitive interventions (n=2), or none at all (n=14)

Although they were taught the theory of cognitive behavioural therapy on the course students only implemented 'lower level' cognitive skills...they very rarely demonstrated the analytical and formulation skills necessary to 'correct a person's misperceptions, irrational beliefs and reasoning biases related to target symptoms – techniques that Jones et al (1997) use as criteria to define a cognitive behavioural intervention.

Overall however, Repper found that trainees gained confidence and increased their range of skills. Brooker *et al* (2003) also evaluated skills from the same programme in their follow-up study of practitioners who had completed either London Thorn Training or PSI training at the University of Sheffield. Ninety-six respondents rated their pre-training and current level of skill on a scale of 0 to 10 (with 10 equivalent to totally skilled). Results showed a significant increase in all rated items (see Table 3 below) showing that skills had been maintained over time. The perceived moderate to high level of skill reported by trainees in this study is seemingly inconsistent with the findings of Repper (2000) above. One possible explanation for this apparent contradiction might be that Repper's small sample consisted of students actually in receipt of training whilst Brooker *et al*'s larger sample had completed training for at least one year.

Fig. 3 Key PSI skills learned on Birmingham Two-year Community Mental Health programme (Carpenter *et al*, 2003)

CBT	Family Interventions
Essentials of CBT & developing a conceptual framework	Basics of Behavioural Family Therapy
Understanding compliance therapy	Structuring sessions
Coping strategies	How to carry out a session
Monitoring side effects	Engaging families in problem solving techniques
Socratic Questioning	Enhancing skills through role play
Structuring sessions	Using the approach flexibly
	Importance of practice
	Transcultural aspects of the approach

Table 3: Influence of PSI Training on Skills (Brooker *et al*, 2003)

Skill	Mean Score		Difference in Mean
	Before	After	
Building relationships with service users with serious mental health problems	6.3	8.6	+2.3
Conducting a relevant assessment	4.5	8.8	+4.3
Cognitive behavioural therapy	3.2	7.5	+4.3
Undertaking family interventions	2.8	7.4	+4.6
Psychological management of symptoms	3.6	8.0	+4.4
Interventions with first episode psychosis	3.3	7.7	+4.4

Specific Training

Training in Medication Management

Gray *et al* (2003) report on a group of 52 nurses who received a ten-day training package in medication management over a ten-week period. The training focussed on assessment, cognitive and compliance therapy skills, psychopharmacology and clinical supervision. Clinical skills were measured pre and post training using the Cognitive Therapy Scale (CTS) as used by Haddock *et al* (1999). Before training, the group showed 'barely adequate' to 'mediocre skills', with most competence being demonstrated in 'interpersonal effectiveness' and 'collaboration'. Post-training, the nurses showed significant improvements, with at least half of the group able to demonstrate "satisfactory skills" on each of the items measured on the CTS, where 'satisfactory' was defined as scoring 50% (30) or more on the scale (mean = 31.12, s.d. = 5.75). A stepwise linear regression was used to identify factors that predicted trainees' skill following training and included variables such as caseload size, experience, clinical grade, highest academic qualification and attendance. Baseline scores on the CTS accounted for 67% of the variance and highest academic qualification, grade and attendance accounted for a further 29%.

3.4.3. Level 3 Outcomes: Change in Behaviour

Kirkpatrick identified 'Change in Behaviour' as the third level of outcome: this focuses specifically on behavioural change in the workplace as a result of changes in attitudes and acquisition of skills and knowledge that have occurred through training.

Behaviour change as a result of training in PSI has been studied extensively. For the purposes of the review, studies have been subdivided by focus of training.

Family Interventions Training

Fadden (1997) followed up 86 practitioners who had been trained in family interventions to determine whether they were able to implement what they had learnt. Training had consisted of 39 hours of training (including a three day training course and group supervision) followed up by an ongoing monthly supervision group. Of the 59 responses she received, 70% reported that they had been able to use Behavioural Family Therapy (BFT) techniques in their work since completing their training. However, on average, each therapist had only seen 1.7 families since the completion of training which ranged from nine months to three and a half years earlier. The number of families seen by those who had trained between 1.5 to 3.5 years prior to being questioned ranged from none to six. When questioned about difficulties they had experienced attempting to implement the approach, 31% of respondents said they had been unable to find suitable families to work with, 25% complained that the approach was too time-consuming or required out of hours working and 17% said they had difficulty engaging families or found families unwilling to co-operate. Difficulties involving lack of confidence on behalf of the therapist or problems with supervision were seldom reported.

The setting in which staff worked had a significant impact on the difficulties encountered. Community staff saw significantly more families and reported fewer difficulties than in-patient staff. Fadden also reported

that a crucial factor determining whether BFT was implemented or not was the number of staff trained in one particular area. Significantly more families were seen in teams or units where eight or more staff had been trained in BFT.

The findings reported in the Fadden study, are consistent with the results of the Australian follow-up study carried out by Kavanagh *et al* (1993). In this study 45 practitioners were followed up six months to three years after completing training in cognitive behavioural family interventions. The training was 30-35 hours in duration, usually in five full days or ten half-day sessions. At follow up 69% of participants reported delivering three or more sessions of the intervention, however, each had only seen an average of only 1.4 families and only 18% of the sample had seen three or more families. The low rate of application was most frequently ascribed to time and caseload constraints placed on them at work and from their outside interests and responsibilities. However, unlike the Fadden study, the extent of knowledge predicted the extent to which family work was implemented although it was unclear whether the level of knowledge contributed to low involvement with families or was a result of it, Kavanagh *et al* note:

“A substantial familiarity with the material is required before a therapist can apply it to the complex and severe problems that occur with schizophrenia... Without a full integration of the material into the therapists’ conceptual framework, the intervention is likely to become a slavish application of a rigid program rather than a flexible adaptation to the specific issues and skill requirements of the family. The reported difficulties with tailoring of material in the current study suggest that this may have occurred in some cases.”

A regional training scheme was introduced into the West Midlands to improve the implementation of family interventions across the patch - large numbers of staff from 17 Trusts were trained in Behavioural Family Therapy (BFT). A cohort of potential trainers were trained in BFT (cohort 1), this group then trained a second cohort who then became trainers for a third cohort and so on. Campbell (1999) estimated that 18 months after the first cohort had been trained, at least 900 families had received BFT from approximately 505 trained staff. Trainees, however, reported problems in implementing the approach (see Tables 4 and 5 below). Fourteen percent of the first three cohorts reported that it was either ‘extremely difficult or impossible’ to implement BFT.

Table 4: Rating and ranking of difficulty experienced in implementing family intervention

Study	Mean Rating (and Ranking out of 31 items) in each area of difficulty implementing family intervention		
	Allowance of Time from service to do intervention	Integration with Caseload or other responsibilities at work	Availability of appropriate families
Buckingham, UK (Fadden, 1997)	1.56 (4)	1.76 (2)	2.18 (1)
Manchester, UK (Baguley <i>et al.</i> , 2002)	3.05 (1)	2.95 (2)	Not available (Reported as a difficulty by 20% of sample)
Somerset, UK (Bailey, 2003)	1.6 (1)	1.53 (2)	1.20 (8)
Sydney, Australia (Kavanagh <i>et al.</i> , 1993)	2.3(2)	2.4 (1)	1.9 (3)
West Midlands, UK (Campbell, 1999)	2.10 (2)	2.43 (1)	1.92 (3)

When trainees did see families they reported that the most common reasons for non-engagement in BFT was to do with families themselves, including the family or service user not wanting to participate.

Baguley *et al* (2000) used the same questionnaire adopted in the previous studies to determine the level of implementation of family interventions amongst the first two cohorts of students from the Manchester Thorn Programme. In the time since completing training (between 6 and 18 months) there was a wide variation in the number of families who had been seen - from none to more than five (mean = 2.5). Table 4 illustrates that in three out of five of these studies 'allowance of time' and 'integration with caseload or other responsibilities at work' were ranked as the two greatest factors obstructing implementation of family interventions.

A team training approach to family intervention has been introduced in Somerset. Eighteen practitioners from the Family Support Service attended a one-year training programme that taught an integrated

cognitive-systemic approach to family interventions. Bailey *et al* (2003) evaluated trainees' implementation of family work up to three years post training. A mean of 3.5 families had been seen per trainee in an average of 26 months since completing training. However, unlike other studies that have examined implementation of family interventions, 80% of the trainees in the Somerset study rated the overall level of difficulty in implementing family intervention as "not at all or a little difficult" (see table 5). Bailey *et al* concluded that a number of factors appeared to facilitate the implementation of family interventions in their service; in particular, the flexible nature of the family service, the multi-disciplinary nature of the teams and the use of co-working and supervision. They also believed that the provision of an effective service was linked with having a critical mass of staff trained in family interventions. Nevertheless, when problems were encountered, there was consistency between this study and the others in reporting primary barriers to implementation (See Table 4).

Table 5: Overall level of difficulty reported implementing family interventions in five Studies

Study	Difficulty Rating		
	Not at all or a little difficult	Moderately or Very Difficult	Extremely Difficult or impossible
Buckingham, UK (Fadden, 1997)	44%	45%	11%
Manchester, UK (Baguley <i>et al.</i> , 2002)	20%	55%	35%
Somerset, UK (Bailey, 2003)	80%	20%	0%
Sydney, Australia (Kavanagh <i>et al.</i> , 1993)	31%	48%	22%
West Midlands, UK (Campbell, 1999)	36%	50%	14%

Lancashire (2003) also addressed the issue of having a critical number of staff trained in family interventions by using a team-training approach. Nineteen staff completed 20 days training in Family interventions. In the six months prior to training no-one in the experimental or control group had carried out evidence based family intervention. Six months post training, the 14 community based practitioners had seen a mean of 3.6 patients each (range 0 to 6) which Lancashire saw as a good outcome for practitioners with an average caseload of 20; the control group provided no family interventions in the same time period.

Brooker and Butterworth (1993) looked at changes in working practice of CPNs who had received training in family interventions - there was no significant change in either caseload size or the proportion of service users with a diagnosis of schizophrenia. A significant increase in the proportion of the working week spent with families was, however, reported, increasing from 15% of the week pre-training to 45% at one year follow up ($p < 0.001$).

In a controlled study that looked at the impact of a short in-service training programme in Family Interventions, Thomas *et al* (1999) found that practitioners who had received training, when working with families were discussing topics such as managing medication and symptoms, emotional support and stress management, significantly more than they had been at baseline and more than the control group. However, no significant differences were found between the experimental and control groups on the frequency of initiated or actual contact with families.

Generic PSI Training

Brooker *et al* (2003) followed-up practitioners who had received undergraduate PSI training on either the Institute of Psychiatry Thorn programme or the postgraduate MSc PSI training course in Sheffield. The whole sample reported that PSI training had influenced a number of areas of practice including: confidence to deal the clients with serious mental health problems, use of a structured approach with the client group and recognition of the importance of appropriate involvement of families. In terms of their work with families, on average each practitioner had seen one family for at least one session each year since training, though the range was wide. Further analysis was carried out on the data by creating two groups (those who had seen a greater number of families compared to those who had seen fewer) to determine whether any factors were related to successful

implementation of family work. Some differences between the groups emerged with those who had undertaken the greater amount family work:

- More likely to be Thorn trainees (as opposed to Sheffield)
- Reported having a greater percentage of clinical time to use PSI
- Had significantly greater length of service in mental health
- Reported higher current skill in undertaking family interventions
- Reported significantly higher current level of motivation to implement PSI
- Reported significantly lower difficulty in ability to implement PSI across a range of potential barriers (particularly relating to family work and time pressures)

Overall, when ranking the barriers to PSI implementation, the study showed that both practitioners and their managers saw 'integration with caseload or other responsibilities' as the main problem, with 'time to undertake interventions', and 'access to supervision' as being problematic. When practitioners' managers were asked an open question on what they perceived the main barriers to be, caseload size was ranked as the greatest barrier, followed by lack of understanding on the part of others about what was involved, insufficient staff trained in PSI and the lack of an organisational plan.

Fig 4: Significant Improvements in Practice Following Generic PSI Training as Reported by Brooker *et al* (2003) and Bailey (2003)

- Level of confidence in dealing with clients with serious Mental Health problems.
- Recognition of the importance of appropriate involvement of families.
- Recognition of the needs of carers
- Use of a structured approach with the client group

Bailey (2003) used the same self-report measures as Brooker *et al* (2003) to evaluate a well established and validated 20-day in service training programme in PSI (the so-called Thorn Satellite programme). Twenty-seven staff from a rehabilitation team, inpatient services, a high dependency unit and a day hospital responded to the survey. Though respondents reported significant improvements in all assessed areas of their

practice (see Figure 4 above), they did not perceive their level of change to be as great as in the Brooker study, however, pre-training baseline scores were higher in the Bailey study.

When asked to rate barriers affecting implementation of PSI, there was a high level of agreement in the rank ordering between the Brooker *et al* and Bailey study. However, access to consultation and supervision was rated much less of an issue by practitioners in the Tameside and Glossop psychosis service (Bailey, 2003) who ranked it 13th compared to ex-trainees in the Brooker *et al* study who rated this as the 3rd greatest barrier to implementation.

The service evaluation of the COPE initiative at Manchester University, carried out on behalf of the local Workforce Development Confederation (Teamwork, 2001) examined obstacles to implementing PSI and found 'lack of time within the service', 'caseload size' and 'availability of supervision' were reported as the three key barriers. Notwithstanding these problems, over 70% of the trainees in the survey responded that they used some of their training either all of the time or some of the time, and 63% claimed that they now used what they had learnt more than they had when they first graduated. Assessment skills, the stress-vulnerability model, family intervention skills and CBT for individuals were seen as the most useful aspects of the training in terms of use in everyday practice.

Gray *et al* (2001) were interested in whether Thorn training influenced clinical practice post training. They surveyed 240 community mental health nurses and asked about their use of standardised assessment tools. They found a significant difference in practice between those staff that had received Thorn training and those that had not. Thorn graduates reported using significantly more assessment tools to measure neuroleptic side effects and general psychopathology than those who had not undergone PSI training.

After completing a short in-service training programme Milne (2000) found that 19 of the trainees were using aspects of their training with a total of 173 clients (mean = 9.1; SD = 7.9). Post training, trainees were found to be making significantly more use of a number of assessment tools and treatment techniques that had been covered in the training. A number of 'boosters' were identified as helping the transfer of training into practice including contact with other trainees, contact with PSI supporters, and a supervision group. At an organisational level, the PSI steering group within the Trust was also acknowledged as being beneficial.

Similar results were found from a larger study that

followed up trainees from 10 Trusts who had received in-service training provided by Sheffield University up to three years previously (Milne *et al*, 2000).

Trainees from seven of the ten trusts replied with an overall response rate of 53% (n = 155). Responses to a staff questionnaire suggested that there had been a significant increase in the use of PSI methods following training with trainees using their newly acquired skills with a mean of 12.6 service users. These methods included the use of standardised assessment, formulation, and symptom management.

Trainees rated contact with other course members as the most helpful type of support with PSI implementation, supervision was ranked second. Milne *et al* also asked trainees' managers (n=7) to comment on what they saw as their own supportive role within PSI Implementation. Managers ranked 'maintaining a shared vision' and 'developing others' as their priorities and saw institutional constraints, especially insufficient resources, as the main barrier to implementation.

Milne *et al* (2000) used a case note audit to determine whether training was in fact being transferred to practice in 16 members of staff (15 nurses and an occupational therapist) who had participated in an eight day in-service training programme. Using a pre-training double baseline as a control, Milne found a significant increase in the use of assessment instruments after the training had taken place and this was still present though weakened at six month follow up. As the author himself comments, the lower number of instruments used at six months could have been related to opportunities for use, since many of the tools would only be administered every 6 or 12 months.

The use of PSI in three cohorts of students before and after post-graduate training on the West Midlands Community Mental Health Programme has also been evaluated (Carpenter *et al*, 2003). Results varied between groups, though overall, students reported a significant increase in the frequency of using CBT and Family Intervention after the first year. This trend continued into the second year, with some students increasing their use of CBT and family interventions. The rise throughout was moderate, however, and started from a fairly low baseline. An overall increase in the frequency of assessment and care planning was also found between the end of the first and second year.

When asked about the barriers to implementation students perceived 'time and resources' as the most significant factor. Though not rated as highly, low self confidence in PSI skills and a lack of supervision was also commented upon as a hindrance and students once again pointed out that the programme only

served as an introduction to CBT and family interventions - it did not equip them to act as therapists.

Similar methods were used to assess students' implementation of skills after receiving postgraduate PSI training at Sunderland University (Milne *et al*, 2003). Significant increases in the use of CBT were found at the end of year one and two but a similar result was not found with family interventions. Significant increases in the use of standardised assessments and treatment techniques were also found.

Only Kapur (2002) did not find any differences in practice in staff one year after they had received 'advanced training in PSI' (18 days) when compared to a control group who had been given access to basic PSI training. There were significant problems with attrition in this study however, with 7 of the 11 staff in the experimental group (64%) leaving the residential care unit where the research was being conducted during the follow-up period.

3.4.4. Level 4 Outcomes: Benefits to Service Users and Carers

Service User Outcomes

Ten studies have evaluated whether training in psychosocial interventions has benefited service users (see Table 6). These can be further sub-divided to the specific focus of training: family intervention, CBT or generic PSI training.

Training in Family Interventions

Of the four studies that focussed on outcomes for service users after training in family interventions, three found significant benefits (Brooker *et al*, 1992, 1994; Miklowitz; 2000), whilst Laube and Higson (2000) found that implementing family interventions post training had no significant effect. In the two studies by Brooker and colleagues, trainees received 20 days of accredited undergraduate training prior to implementing the family interventions. In the 1992 study, that followed-up service users 12 months post treatment, a significant reduction in both positive and negative symptoms was found as well as an improvement in social functioning. In the later study (Brooker *et al*, 1994), significant improvements in social adjustment were also reported for service users, in addition, their families reported an improvement in their personal functioning.

Miklowitz's (2000) study differed in that training was focussed on helping service users with a bi-polar affective disorder, plus the training was undertaken in-house. Practitioners followed a practice manual in addition to watching video taped examples and

receiving supervision. After receiving the intervention service users showed a significant reduction in relapse rates, particularly depressive episodes, compared to the control group.

CBT

Turkington *et al* (2002) carried out an RCT to determine whether trainees who had received 10 days of 'Insight Training' (a cognitive behavioural based intervention), could improve outcomes for service users. 'Insight Nurses' were specifically employed to undertake the training and implement the intervention thereafter, thereby removing many of the barriers to implementation found in earlier studies. Six trainees saw 225 service users in six different sites. Post treatment, significant improvements were found in overall symptoms, depression and reported levels of insight. No significant improvements were found in symptoms of schizophrenia or in carer burden.

Farhall and Cotton (2002) report some significant improvement in symptoms. In an uncontrolled study, clinical psychologists were provided with two days of training in Coping Strategy Enhancement and given access to regular supervision. Service users receiving the intervention reported a significant reduction in the frequency of symptoms, and were less distressed and preoccupied with these. In addition a significant improvement in global functioning was found.

Generic PSI Training

Kapur (2002) looked at outcomes for service users who had key workers with advanced PSI training (18 days) and compared these with those whose key workers had only had access to basic PSI training. No difference was found at up to 12 months follow up. However, within the experimental group, 7 of the 11 staff with advanced training left the unit and the study during the trial, and 50% of the service users in this group had a change of key worker up to three times in the 12 month post training follow up period.

Two studies looked at outcomes for service users who received interventions from trainees who participated in Manchester Thorn training (Lancashire *et al*, 1997; Lancashire, *in submission*). Both studies found a significant reduction in symptoms post treatment as well as improvements in social functioning, however, there was no control group to compare results with a group receiving treatment as usual.

Repper (2000), in her study of the Sheffield University post graduate PSI programme, found that most clients were helped to achieve their personal goals and almost half (9/19) showed a reliable change in symptoms.

Table 6: Outcome Studies for Service Users

Author	Year of publication	N (pre&post)	Focus of Training	Type of Training	Research Design
Brooker, C. <i>et al</i>	1992	19	Family Work	20 days (U/G)	CBA
Brooker, C. <i>et al</i>	1994	30	Family Work	20 days (U/G)	CBA
Carpenter, J. <i>et al</i>	2003	70	Generic PSI	2 year Postgraduate West Midlands	CBA
Farhall, J & Cotton, S.	2002	15	CBT	In-Service training for Australian psychologists (2 days & clinical supervision)	UCBA
Gray, R <i>et al</i>	2003	29	Medication Management	10 days	RCT
Kapur, S	2002	6	Generic PSI	In Service Training (Intro course + 18 further days: over 5 months)	CBA
Lancashire, S. <i>et al</i>	1997	27	Generic PSI	Manchester Thorn (U/G)	UCBA
Lancashire, S. <i>et al</i>	In submission	120	Generic PSI	Manchester Thorn (U/G)	UCBA
Laube, R.E. & Higson, F.	2000	37	Family Work	In-Service	UCBA
Milne, D. <i>et al</i>	2002	23	Generic PSI	2 year Postgraduate Sunderland University	UCBA
Miklowitz, D.J. <i>et al</i>	2000	28	Family Work	Manual Based In-service	RCT
Repper, J.	2000	Single case study designs	Generic PSI	Sheffield Postgraduate PSI Programme	Single Case Repeated Measures
Turkington, D. <i>et al</i>	2002	225	CBT	Manual Based 10 day Training Programme (Insight Training)	RCT



Measures	Key Results
KGV; SFS; GHQ; KASI; Consumer Perceptions of Services Questionnaire	Significant improvement in positive and negative symptoms and social functioning at 12 month follow up
KGV; Diary of contact; Social Adjustment Scale; Personal Functioning Inventory	Significant improvements in social adjustment and relatives' assessment of service user personal functioning
LQoL, HoNOS; GAF; BPRS; Life Skills Profile; User Defined Questionnaire	Significant fewer symptoms, improved life skills, higher GAF scores, Lower HoNOS score.
Referral Information and Baseline Observations GAF	Significant improvement on a number of symptom dimensions: frequency, distress and preoccupation. Improvement with GAF
PANSS; DAI-30; Clinical Rating of Compliance Scale; LUNSERS	Significant improvements in overall psychopathology, attitudes towards medication and compliance found in treatment group.
Functional Analysis of Care Environments (FACE), Psychosocial Skills List (PSSL)	No significant differences between control group and experimental groups on any aspect of patient functioning that was measured.
KGV, Social Functioning Scale (SFS)	Significant reduction in total symptom scores, in positive and affective symptoms and improved social functioning
Present State Examination; KGV; (SFS)	Significant reduction in symptom severity and in social functioning
Global Assessment of Functioning (GAF)	No change in global functioning
Service User devised questionnaire, HoNOS; Life Skills Profile; Lancashire Quality of Life (LQoL)	Significantly fewer symptoms, lower score on HoNOS, Improved social and relationship skills, Improved GAF. Trainees rating of service users' quality of life also improved
Schedule for Affective Disorder & schizophrenia – Change version; Maintenance Treatment Scales	Family focused psycho-ed more effective than crisis management in reducing relapse rates (notably depressive) in bipolar patients
BPRS, Social Functioning Scale; Quality of Life Inventory	Clients were helped to achieve their personal goals and 9/19 showed a reliable change in symptoms. No significant changes in quality of life or social functioning
Comprehensive Psychopathological Rating Scale; Insight Rating scale; Schizophrenia Change Scale; Montgomery-Asberg Rating Scale	Significant improvement in experimental groups' symptoms, insight and depression. No significant improvement on symptoms of schizophrenia

Carpenter *et al* (2003) and Milne *et al* (2002) used similar wide-ranging measures to determine outcomes for service users who received interventions from cohorts of students who were on PSI focussed postgraduate training programmes. Post treatment, service users reported a number of significant improvements; the frequency of symptoms reduced as did scores on the Health of the Nation Outcome Scale (HoNOS). Overall, trainees rated service users as having improved global functioning, better social skills and an increase in the quality of life. These results compared favourably with a group of service users who received the standard Care Programme Approach in an area where trainees had not received this specific training - for this group there were no significant changes on any of the measures used.

Outcomes for Carers

Out of the 39 studies that have evaluated PSI related training, only four have looked at outcomes for carers

(see Table 3). Three controlled studies (Brooker *et al*, 1992(a); 1992(b) & 1994) looked at the outcomes for carers who had received family interventions from trainees who had undergone 20 days of undergraduate training in family work. Compared to the control group, the carers who received the intervention showed significant improvements in mental health status, knowledge about schizophrenia and in their level of satisfaction with the service they had received.

In a later study, Leff *et al* (2001) found that carers who received a full family intervention from trainees who had completed an in-service training programme, showed a significant reduction in Expressed Emotion compared to a control group who received only two sessions of education about schizophrenia. Although a high level of expressed emotion is known to be a strong predictor of relapse, no difference in relapse rates was found between the two groups after 12 months.

Table 7: Outcome Studies for Carers

Author	Year Of Publication	Focus Of Training	Type Of Training	Number Of Experimental Families/ Carers (Pre and Post)	Research Design	Measures	Key Results
Brooker, C. <i>et al</i> (27)	1992	Family Interventions	20 day undergraduate	17	CBA	Knowledge About Schizophrenia Inventory (KASI)	Experimental group showed significant improvements in knowledge about schizophrenia. No change for control group
Brooker, C. <i>et al</i> (30)	1994	Family Interventions	20 day undergraduate	19	CBA	Social Functioning Scale; General Health Questionnaire (GHQ); KASI; Consumer Perceptions of Services Questionnaire (CPQ)	Significant reduction in minor psychiatric morbidity. Significant improvement in knowledge about neuroleptic medication. Significant improvement in global satisfaction with service. These improvements were not found in the control group.
Brooker, C. <i>et al</i> (36)	1992	Family Interventions	20 day undergraduate	17	CBA	Diary of contact; Social Adjustment Scale; GHQ; Personal Functioning Inventory; CPQ	Experimental group showed significant improvement in mental health status and global satisfaction with service. These improvements were not found in the control group.
Leff, J. <i>et al</i> (40)	1995	Family Interventions	In service (didactic training & supervision)	12	CBA	Present Mental Examination; Camberwell family Interview; Knowledge Interview; Assessment of Burden; Social Functioning Scale	Experimental group had significant reduction in Expressed Emotion compared to controls. No significant difference in relapse rates was found.



4 Summary of Results

Although there have been a broad range of outcomes reviewed in this paper, a number of themes appear to emerge from the findings across all types of training reviewed:

Trainee Reactions:

Satisfaction with 'PSI' training has been evaluated both in short in-house programmes and in longer term postgraduate programmes. Studies illustrate that trainees were consistently satisfied with the training they received (see section 3.4.1). Although only two studies specifically evaluated the supervision associated with postgraduate training, results were not so positive. For example, in sharp contrast to the reaction towards specialist supervision provided by the trainers, the majority of trainees in the Milne *et al* (2003) study did not believe the routine supervision they received from their employing Trust met their needs.

Evidence:

Consistent results were found in all eight studies that evaluated trainee satisfaction with training: two of these were controlled and six uncontrolled. A number of rating scales were used to measure trainee satisfaction therefore it is impossible to compare results directly. In two in-depth, independent external evaluations, Carpenter *et al* (2003) and Milne *et al* (2003) specifically assessed satisfaction with supervision associated with postgraduate training.

Attitudes and Beliefs:

Because of the fundamental values base within PSI training it is not surprising that nine studies, just under a quarter of the total sample, evaluated changes in attitudes and beliefs. On the whole, it would appear that PSI training in all its forms has a positive effect on the attitudes and beliefs that trainees hold about psychotic conditions (particularly beliefs about cause and therapeutic optimism), about service users with a psychosis and regarding available psychosocial interventions to help service users and carers.

Evidence:

Of the nine studies looking at attitude change, only two used the same assessment tool (Leff and Gamble, [1995]; Lancashire [2003]) making it impossible to make general comparisons between studies. However, a number of studies compared trainee attitudes pre and post training, three of which were controlled. Significant improvements were reported at the end of training (Brabban, 2003; Ewers, 2002; Lancashire, 2003; Leff & Gamble, 1995; Thomas *et al*, 1999).

Acquisitions of Knowledge:

Studies that evaluated knowledge gain, tended to find that specific elements of trainees' knowledge had improved when tested immediately post training, irrespective of the length or type of training they had received. Based on the results of the Kavanagh *et al* (1993) study it is less clear how long newly acquired knowledge is retained and what factors preserve learning.

Evidence:

Thirteen of the studies included in the review looked at knowledge gain as a result of PSI training (see section 3.4.2), four of these were controlled trials (Lancashire, 2003; Thomas *et al*, 1999) two of which were randomised (Ewers, 2002; Gray *et al*, 2003). At the end of training, which ranged from 18 hours to two years, only two studies failed to find a significant increase in knowledge (Laube and Higson, 2000; Willetts and Leff, 1997). However, both of these studies had small sample sizes which could have contributed to the non-significant results. Only Kavanagh *et al* (1993), however, followed up trainees some time later, post-training. They found that recall of certain topics including CBT and behavioural strategies to be minimal. This was despite only 4% of trainees reporting they had a problem with knowledge.

A variety of measures were used to determine level of knowledge within the 13 studies making it impossible to make cross study comparisons of trainees' knowledge either pre or post training.

Acquisition of Skill:

On the whole trainees developed targeted skills when attending PSI training in all forms. However, because of the variety of methods used to rate skill development within the research and the frequent use of self report, it is difficult to determine exactly what *level* of expertise is reached in each study and thereby ascertain what type of training is required (length and type) to teach skills to different levels. Haddock *et al* (1999) and Gray *et al*, (2003) both used the CTS, a validated measure of CBT skills to determine skill level pre and post training. Although both studies showed that trainees had acquired significant skills, their actual level of skill post-training as rated by the CTS was moderate in relation to possible achievable scores. Only one study addressed specific trainee variables in an examination of which individual factors contribute to the greatest skill acquisition. Gray *et al*, (2003), found that clinical skills pre-training, academic qualifications and attendance were significant factors.

Evidence

Skill development has been evaluated most extensively within generic PSI training, however, only two studies (Haddock *et al*, 1999; Gray *et al*, 2003), both controlled, used a validated measure to measure this. Brooker and Butterworth (1993) rated audiotapes of trainees' clinical work to determine skills acquisition and four studies relied on self report (Brooker *et al*, 1996; 2003; Repper, 2000; Bailey *et al*, 2003).

Change in Behaviour (Implementation):

Most of the studies that relate to implementation are high quality cross-sectional surveys achieving a high response (see section 3.3.1). There is greatest consistency in the research methods reported where the implementation of PSI training has been evaluated. For example, five studies have used the same instrument to evaluate the difficulty of implementing family interventions in routine clinical practice (see Table 4, page 27). Common barriers to implementation of family work include: allowance of time in the service; integration with existing caseload and the availability of families. In addition, common 'boosters' to implementation have been consistently reported in all related studies: a critical number of staff trained in the team; access to high quality supervision; having the time to do the work and possessing enough skill to apply the intervention flexibly. Several studies point to the importance of

organisational ownership of the implementation of PSI through Steering Groups constituted with senior manager involvement.

Evidence:

Implementation of family intervention training:

A number of well-designed cross sectional studies, achieving a high response, have reported similar barriers to the implementation of family interventions training (Kavanagh *et al*, 1993; Fadden, 1997; Campbell, 1999; Baguley *et al*, 2002; Bailey, 2003)

Implementation of PSI Training: A number of high quality cross-sectional studies have shown that there are identifiable factors that can facilitate the implementation of PSI training: team training (Bailey, 2003; Lancashire, 2003); access to appropriate supervision (Brooker *et al*, 2003; Bailey, 2003; Teamwork, 2001) and organisational ownership and support (Brooker *et al*, 2003; Milne, 2000 and Carpenter *et al*, 2003).

Benefits to Service Users and Carers:

Benefits to service users and carers have been found in the majority of relevant studies. There are three times as many studies reporting outcomes for service users (n=12) compared to carers (n=4). The service user studies are of variable quality with just seven out of twelve employing controlled designs. Improvements in service users' symptoms were reported in six out of seven controlled studies. The one study where symptoms did not improve was underpowered and suffered from serious problems with attrition (Kapur, 2002). Social and general functioning improved in seven of the nine studies where it was measured but only three of these studies were controlled.

Only four studies have examined outcomes for carers. Three of these studies relate to the same 20-day training for family intervention reported by Brooker and colleagues (Brooker, 1992a; 1992b; 1994). In the other paper, Leff *et al* (2001), the impact of training in family intervention on family environment was examined. There are too few studies measuring diverse outcomes to draw any meaningful conclusions. It is clear that more research is needed that examines the impact of PSI training from the relative's perspective.



Whether outcomes focus on service users or carers it is difficult to extricate the essential ingredients of a successful training programme as it would seem that most findings seem to occur independently of either the length or type of training.

Evidence:

Improvement in service users' symptoms: In the vast majority of the controlled studies service users' symptoms improve at variable follow-up periods following PSI training (Brooker *et al*, [1992; 1994]; Carpenter *et al*, 2003; Gray *et al*, 2003; Miklowitz *et al*, 2000; Turkington *et al*, 2002).

Improvement in service users' social functioning: It is possible that after PSI training service user's social functioning improves but the evidence is not strong (Brooker *et al*, [1992; 1994]; Carpenter *et al*, 2003; Farhall and Cotton, 2002; Lancashire *et al*, 1997; Lancashire *et al* [in submission]; Milne *et al*, 2002).



5 Discussion

Introduction

This review has identified a surprisingly large number of studies - 37 in total - which have attempted to evaluate PSI training for work with people with a psychosis. Throughout this review, in our attempts to outline this literature we have been keen to stress two key points. First, that the term 'psychosocial interventions' is a ubiquitous one. For example, in this review we have identified a randomised controlled trial that has evaluated 10 days of training in cognitive behavioural skills (Turkington *et al*, 2002) that aimed to reduce symptoms and promote 'insight' which might be contrasted with a follow-up study of PSI trainees attending a much longer two year part-time Masters programme (Brooker *et al*, 2003).

Second, that despite the policy imperatives and the rhetoric relatively few mental health professionals have accessed any type or level of PSI training of any kind.

The scope of evaluated PSI programmes

The review has confirmed that there are a wide variety of evaluated PSI courses. However, they can be classified into three main course types, i.e. those that are accredited by Higher Education at either the undergraduate or postgraduate level and shorter programmes that often run 'in-house' within mental health services themselves. Similarly, the focus of PSI programmes also falls into three main groups: family intervention, individual psychological interventions or broader generic courses (that can include both family interventions and individual psychological interventions). Clearly, there is a need to avoid possible confusion for non-specialist groups, such as educational commissioners, who might wish to commission evidence-based PSI programmes but who are understandably confused by the variety of PSI course focus and type. It is useful to consider the distribution of studies in this review in relation to the nine cells described above (and summarised in Table 1). It is clear that it is generic courses across all levels that have been evaluated most either through tenders let by the commissioners of programmes themselves (see for example, Milne *et al*, 2003; Teamwork Management Services, 2001 and Carpenter *et al*,

2003) or by students undertaking research as part of their course work (Ewers, 2002; Bailey, 2003). However, given the number of generic programmes now in existence the number of evaluations is somewhat small with properly funded external evaluations yet smaller still. A number of family intervention programmes have been evaluated; these are either in-house programmes or offered at undergraduate level. However, within this sub-group the studies are most often cross-sectional (Fadden, 1997; Kavanagh *et al*, 1993; Campbell, 1999; Bailey, 2000 and Baguley, 2000) where researchers are grappling with the question of what happens to trainees in real-life clinical settings after training has taken place. Only one series of papers has considered the impact of such family work training using a controlled design (Brooker *et al*, 1992a; Brooker, 1992b; Brooker, 1993 and Brooker, 1994). Finally a number of short in-house programmes for individual psychological interventions have been evaluated, for example, CBT to promote insight (Turkington *et al*, 2003); CBT for psychosis (Farhall & Cotton, 2002), a short in-house CBT programme for psychosis (Brabban, 2003) and medication management skills (Gray, 2003). It is interesting that although training in psychosocial interventions is a relative new comer to the mental health arena, PSI training appears to have been extensively evaluated proportionate to the overall number of post-qualifying training programmes (Bailey *et al*, 2003). In the Bailey *et al* review of evaluated post qualifying mental health training programmes, PSI training was subsumed under the broader heading of psychological therapies for all mental health problems. Twenty nine papers looking at training in psychological therapies were identified, however, two thirds of these (n = 19) were actually PSI/psychosis focussed.

The methodological quality of the included studies

The 37 included studies utilise one of three main methodological approaches: the cross-sectional design (or survey); the uncontrolled trial (often just before and after but some studies have a limited follow-up) or the controlled trial (again with variable lengths of follow-up). Further details are given of research design in Appendices 3-5. It is important to comment on the quality of the included studies as the criteria for inclusion have been framed primarily to determine the extent of evaluated PSI studies and *no study has been excluded on the basis of the quality of its design*.

In a series of articles in the British Medical Journal (Education Group for Guidelines on Evaluation [1999]; Hutchinson [1999]; Wilkes and Bligh [1999] and Cantillon and Jones [1999]) an important debate is presented about ways in which to address quality criteria for studies that evaluate educational initiatives with a health focus. The four papers wrestle with the importance of educational research being as rigorous as other types of research both in its design and execution, however, a series of arguments are then raised about why this is very hard to achieve. Ultimately this discussion centres on the feasibility (and desirability) of the conduct of randomised controlled trials. The complex nature of education is problematic with a number of factors impacting upon ultimate outcomes:

Educational events are multifaceted interactions occurring in a changing world and involving the most complex of subjects. Many factors can influence the effectiveness of educational interventions' (Hutchinson, 1999)

The Education Group for Guidelines (1999), for example, acknowledge that 'purposeful sampling may be more informative than attempts at randomisation and controls, which are difficult to achieve in adult education'. Finally, Hutchinson (1999) states that there is a 'fundamental difficulty in addressing the question everyone wants answered - what works in what context, with which group and at what cost?' She argues that achieving this, in the

educational context, is as problematic as '.....in the evaluation of a complex treatment performed on a sample group of people who each have different needs, circumstances and personalities'. However, if the gold standard, the RCT, is difficult to achieve in educational research, that is not to say that other alternative methods employed should not be undertaken to a high quality. Thus for example, in this review, to achieve high quality, and to avoid response bias, it might be anticipated that the cross-sectional surveys outlined in Appendix 4 would achieve a response rate of 70-80% and use measures that had been field-tested and that seemed to possess validity.

The great majority of cross-sectional studies in this review do achieve both criteria although there are several exceptions (Teamwork Management Services, 2001; Campbell, 1999). Nevertheless, studies with low response rates should not be overlooked, since a low response rate in itself may be highlighting potential problems within the system in which the training takes place that should be addressed. Appendices 4 and 5 outline the comparison studies where there are 25 in total and half of these (n=13) are controlled and a further 12 uncontrolled. Every one of the 12 uncontrolled studies examines trainee outcomes, usually knowledge and attitudes, in most cases in a simple before and after training design. Largely, the findings are positive ones but the lack of long-term follow-up is problematic especially where changes in skills are measured. Although skills often improve (see for example, Haddock *et al* 1999) rarely do trainees acquire the highest level of competence as outlined in Figure 1. Half of the uncontrolled studies focus on outcomes for service users where it is assumed, for example, that changes in trainees' practice leads to better clinical outcomes for service users, such as frequency and severity of symptoms. This is an ambitious claim, given that these studies are uncontrolled but also that service users drop out of the study and are often not available for measurement post-training. A good example of this tendency is the evaluation of Thorn training by Lancashire and colleagues where only 120/256 service users are reported at follow-up. Similarly, Milne *et al* (2003) in

their study of the Sunderland PSI Masters programme only obtained post-training ratings on 23/54 service users.

The fourteen controlled study designs include six randomised controlled trials (Gray *et al*, 2001*; Gray *et al*, 2003*; Ewers *et al*, 2001; Leff *et al*, 2001; Turkington *et al*, 2003* and Miklowitz *et al*, 2000) an asterisk marks those studies, only three, where a power calculation was included to estimate sample size. Two studies had small groups in two comparison groups and are unlikely to have been sufficiently powered (Ewers *et al*, 2001; Leff *et al*, 2001). The remaining studies used a matched comparison group (often care as usual) or a within-subjects design with delayed intervention. Outcomes are assessed for service users in seven of the twelve studies. Usually the outcome employed is a measure of symptom frequency or severity in all six studies symptoms improve significantly apart from the study by Turkington *et al* (2003) where the symptoms of schizophrenia did not improve (although 'overall symptoms' did). Outcomes for carers are assessed in four of the studies. In two studies by Brooker (1992a; 1993, 1994) the minor psychiatric morbidity of relatives reduces significantly and knowledge about schizophrenia also improves (1993). In the study reported by Turkington and colleagues (2003) the burden of care does not improve. Five of the studies measure trainee outcomes - trainee's knowledge

about schizophrenia significantly improves in three of these (for example see Ewers *et al*, 2001). In the study by Kapur (2002) a matched control design, there are serious problems with group sizes and attrition. Here, staff were trained to use PSI with 14 service users using Alternative Futures nursing homes in the North West, this group were then matched with 14 service users in other Alternative Futures nursing homes where staff were not trained. A total of 11 service users (11/28: eight in the experimental group and three in the controls) did not consent, absconded or left during the study. A dropout rate of 39% must raise serious concerns about the validity of any of the findings.

Thus, in a total of 37 included studies, 11 are cross-sectional studies of a reasonable quality and 12 are uncontrolled studies where the interpretation of findings might be more problematic (a caveat here is that some of the uncontrolled studies include significant amounts of qualitative data that help to support some of the findings [see for example, Carpenter *et al*, 2003]). Finally, 14 of the studies are controlled and six of these are randomised controlled trials. By way of comparison, Cantillon and Jones (1999) report the findings of a systematic review of continuing medical education and a comparison is presented in Figure 5 of the design of studies included in both reviews.

Figure 5: A comparison of study design in two systematic reviews of educational Interventions (Cantillon and Jones, 1999 [CME] and Brooker and Brabban, 2004 [PSI])

	Cantillon and Jones (1999)		Brooker and Brabban (2004)	
	N	%	N	%
Before and after	28	41.0	12	32.0
Controlled	15	22.0	8	22.0
RCTs	16	23.0	6	16.0
Other	10*	14.0	11**	30.0
Total No of Included Papers	69	100.0	37	100.00

* 'Exit only' and qualitative
** Cross-sectional and includes some qualitative

The table shows that even for a systematic review of a large and important area like Continuing Medical Education there is a very similar proportion of controlled trials, RCTs and simple before and after designs when compared to the much smaller field of PSI – a growing but nonetheless small educational subset of mental health. If it is the case, as seems likely, that all educational intervention studies will struggle to obtain research funding then this, correspondingly, will have an impact on the quality of the research designs that such studies employ. Thus, this seemingly harsh commentary on the design of PSI evaluated training should be tempered with the knowledge that at least half of all the studies, on which this review are based, are of a high quality and this compares well with reviews of medical continuing education which arguably will encounter less resistance from research funding bodies.

The implications for commissioning PSI programmes

The number of PSI programmes, commissioned by the NHS, has grown dramatically over the past ten years (Brooker, 2002), and, as we have shown, policy exhortations make it likely that the trend will continue. It is therefore useful to consider the implications of this review for the commissioning of programmes. Any commissioning process will wish to take into account, probably at the Strategic Health Authority/Workforce Development Confederation level, the plans each mental health provider has for training the workforce in PSI skills. Ideally, this will be on the basis of a local agreement of the numbers of staff that need to be trained at each of the levels outlined in Figure 1. This is an exercise that has been undertaken in a number of patches in the UK already (see for example, NIMHE (2004) - West Yorkshire; Repper and Brooker, (2002) – 19 Trusts in the former Northern/ Yorkshire area). It is likely that mental health providers will want all mental health professionals trained to at least an introductory level often on courses run in-house (Bailey *et al*, 2003), a smaller number on longer undergraduate programmes with finally a small minority trained to expert level - a group that became the organisation's major supervisory resource. So what outcomes are likely to result from an investment in PSI training?

Trainees' Reaction

The results section of this review demonstrates that the vast majority of trainees are satisfied with the training they receive, although there is evidence from Australia that not all mental health professionals engage with the prevailing cognitive-behavioural paradigm that underpins most training programmes (Kavanagh *et al*, 1993). For this reason, those teaching longer PSI programmes should endeavour to ascertain trainees' views about the cause and most effective treatment of serious mental illnesses before programmes begin.

Knowledge, Attitudes and Beliefs

Generally, PSI training in all its different guises has a positive effect on attitudes and beliefs. One of the most common themes that emerge in this domain is the much more positive and hopeful attitudes that trainees have towards people with a diagnosis of schizophrenia and their carers (Repper, 2000; Brooker *et al*, 2003). This change in attitude is much more likely to lead to the adoption of a 'recovery' model of serious mental health problems. Not only will PSI training improve attitudes but also the acquisition of new knowledge is highly probable too. This is irrespective of the type or focus of training. What this review makes clearer, however, is that the length of time such knowledge is maintained is more questionable as there have been no studies examining longer-term knowledge gain say for lengthy follow-up period of 12-24 months.

The Acquisition of Skills

Do trainees acquire clinical skills as a consequence of attending PSI training courses? The review would suggest that clinical skills are improved but there are several caveats to this statement. First, several different tools have been utilised to assess the acquisition of (for example, the Behavioural Family Therapy Skills Measure [Brooker *et al*, 1994]; Cognitive Therapy checklist [Haddock *et al*, 1999]) it is therefore problematic to assess the *level* of skills that have been acquired. Other studies have attempted to determine skills acquisition through self-report (Brooker *et al*, 2003; Bailey, 2003) a method that is likely to threaten the reliability and validity of such estimates. Finally, there are very few evaluated Master's level programmes for individual psychological therapies, in other words, we have no reliable 'benchmark' for the highest level of 'expert skills' acquisition. All these factors combine to make it difficult, therefore, to reach any general conclusions about the type and length of training that is required to achieve any specific level of expertise. Careful work is required across the PSI training menu to articulate the specific capabilities that are required to meet the requirements of knowledge, attitudes and skills for the Types A, B and C outlined in Figure 1.

Implications for the Implementation of PSI

In a recent paper that reported on an intensive project, funded to address the organisational issues often associated with the implementation of research-based care and treatment of people with a psychosis, Repper and Brooker (2002) commented:

'A number of studies have shown that whilst PSI training has been available in the UK for a decade, it can be far from straightforward to ensure that programme graduates implement skills they have been taught in routine service settings' (page 3)

Using Kirkpatrick's framework we report in some detail on this literature on pages 14-42 of this report. The majority of the studies report on family intervention in psychosis where it is clear that there are different training models that lead to variable levels of success (as defined by number of families engaged over a finite post-training period) in real life clinical settings. Most programmes that have followed-up students, who have attended training programmes as individual representatives from services or teams,

experience greater problems than courses where a whole team of individuals has been trained from the same service (Bailey, 2003; Lancashire, 2003). That is not to say, however, that some individually trained practitioners are not successful in engaging families. Brooker *et al* (2003) have shown that having protected 'PSI' time, a high level of motivation and greater family work skill all contribute significantly as well. It is also likely that having access to local skilled supervision is of critical importance. In a service in Greater Manchester, which has run a local accredited introductory course for PSI for a number of years, the lack of access to skilled supervision was not ranked highly as a barrier to implementation (Bailey, 2003) unlike a larger national study where it was considered one of the greatest problems (Brooker *et al*, 2003). Repper and Brooker (2002) examined 19 trusts in one patch in the North of England and found that the number of expert PSI supervisors varied from 0 to 10.

Why might team training and access to supervision and supportive colleagues be important?

Repper (2000) has used a useful theoretical framework to examine why access to supervision and supportive colleagues might be important in PSI training. She cites Lipsky (1980) in his examination of the public sector in the USA. Lipsky was particularly interested in the critical part played by employees in governing the general public's access to public services. In his consideration of training and the role it played in increasing service quality and controlling the output of front line workers, Lipsky commented:

'Worker training is less important than the nature of working conditions themselves. Without a supportive network of working peer relationships, training to improve the service capacity of workers is likely to washout under the pressure of the work context'

One other key area of difficulty associated with the implementation of PSI has been one of the availability of resources. Studies consistently report on the time required to undertake interventions not being available and the problems of integrating PSI with existing caseload responsibilities (for example see Fadden, 1997; Kavanagh *et al*, 1993; Baguley *et al*, 2002). Interestingly, however, a subset of all respondents in these studies ranging from 20-80% report only a little difficulty with the issue of resources (see Table 5). Clearly caseload size is a critical issue. Repper and Brooker (2002) found that average caseload size varied from 15-48 for individual practitioners in CMHTs



across 19 Trusts. Indeed, with the relatively recent arrival of functional teams, such as assertive outreach and early intervention, the movement of PSI practitioners from CMHTs to newer teams has been described (Brooker *et al*, 2003). One reason for this is likely to be the smaller caseloads on offer within these newer services that clearly offer greater opportunity for more intensive PSI-related casework.

Clearly, the implementation of PSI in routine clinical settings can be problematic. A number of key factors are likely to interact. Courses need to provide practitioners with the confidence to use new skills and practitioners then need to be supported with skilled supervision. It is crucial that other team members and managers are supportive of PSI approaches. High caseloads are likely to make the implementation of PSI unfeasible. If these key issues are addressed by organisations then successful implementation is likely to result.



6 Conclusion

This scoping review has identified 37 studies that meet a priori criteria for the evaluation of PSI training.

It is clear that PSI is a ubiquitous term that covers a range of interventions for work with people with a psychosis. A range of methodological approaches was used in the research but no quality criteria were adopted to determine inclusion. It is difficult to draw meaningful conclusions from some of the uncontrolled studies but the RCTs and cross-sectional studies have been well conducted. Kirkpatrick's typology of educational outcomes was used to structure both the reporting of the results and the discussion. PSI training is universally well received by trainees, improves knowledge and generally has a positive effect on trainee's attitudes to serious mental illness.

Studies have shown too that trainees' skills improve but establishing the level of expertise that is attained is problematic as we have no operational benchmarks for differing levels of skill. These are optimistic outcomes for commissioners to consider, however, it is equally important to address the implementation issues if PSI training is to have any meaningful impact.

conclusion



7 Recommendations

Research and evaluation of PSI programmes

- ▶ The national PSI implementation group within NIMHE should create a national forum for all PSI training providers in order to agree consistent methods and measures to audit outcomes and quality of training. *(This has recently been undertaken by the group)*
- ▶ Research money is required in order to develop reliable validated measures of all PSI skills.
- ▶ More follow-up studies should be conducted to determine the extent to which trainees' knowledge, attitudes and skills are maintained over time.
- ▶ More *controlled* studies are required to measure the impact of PSI training, particularly from the service user and family perspective.
- ▶ To date there has been a paucity of research considering outcomes of training for families and carers. More work is required in this area.
- ▶ Secondary analysis of the studies included in this review should be undertaken in an attempt to examine the relationship between factors such as the quality of the research, the type of training, and outcomes for service users.

Commissioning of PSI programmes

- ▶ Commissioners and training providers should use the typology of skill types outlined on page 15 to negotiate the likely outcome for trainees from each programme.
- ▶ In line with the findings from this review, commissioners and Trusts should be mindful that upon completion of PSI training practitioners may not have the skills to implement complex formulation driven therapies (level 3 skills) and may require additional experience, supervision and/ or training to acquire this level of skill.
- ▶ The National PSI Implementation Group should review the content of current PSI training programmes and recommend a core-curriculum for courses taught at different levels. This should reflect the evidence and values base, national policy and guidelines including topics such as Cultural Competency, Recovery Based Practice and Risk Management.

- ▶ Discussions should take place between local stakeholders to determine local training needs prior to the commissioning process. This should include commissioners, training providers and Trusts. A good example of this is illustrated within the South Yorkshire PSI Implementation Strategy Document (Brooker and Linde, 2002).
- ▶ Commissioners and Trusts should consider putting in place mechanisms to address the complex issues related to implementation in different service areas. From the evidence base it would be expected that different functional teams will have distinct issues to address in relation to implementation. For example Early Intervention teams with small caseloads, a clear focus, and a PSI philosophy should find it easier to translate theory into practice than a Community Mental Health Team with larger caseloads, a diverse client group and competing demands.

Over the coming months the National PSI Implementation Group will be addressing potential implications of this review for commissioners. However, it is evident that commissioners will need consider a number of issues including the following:

- *Should individuals or teams be trained?*
- *What 'level' of PSI training is required by whom?*
- *Is post-training expert supervision available within the student's organisation?*
- *Is there support for the training at the highest organisational level?*
- *Are sufficient resources available to students to undertake the intervention once they have completed training (e.g. caseload size, access to assessment materials)*

recommend



(For list of included studies see Appendix 7)

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Appendices

Appendix 1 Sample search strategy in Ovid Medline

- | | | | |
|----|--|----|---|
| 1 | psychosocial intervention\$.tw. (849) | 40 | summative.ti. (56) |
| 2 | psycho-social intervention\$.tw. (26) | 41 | formative.ti. (215) |
| 3 | psychosocial care.tw. (371) | 42 | (exam or exams).ti. (859) |
| 4 | psycho-social care.tw. (20) | 43 | satisf\$.ti. (7387) |
| 5 | psychosocial treatment\$.tw. (497) | 44 | dissatisf\$.ti. (431) |
| 6 | psycho-social treatment\$.tw. (6) | 45 | outcome\$.ti. (54447) |
| 7 | psychotherap\$.ti. (10073) | 46 | effect\$.ti. (857212) |
| 8 | exp psychotherapy, group/ (15476) | 47 | impact\$.ti. (36503) |
| 9 | cognitive therapy/ (4096) | 48 | knowledge.ti. (15216) |
| 10 | (cognitive adj2 therap\$).ti. (1035) | 49 | implement\$.ti. (8403) |
| 11 | family therap\$.ti. (1075) | 50 | or/35-49 (1187516) |
| 12 | family intervention\$.ti. (133) | 51 | 34 and 50 (867) |
| 13 | family work.tw. (214) | 52 | or/1-14 (28777) |
| 14 | (cognitive adj2 psychotherap\$).ti. (52) | 53 | 52 and 33 (2969) |
| 15 | psychiatr\$.ti. (49673) | 54 | 53 and 50 (475) |
| 16 | or/1-15 (76901) | 55 | (mental health adj3 (train\$ or course\$ or
educat\$)).tw. (1172) |
| 17 | exp *education/ (225860) | 56 | ((psychosocial or psycho-social) adj2 (intervention\$
or care or treatment\$) adj2 (train\$ or course\$ or
educat\$)).tw. (100) |
| 18 | educat\$.ti. (67734) | 57 | or/55-56 (1270) |
| 19 | exp *teaching/ (26891) | 58 | 57 and 50 (186) |
| 20 | teach\$.ti. (25618) | 59 | ((psychosocial or psycho-social) adj2 (intervention\$
or care or treatment\$) adj2 (train\$ or course\$ or
educat\$ or programme\$)).ti. (24) |
| 21 | cpd.tw. (1483) | 60 | or/54,58-59 (662) |
| 22 | cme.tw. (1245) | 61 | limit 60 to english language (604) |
| 23 | short course\$.tw. (3337) | 62 | limit 61 to human (585) |
| 24 | diploma\$.tw. (1714) | | |
| 25 | certificate\$.tw. (5832) | | |
| 26 | master\$.tw. (9363) | | |
| 27 | study programme\$.tw. (512) | | |
| 28 | taught programme\$.tw. (29) | | |
| 29 | taught course\$.tw. (47) | | |
| 30 | curricul\$.tw. (13803) | | |
| 31 | train\$.ti. (43449) | | |
| 32 | skill\$.ti. (9500) | | |
| 33 | or/17-32 (297480) | | |
| 34 | 16 and 33 (6611) | | |
| 35 | *evaluation studies/ (5493) | | |
| 36 | *programme evaluation/ (2717) | | |
| 37 | evaluat\$.ti. (202355) | | |
| 38 | feedback.ti. (6469) | | |
| 39 | attitude\$.ti. (18190) | | |



Appendix 2 Definition of Psychosocial Interventions (PSI)

For the purpose of this study, 'PSI' has been defined as follows:	
A.)	Interventions that are focused on people who experience a psychosis AND that include at least one of the following components:
B.)	
i	An integrated bio-psychosocial model of psychosis (taught within a stress-vulnerability model of psychosis)
ii	Structured outcome measure-based assessment
iii	Cognitive Behavioural Therapy
iv	Psychological management of symptoms
v	Cognitive-behavioural family interventions (i.e. may be specified as behavioural or cognitive-behavioural)
vi	Medication management

Appendix 3 Checklist for Included Studies

Study Checklist	
Paper Number	
Study (author and year)	
Statement of Source of Funding?	
Target Population	
Training Focus	
Length of Training	
Study Design	
Randomisation specified if RCT?	
Sample Size	
Attrition specified?	
Power Calculation specified?	
Quantifiable Outcome Measures used	
Length of follow up	
Key findings	

Appendix 4 Design of Cross-Sectional Studies

No of Paper	Author(s)	Year of P'cation	Sample size	% response	Type of course and focus	Key Findings
88	Baguley, I <i>et al.</i>	2000	21	95% 20/21 eligible responses	Family Interventions - undergraduate	- 6 to 18 months after training, trainees had worked with 2.5 families - major problems with implementation were allowance of time to undertake the work and integration with caseload
96	Bailey, C	2003	27		Generic PSI – In-house	- post training trainees reported increases in: confidence in dealing with clients with serious MH problems, recognition of the need for family involvement, the need for a structured approach and general CBT and family intervention skills
33	Bailey, R. <i>et al</i>	2003	16	83.0% (15/18)	Family Interventions - undergraduate	- 80% reported that it was 'not at all' or a 'little difficult' to implement family work (see Table 7) - Each trainee had seen 3.5 families, on average over 26 months - Key obstacles were allowance of time from 'the service' and 'integration with caseload'
51	Brooker, C. & Butterworth, T.	1993	10	100% (8/8)	Family Interventions - undergraduate	- Family intervention skills right after training completed and at 6 months follow-up - Attitudes towards schizophrenia became more positive - Significant increase in the proportion of the working week spent working with families
26 c	Brooker, C. <i>et al</i>	2003	96	82% 29/96)	Generic PSI – In-house	Trainees followed up 6 years post-training and 79 (82% response rate), reported: - Most still clinical responsibilities though roles had changed considerably - Significant changes in attitudes - Increased self-reported skill in building relationships, assessment and psychological management of symptoms - Implementation was determined by a number of barriers and boosters
83	Campbell, A.	1999	298	45% (123/298)	Family Interventions –	- Those trained to congest had seen 2-6 families on average, each - Most trainees rated the implementation of family work as 'moderately' difficult - Integration with existing caseload regarded as the main barrier
6	Fadden, G.	1997	86	70% (59/86)	Family Interventions – In-house	- Each trainee had seen 1.7 families, an average, since training - Small proportion of the sample (8%) saw large proportion of families (40%) - 44% reported it was 'not at all' or 'a little difficult' to implement family work - Being unable to find suitable families reported as greatest obstacle
41	Gray, R. <i>et al</i>	2001	240	53% (130/240)	Generic PSI – Thorn Training	- Thorn graduates were using significantly more standardised assessment tools than non graduates to determine side effects and psychopathology.
55	Kavanagh, D.J. <i>et al</i>	1993	48	48 eligible responses to survey, response not reported	Family Interventions – In-house	- 18% had used family work with three or more families six months to 3 years after training - 4% reported knowledge of the intervention was a problem, however, most of the people did not display minimum recall of taught material
10	Milne, D <i>et al</i>	2001	299	52% (155/299)	Generic PSI – In-service	- Trainees transferred training into their work and were using tools & techniques with service users
95	Teamwork Management Services	2001	80	57.0% (80/140)	Generic PSI – in-house	- most useful aspects of training were assessment skills, express vulnerability model, family intervention and CBT with individuals. - most difficult obstacle leading to interpretation were lack of time, caseload size and availability of supervision

Appendix 5 Design of Uncontrolled Studies

Paper No.	Author(s)	Year of P'cation	Design	Subjects	Attrition	Key Results	Target Group	Course Type
91	Brabban, A.	2003	Before & after	Staff (n=14)	- 2/14 dropped out	- trainees had higher levels of knowledge about CBT - High satisfaction with the training	Mental Health workers in New York USA	In-house - individual intervention (CBT)
51	Brooker, C. & Butterworth, T.	1993	Before & after plus 18mth follow up	- Trainees (n = 10)	- 2 drop outs (8/10)	- All trainees competent in family work post-training - Attitude change in a positive direction - Proportion of working week working with families increased significantly	Community mental health nurses	Undergraduate – family work
92	Brooker, C. <i>et al</i>	1996	Before & after	- Trainees (n = 87)	- 68/87	- Significant increase in knowledge - Team functioning scores improved	Multi-professional mental health workers	In-house – generic
93	Carpenter, J. <i>et al</i>	2003	Before & after plus variable periods of follow-up	- Trainees (number) Varied according to analysis - Service users again varied from 28-72	- Too many analyses to present individually here	- No change in attitudes to community care (high baseline) - Increase in competency in psychosocial interventions but self-rated competence still moderate - Significant increase in use of CBT and family interventions	Multi-professional mental health workers	Postgraduate - generic
29	Farhall, J. & Cotton, S.	2002	Before & after	- Trainees (n = 11) - Service users (n = 33)	- 17/33 service users completed intervention - 22/24 trainees participated	- Significant reduction in symptom frequency - Implementation on following drawings problematic	Area psychologists	In-house – individual intervention (CBT)
74	Lancashire, S. <i>et al</i>	1997	Before & after	- Trainees (n = 51) - Service users (n = 120)	- 51/64 trainees - 120/256 service users	- Significant improvement in symptoms and in social functioning	Community mental health workers	Undergraduate – generic
24	Lancashire, S. <i>et al</i>	2004	Before & after	- Service users (n = 27) - Trainees (n = 12)	- Not reported	- Significant reduction in symptoms - Significant increase in social functioning	Mental health nurses	Undergraduate – generic
11	Laube, R.E. & Higson, F.	2000	Before & after	- Staff (n = 8) - Service users and families (n = 37)	- Not reported	- staff increased knowledge - carer burden reduced - No change for service users	Community Mental Health Centre Staff	In-house – family work
31	Leff, J. & Gamble, C.	1995	Before & after	- Trainees (n= 43, four chairs)	- Not reported	- Variable changes in attitudes and assumptions about schizophrenia - significant either post training or at follow-up	Community mental health nurses	Undergraduate – family work
26	Milne, D. <i>et al</i>	2000	Before & after. Limited follow-up	- Trainees (n = 48)	- 45/48 achieved	- Significant increase in PSI methods and principles - Significant increase in use of structured assessment tools	Multi-professional mental health workers	In-house – generic
85	Milne, D. <i>et al</i>	2002	Before & after	- 2 cohorts of trainees (n = 16, n = 18) and service users (n = 23)	- Simple size of trainees varies e.g. 11/18 for Implementation Scale - Service Users (23/54)	- Wide range of mostly positive outcomes reported	Multi-professional mental health workers	Postgraduate – generic
17	Willets, L.E. & Leff, J.	1997	Before & after	- Staff (n = 10)	- 6/10 staff completed EE interviews	- Trainees found programme helpful but no significant change in EE was found in interviews with Service Users. - Trainees used more strategies to effect change and involving use of resources post training.	Community mental Health workers	In-house – generic

Appendix 6 Design of Controlled Follow-Up Studies

Paper No	Author	Year of Publication	No of Subjects	Length of Follow up	N at Follow up (% attrition)	Power Calculation	Outcomes Assessed	Key Results
27	Brooker, C <i>et al</i>	1992	24 families	6 months	17 (29%)	No	Relatives' knowledge about schizophrenia (KASI)	Improved knowledge about schizophrenia
30	Brooker, C. <i>et al</i>	1994	42 families	12 months	34 (19%)	No	Service User Outcomes: Frequency & severity of symptoms (KGV); Social Functioning (SFS); Days in Hospital. Carers' minor psychiatric morbidity (GHQ) and knowledge of schizophrenia (KASI)	Improvement in positive and negative symptoms & social functioning in service users. Carers showed improvement in minor psychiatric morbidity and knowledge of schizophrenia
36	Brooker, C. <i>et al</i>	1992	47 families	12 months	30 (36%)	No	Service User Outcomes: Frequency & severity of symptoms (KGV); Social Adjustment (SAS); level of medication. Carers' minor psychiatric morbidity (GHQ), Carer's assessment of relative's functioning (PFI) & Satisfaction with service (CPQ)	Improvement in depression, anxiety retardation and social adjustment plus relatives rating of service user's personal functioning. Carers' showed improved psychiatric morbidity & increased satisfaction with aspects of the service
15	Ewers, P. <i>et al</i>	2002	10	End of training (6 months)	10 (0%)	No	Knowledge, attitudes and burnout	Improved knowledge & attitudes & reduction in burnout rates
84	Gray, R. <i>et al</i>	2003	52	Post training	42/52	N/A	Cognitive Therapy Skills (CTS), Knowledge about medication management (KAMMQ)	Improvement in Cognitive Therapy Skills and knowledge about medication management
94	Gray, R. <i>et al</i>	2003	72 service users in both groups	26 weeks	53 [29 in experimental group]	Yes	Psychopathology (PANSS), attitudes to treatment (DAI-30) and compliance	Improvement in psychopathology, attitudes to antipsychotic meds and compliance
68	Haddock, G. <i>et al</i>	1999	21 trainees	3 months post training	14 (33%)	No	Skills in CBT	Modest improvement in clinical CBT skills
81	Kapur	2000	11 trainees 14 service users	12 months post training	5 trainees (55%) 6 service users (57%)	No	Use of psychosocial interventions. Functioning of service users	None
79	Lancashire, S	2003	32 trainees	6 months	19 (40%)	No	Knowledge of family interventions for schizophrenia, attitudes to family interventions, transfer of skills into practice	Trainees showed significant improvements in knowledge and attitudes and were applying what they had learnt and were implementing family interventions
40	Leff, J. <i>et al</i>	2001	16 service users	12 months	12 (25%)	No	Relatives' level of Expressed Emotion (CFI), Knowledge and burden, plus service user's social functioning (SFS) and clinical course	Relatives reduced critical comments and increase in warmth (components of Expressed Emotion) but no reduction in relapse rates of service user
4	Miklowitz, D.J. <i>et al</i>	2000	31 service users	12 months	28 (10%)	No	Relapse status, symptom severity & medication compliance	Fewer relapses, longer delays before relapse & greater improvements in depressive symptoms. Greatest impact with families high in EE
46	Milne, D. <i>et al</i>	2000	10 trainees	6 months post training	10 (0%)	No	Use of standardised assessment tools	Increase in routine use of assessment tools
69	Thomas, C.W. <i>et al</i>	1999	35 trainees	10 weeks post training	20 (43%)	No	Attitude to family interventions, knowledge & practitioner pattern of contact	Improvement in some attitudes and knowledge of families' needs and family interventions. Some changes in practice amongst trainees but no increase in contact with families
12	Turkington, D. <i>et al</i>	2002	257 service users	End of therapy	225 (12%)	Yes	Symptomatology, insight, depression	Improvements in overall symptoms, insight & depression

Appendix 7 Full List of all Included Studies

Paper No	Year of Publication	Author(s)	Reference	Title
88	2000	Baguley, I., Butterworth, A., Fahy, K., Haddock, G., Lancashire, S., Tarrier, N.	Psychosis, psychological approaches and their effectiveness 96-119 (Chapter 5) eds. Martindale, B., Bateman, A., Crowe, M and Margison, F. Gaskell Publications	Bringing into clinical practice skills shown to be effective in research settings: a follow-up of 'Thorn Training' in psychosocial family interventions for psychosis
96	2003	Bailey, C.	Unpublished, Sheffield Centre for Health and Related Research, University of Sheffield.	An evaluation of the in-house psychosocial intervention course provided by Tameside & Glossop Psychosis Service
33	2003	Bailey, R., Burbach, F R., Lea, S J.	Journal of Mental Health, 2003, 12, 2, 131 - 141	The ability of staff trained in family interventions to implement the approach in routine clinical practice.
91	2003	Brabban, A	Unpublished, The University of Newcastle Upon Tyne	Evaluation of brief CBT of psychosis training
92	1996	Brooker, C., Todd, C., Repper, J.	Unpublished, Sheffield Centre for Health and Related Research, University of Sheffield.	Evaluation of Psychosocial Intervention Training in the North West Region
51	1993	Brooker, C., Butterworth, T.	Journal of Advanced Nursing, 1993, 18, 583-590	Training in psychosocial intervention: the impact on the role of the CPNs
30	1994	Brooker, C., Falloon, I., Butterworth, A., Goldberg, D., Graham-Hole, V., Hillier, V.	British Journal of Psychiatry, 1994, 165, 222-230	The Outcome of Training Community Psychiatric Nurses to deliver Psychosocial Intervention
25	2003	Brooker, C., Saul, C., Robinson, J., King, J., Dudley, M.	International Journal of Nursing Studies	Is training in Psychosocial Interventions Worthwhile? Report of a psychosocial intervention trainee follow-up study
27	1992	Brooker, C., Barrowclough, C., Tarrier, N.,	Journal of Clinical Nursing, 1992, 1: 19-25	Evaluating the impact of training community psychiatric nurses to educate relatives about schizophrenia
36	1992	Brooker, C., Tarrier, N., Barrowclough, C., Butterworth, A. Goldberg, D.	British Journal of Psychiatry, 1992, 160, 836-844	Training Community Psychiatric Nurses for Psychosocial Intervention: Report of a Pilot Study
83	1999	Campbell, A.	Partnerships for Developing Quality (NHS West Midlands) December 1999	Behavioural Family Therapy Training: A Regional Evaluation
93	2003	Carpenter, J., Barnes, D., Dickinson, C.	Unpublished, University of Durham Centre for Applied Research	Making a modern mental health careforce: evaluation of the Birmingham University Interprofessional Training programme in Community Mental Health
15	2002	Ewers, P, Bradshaw, T., McGovern, J., Ewers, B.	Journal of Advanced Nursing, 2002, 37, 470-6	Does training in psychosocial interventions reduce burnout rates in forensic nurses?

Paper No	Year of Publication	Author(s)	Reference	Title
6	1997	Fadden, G.	Journal of Mental Health 1997, 6, 599-612	Implementation of Family Interventions in Routine Clinical Practice Following Staff Training Programmes: A Major Cause for Concern
29	2002	Farhall, J., Cotton, S.	Journal of Mental Health, 2002, 11, 5, 511-522	Implementing psychological treatment for symptoms of psychosis in an area mental health service: The response of patients, therapists and managers
84	2003	Gray, R., Wykes, T., Gournay, K.	International Journal of Nursing Studies, 2003, 40, 163-169	The effect of medication management training on community mental health nurses clinical skills
94	2003	Gray, R., Wykes, T., Gournay, K.	For submission in the International Journal of Nursing Studies, 40,2,169-177	Medication management training for community mental health nurses: durability of clinical outcomes in patients with schizophrenia
41	2001	Gray, R., Wykes, T., Parr A. M., Hals, E., Gournay, K.	Journal of Psychiatric and Mental Health Nursing, 2001, 8, 191-196	The use of outcome measures to evaluate the efficacy and tolerability of antipsychotic medication: a comparison of Thorn graduate and CPN practice
68	1999	Haddock, G., Devane, S., Bradshaw, T., McGovern, J., Tarrier, N., Kinderman, P., Baguley, I., Lancashire, S., Harris, N.,	University of Manchester, 1999	The acquisition of cognitive-behavioural therapy skills by mental health professionals working with patients with severe mental health problems
81	2002	Kapur	Alternative Futures Report	Impact of Staff training in Psychosocial Interventions on outcomes for mental health service users in residential settings: a matched control study.
55	1993	Kavanagh, D J., Clark, D., Manicavasagar, V., Piatkowska, O., O'Halloran, P., Rosen, A.	Australian Psychologist, Vol 28, No 23, 1993 pp 181-188	Application of Cognitive-Behavioural Family Intervention for Schizophrenia in Multi-disciplinary Teams: What can the matter be?
79	2003	Lancashire, S.	Department of Health Services Research, Institute of Psychiatry	Disseminating Family Intervention for Schizophrenia into Routine Clinical Practice: Report on the implementation of a family intervention service for people with schizophrenia and their carers in the London Borough of Greenwich
24	2004	Lancashire, S., Craig, T., Gamble, C., Baguley, I., Gournay, K., Butterworth, A C., Leff, J., Tarrier, N., Marks, I., O'Driscoll, D	for submission to: Psychological Medicine	Training community psychiatric nurses in psychosocial interventions for psychotic disorders: Clinical and Social outcomes for patients

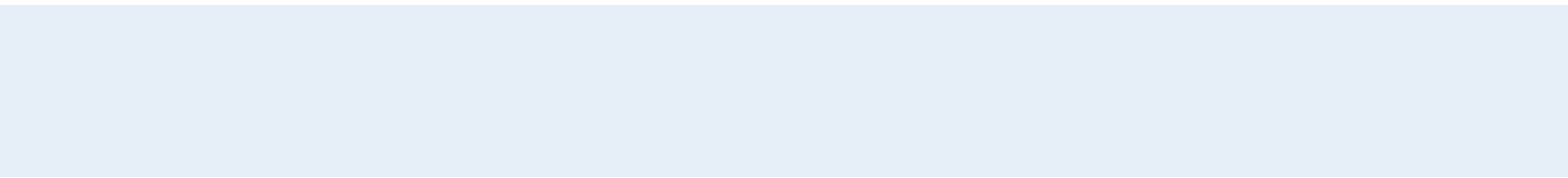
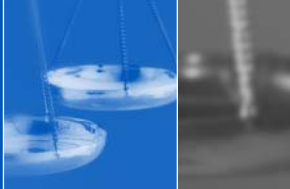
Paper No	Year of Publication	Author(s)	Reference	Title
74	1997	Lancashire, S., Haddock, J., Tarrier, N., Baguley, I, Butterworth, C., Brooker, C.	Psychiatric Services, 48, 1,39-41	Effects of training in psychosocial interventions for community nurses in England
11	2000	Laube, R E., Higson, F.	Community Mental Health Journal 2000, 36, 477-90	Staff training in cognitive-behavioural family intervention in mental illness using the multiple-family group approach: A pilot study
40	2001	Leff, J., Sharpley, M., Chisholm, D., Bell, R., Gamble, C.	Journal of Mental Health 2001 10, 2 189-197	Training community psychiatric nurses in schizophrenia family work: A study of clinical and economic outcomes for patients and relatives
31	1995	Leff, J., Gamble, C.	International Journal of Mental Health, 1995, 24, 76-88	Training of Community Psychiatric Nurses in Family work for Schizophrenia
4	2000	Miklowitz, D J., Simoneau, T L., George, E L., Richards, J A., Kalbag, A., Sachs-Ericsson, N., Suddath, .	Biological Psychiatry 2000, 48, 582-92	Family-focused treatment of bipolar disorder: 1-year effects of a psycho-educational programme in conjunction with pharmacotherapy
26	2000	Milne, D., Keegan, D., Westerman, C and Dudley, M.	Journal of Behaviour Therapy and Experimental Psychiatry, 31, 2000, 87-101	Systematic process and outcome evaluation of brief staff training in psychosocial interventions for severe mental illness
10	2001	Milne, D., Dudley, M., Repper, D., Milne, J.	Psychiatric Rehabilitation Skills 2001, 5 (3), 387-402	Managers' perceived contribution to the transfer of psychosocial interventions training
85	2003	Milne, D., Carpenter, J., Lombardo, C., Dickinson, C.	Final Report 2003, Centre for Applied Psychology, University of Newcastle and Centre for Applied Social Studies, University of Durham	Training for evidence-based practice in mental health: External evaluation of the Sunderland University Programme in Psychosocial Interventions
46	2000	Milne, D., Gorenski, O., Westerman, C., Leck, C., Keegan, D.	Psychiatric Rehabilitation Skills, 2000, 4 2 259-281	What does it take to transfer training?
87	2000	Repper, J	PhD Thesis: awarded by the University of Manchester 2000	Translating Policy into Practice. An evaluation of a multidisciplinary training in psychosocial interventions for working with people who have serious mental health problems
95	2001	Teamwork Management Services	Greater Manchester Workforce Development Confederation	Service Evaluation of the COPE initiative
69	1999	Thomas, C W., Guy, S M., Ogilvie, L P	Psychiatric Rehabilitation Journal, 1999, 23, 1	An evaluation of a practitioner training programme designed to assist families of people with severe psychiatric disorders
12	2002	Turkington, D., Kingdon, D., Turner, T.	British Journal of Psychiatry, 2002, 180 523-7	Effectiveness of a brief cognitive-behavioural therapy intervention in the treatment of schizophrenia
17	1997	Willets, L E., Leff, J.	Journal of Advanced Nursing, 1997, 26, 1125-33	Expressed emotion and schizophrenia: the efficacy of a staff training programme

Appendix 8 Full list of Excluded Studies

Paper No	Author(s) and Year of Publication	Description	Reason for Exclusion
1.	Walburn <i>et al</i> (2001)	Systematic review of patient and nurse attitudes to depot antipsychotic medication	Systematic review no training intervention
2.	Corrigan <i>et al</i> (1997)	Collegial support and barriers to behavioural programmes for severe mental illness	No training intervention
3.	Leff <i>et al</i> (2000)	Family work for schizophrenia: practical application	A review paper
5.	Reeves, S. (2001)	A systematic review of the effects of inter-professional education on staff involved in the care of adults with mental health problems	Reviews the effect of inter-professional education
7.	Freihet <i>et al</i> (1997)	Training issues in CBT	Assesses orientation towards CBT in general
8.	Jones and Scannell (2002)	Research and organisational issues for the implementation of family work in community psychiatric services	Discussion paper
9.	Huibers <i>et al</i> (2003)	The effectiveness of psychosocial interventions delivered by general practitioners	Broad systematic review mostly focussed on depression
13.	Carpenter <i>et al</i>	Evaluation of Birmingham Community Mental Health programme	Early version of Paper No: 93
14.	Corrigan <i>et al</i> (2001)	Strategies for disseminating evidence-based practices to staff who treat people with SMI	Review paper
16.	Dixon <i>et al</i> (2001)	Evidence-based practices for services to families of people with psychiatric disabilities	Review paper
18.	Torrey <i>et al</i> (2001)	Implementing evidence-based practices for persons with SMI	Review paper
19.	Dixon <i>et al</i> (2001)	Pilot study of the effectiveness of family-to-family education programme	Intervention study by trained personnel
20.	Devane <i>et al</i> (1998)	Use of CTS and Schizophrenia Family Work Scale	All measures taken pre-Thorn training
21.	Carpenter <i>et al</i> (1999)	Emergent findings from the external evaluation team	Early version of Paper No: 93
22.	Carpenter <i>et al</i> (2003)	Inter-professional education for community mental health	web-site version of Paper No: 93
23.	Carpenter <i>et al</i>	Background to West Midlands Programme Evaluation	Early web-site report of Paper No: 93
28.	Menditto A.A. (1989)	Evaluation of in-patient psychosocial intervention	Pre- 1990 – no training aspect
32.	Fadden (undated)	Implementation of family intervention for schizophrenia and other psychoses – a West Midlands perspective	Description of regional initiative
34.	Baker (2000)	Developing psychosocial care: the development and evaluation of a short course which aims to introduce PSI to inpatient staff	Basic evaluation of teaching a new short course and quantitative measures
35.	Corrigan, P. and McCracken, S. (1995)	Focusing the training of psychiatric rehabilitation staff	Not PSI-focused
37.	Willettts, L.E. & Leff, J. (1997)	Training hostel workers in PSI	Duplicate of paper 17
38.	Elesha-Adams (86)	The implementation of a mental health nursing clinical course in a rehabilitation setting	Evaluates 'rehabilitation' through routine programme audit and after 1990
39.	Burbach and Stanbridge (1998)	A family intervention in psychosis service integrating the systemic and family management approaches	Describes a specific therapeutic approach
42.	Jennings <i>et al</i> (2002)	The effect of a psycho-educational programme on service users with schizophrenia in Ashworth Hospital	Evaluation of an intervention with no training aspect

Paper No	Author(s) and Year of Publication	Description	Reason for Exclusion
43.	Minkoff, K. & Stern, R. (1985)	Discuss issues of using a psychosocial approach	Discussion Paper – Published Pre 1990
44.	Liebermann and Eckman (1989)	Dissemination of skills training modules to psychiatric facilities: overcoming obstacles to the utilisation of a rehabilitation innovation	Published before 1990
45.	Pulleybank, E.	Evaluation of family therapy trainees: acquisition of cognitive and therapeutic skills	Abstract of excluded Paper No: 70
47.	Melick <i>et al</i> (1983)	Review of Mental Health Training programmes	Published pre 1990
48.	Milne (2002)	Development of new measure to evaluate training process	Development of PETS measure
49.	Milne <i>et al</i> (2003)	An illustration of delivering evidence-based practice through staff training: multi-dimensional process, outcome and organisational evaluation	Not PSI-focused
50.	Midence <i>et al</i> (1995)	CPNs: their role as trainers in schizophrenia family work	Longer series of these data reported
52.	Uys (1994)	An evaluation of the implementation and the effectiveness of two treatment and organisational strategies in the rehabilitation of long-term psychiatric outpatients	No training element
53.	Lam <i>et al</i> (1993)	Evaluation of Family Intervention Training	Results reported in Leff & Gamble paper (31)
54.	Nose <i>et al</i> (2003)	Clinical intervention for treatment non adherence in psychosis: meta-analysis	Systematic review
56.	Pelton (2001)	Insight into schizophrenia: planning mental health service provision for schizophrenia using a brief psychological intervention	Description of Insight Study (Paper No: 12)
57.	Accordino (1990)	Implications of disability for the family: implementing BFT in rehabilitation education	Describes relationship enhancement
58.	Jenner <i>et al</i> (2001)	How effective is CBT and coping training on the burden of persistent auditory hallucinations and other psychopathology research in patients with schizophrenia	Conference abstract description incomplete
59.	McFarlane, W. <i>et al</i> (1993)	From research to clinical practice: dissemination of New York state's family psychoeducation project	Intervention study
60.	Gamble <i>et al</i> (1994)	Evaluation of Family Intervention Training	Results reported in Leff & Gamble paper (31)
61.	Jenner <i>et al</i> (1998)	Effectiveness of cognitive therapy with coping training for persistent auditory hallucinations: a retrospective study of attendees of a psychiatric out-patient clinic	Intervention study – no training element
62.	Valinejad (2001)	A model for in-house psychological training	No quantitative outcomes assessed
63.	Repper (1998)	Using single case experimental design to evaluate the clinical effect of a multidisciplinary training in psychosocial intervention for people with serious mental health problems	Describes the rationale for a methodological approach
64.	Milne (2002)	Report of organisational development consultancy to facilitate implementation of PSI	No training aspect
65.	Stanbridge <i>et al</i> (2003)	A study of families' satisfaction with a family interventions in psychosis service in Somerset	No quantitative outcomes reported

Paper No	Author(s) and Year of Publication	Description	Reason for Exclusion
66.	Walsh (1992)	Methods of psycho-educational programme evaluation in mental health settings	Describes a method for evaluating a psycho-educational programme
67	Weisman <i>et al</i>	Assessment of fidelity or behavioural family therapy for bi-polar disorders	No training aspect
70.	Pulleybank and Shapiro (1986)	Evaluation of family therapy trainees: acquisition of cognitive and therapeutic behaviour skills	Concerned with structure family therapy – client group not specified and before 1990
71.	Khan (1993)	Evaluation of a psychiatric training scheme	Evaluates Birmingham psychiatric registrar training
72.	Ewers (1999)	An examination of a training programme in PSI on the burnout rate, knowledge and attitudes of forensic mental health nurses	Most of the material covered in Paper No: 15
73.	Courtney <i>et al</i> (2001)	Devising an implementation strategy	Educational package for implementation of generic programme
75.	Mizes and Crawford (1986)	Normative values on the Marks and Mathews Fear Questionnaire	Target group not people with a psychosis and before 1990
76	Effective Health Care Bulletin (2000)	Summary of evidence base for psychosocial interventions	No focus on training
77.	Dunne and Melinn (1981)	Impact of training course in behavioural therapy on psychiatric nurses	Insufficient information about training programme and before 1990
78.	Milne and Beck (1998)	Draft internal report: PSI training for mental health staff: a comprehensive needs assessment	Assessment of need for PSI training
80.	Carpenter <i>et al</i> (1999)	Emergent findings	Same as paper No 21
82.	Masters <i>et al</i> (2001)	An education initiative in PSI for nurses caring for individuals with severe and/or enduring mental health problems	Qualitative research not measurable outcomes reported
86.	Repper and Brooker (2002)	Avoiding the washout	Does not describe training
89.	Williams <i>et al</i> (2002)	SPIRIT – Structured PSI in teams training: evaluation summary	Not targeted at service users with a psychosis
90.	Zheng and Arthur. (2003)	A controlled trial of family education for people with schizophrenia	Only psychoeducation
94.	Richards <i>et al</i> (2001)	Factors influencing implementation of PSI	Presentation: no paper published
97.	Tucker, S. (1981)	Evaluation of family therapy training	Pre 1990
98	Campbell, A.S.	Families' experiences of receiving behavioural family therapy	No Quantitative Results



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