AN INVESTIGATION INTO FAMILY INTERVENTION
WITHIN FORENSIC SERVICES

A thesis submitted to the University of Manchester for the degree of Doctor of Philosophy
(Clinical Psychology) in the Faculty of Medical and Human Sciences

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School of Psychological Sciences
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ABSTRACT

A thesis submitted to the University of Manchester for the degree of Doctor of Philosophy (Clinical Psychology)

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Schizophrenia is a severe and chronic disorder in many cases. The illness can impact on the whole family. Family interventions are a psychosocial treatment for schizophrenia. A robust evidence base has developed supporting the use of family interventions, as reduced relapse and other clinical benefits can be produced. The majority of service users in forensic services suffer from schizophrenia. Yet little is known about the need, acceptability or feasibility of family intervention in forensic services.

The over-arching goal of this programme of research was to review the literature for family intervention and conduct a comprehensive needs assessment, with a final aim to resolve the barriers of implementation of family intervention within forensic services.

Meta-analysis indicated that the efficacy of family interventions resulted in positive outcomes in reduced relapse and psychotic symptoms, and improved knowledge and relationships. Family interventions were found to be applicable to the psychological needs of forensic service users. Problems were identified with staff training and supervision on forensic wards, with few wards providing family intervention as part of treatment for schizophrenia. Relatives of forensic service users expressed a need for family intervention. Staff highlighted that the barriers to family intervention were associated with insufficient time, poor support, lack of training, deficient information sharing, and geographic limitations between family homes and the forensic units. Staff offered solutions to implementing family intervention that related to revised policy and improved supervision. Relatives and staff held positive attitudes toward family intervention with open-minded attitudes towards the use of a web camera to facilitate family intervention in forensic services (e-FFI). The fourteen week web based family intervention (e-FFI) feasibility study generated reduced levels of stress, stigma and expressed emotion with improvements in the family’s knowledge of schizophrenia, personal health and an acceptance of forensic services. E-FFI was administered with ease achieving positive feedback from the family and the forensic service.
THESIS CERTIFICATION

I, Victoria Absalom-Hornby declare that this thesis, submitted in fulfilment of the requirements for the award of Doctor of Philosophy (Clinical Psychology) in the School of Psychological Sciences, University of Manchester, is wholly my own work unless otherwise referenced or acknowledged. The document has not been submitted for qualifications at any other academic institution.

Victoria Absalom-Hornby
12\textsuperscript{th} April 2012
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DEDICATION

To my family and friends
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This is my opportunity to acknowledge key people who have been a wealth of support through this programme of research.

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ABBREVIATIONS

APA = American Psychological Association

CBT = Cognitive Behavioural Therapy

CPS = Crown Prosecution Service

DOH = Department of Health

DSM-IV = Diagnostic and Statistical Manual of Mental Disorders Version IV

EE = expressed emotion

E-FFI = forensic web camera facilitated family intervention

E-FI = non-forensic web camera facilitated family intervention

FI = family intervention

FQ = Family Questionnaire

MRC = Medical Research Council

NHS = National Health Service

NICE = National Institute of Clinical Excellence

NREC = National Research Ethics Committee

PORT = Patient Outcomes Research Team

RCT = Randomised Control Trial

RCNS = Relative’s Cardinal Needs Schedule

RCoP = Royal College of Psychiatrists
Chapter One

1. INTRODUCTION

1.1 Mental Illness and Schizophrenia

Mental illness is a common problem in the United Kingdom, with one in four people experiencing a mental health problem within a year (The Office for National Statistics Psychiatric Morbidity, 2001). Schizophrenia, a diagnosis that encompasses variants of mental illness, is described as a disintegration of the process of thinking and of emotional responsiveness (Diagnostic and Statistical Manual of Mental Disorders; DSM-IV, 2004). It is one of the more severe and long term mental illnesses that can be associated with a poor prognosis (National Institute of Mental Health, 2009). Typical characteristics of schizophrenia comprise both positive and negative symptoms: hallucinations such as hearing voices, and delusions where an individual has false beliefs, usually of grandeur or deception are examples of positive symptoms. Negative symptoms include depression, loss of insight and poor concentration (DSM-IV, 2004). In addition to the general diagnosis of schizophrenia further sub-types such as schizoaffective, paranoid schizophrenia and psychosis are part of the schizophrenia spectrum of illness (DSM-IV, 2010). These sub-types of schizophrenia can include similar symptoms but have specific qualities, such as a person having a paranoid trait and feeling that others are conspiring against them when suffering from paranoid schizophrenia, for example.

1.11 Prevalence of Schizophrenia

Researchers have reached different conclusions as to the prevalence of schizophrenia across the world. For example the DSM-IV (2004) reports prevalence rates for schizophrenia of 0.5% to 1% of the world population (Lieberman et al., 2006). However, Saha and colleagues, who estimate prevalence rates of four per 1000 people across the world (2005), describe the DSM-IV prevalence rates as over-emphasised, having
conducted a systematic review into the prevalence of schizophrenia across cultures. The aim of the review was to collate results from studies on the prevalence of schizophrenia and explore factors that may influence prevalence estimates. They included variables that contribute to prevalence such as rural versus urban living, recovery, mortality, suicide and gender.

Previously, studies into the prevalence of schizophrenia reported a higher occurrence of the illness in men (Garety et al., 2008; Leung & Chue, 2000; Tarrier et al., 1988), whereas a study in China reported the opposite, with women holding higher prevalence rates (Phillips et al., 2004). Phillips and colleagues (2004) argued that the high rate of schizophrenia in females could be due to higher suicide rates in men. Further, Saha and colleagues (2005) found no difference in prevalence estimates between males and females in developing schizophrenia. This is now reflected in the general literature illustrated by the National Institute of Clinical Excellence and the Royal College of Psychiatrists (NICE, 2009; RCoP, 2010). A further variable that affects the prevalence of schizophrenia is age. Schizophrenia most often develops between the ages of 16 to 30 years old, with men developing the illness at a younger age than women (Lieberman et al., 2006; NICE, 2009).

1.12 Co-morbidity of Schizophrenia

The co-morbidity of schizophrenia with other conditions is common. Research has found that people who suffer with schizophrenia may also experience symptoms of mood disorders such as bipolar disorder (McDonald et al., 2004), anxiety problems such as obsessive compulsive disorder (Bottas, 2009), social anxiety (Pallanti et al., 2004) and substance misuse (Weaver et al., 2003). In light of the symptoms associated with schizophrenia and schizophrenia spectrum disorders, along with the possibility of co-morbidity with other mental health problems, schizophrenia poses a challenge to mental health services.
1.13 Cost of Schizophrenia

Not only can schizophrenia be challenging in terms of diagnosis, due to its symptom related complexities, it is costly to mental health services due to the expense of medication, staffing, state benefits, housing and rehabilitation (Davies et al., 2007; Patel et al., 2006). Schizophrenia is estimated to cost over 6.5 billion dollars a year in the United States of America (McEvoy, 2007) and 6.5 billion pounds in the United Kingdom (Magalore et al., 2007). There is a high probability of relapse amongst schizophrenia sufferers and thus, the financial burden of this on mental health services is substantial (DSM-IV, 2004; Almond et al., 2004).

This presents a need for a specific intervention to address relapsing symptoms. One of the main treatment options for schizophrenia is antipsychotic, atypical medication (Lieberman et al., 2006). Such medications work to alter the balance of brain chemicals in order to reduce the symptoms that the person experiences (RCoP, 2010). However these medications can produce common side effects such as weight gain (Lieberman et al., 2005). Ideally, the best prognosis for people with schizophrenia is for the illness to be diagnosed early into the onset and for the individual to receive a combination of pharmacological and psychological treatments. It should be emphasised that schizophrenia can still produce episodes of relapse despite such antipsychotic treatments (American Psychiatric Association, 2006; Dixon et al., 2010; Lieberman et al, 2006; Moller, 2010).

1.14 Crime link to Schizophrenia

In addition to the challenges discussed, schizophrenia may be linked to crime (Fazel et al., 2009). Studies have shown that people with a diagnosis of schizophrenia are more likely to commit a criminal offence as they are vulnerable to the influences of crime. Such vulnerabilities include disturbed backgrounds, poor social conditions, substance misuse and unemployment (Mullen et al., 2000; Wallace et al., 2004).
1.15 Family Impact of Schizophrenia

Schizophrenia can have many adverse effects on the person diagnosed and those close to them (Ferriter & Huband, 2003; Tennakoon et al., 2000). Social relationships can be difficult, as schizophrenia can impair the ability to converse and socialise easily (DSM-IV, 2010). Further, the illness often causes feelings of burden, stigma and guilt (Barrowclough et al., 1996; Brady, 2005; Brohan et al., 2010; Byrne, 2000; Papastavrou et al., 2010; Rose, 2007).

1.16 Psychological theory behind schizophrenia and family communication

Schizophrenia can have an impact socially. As the illness is often misunderstood, feelings regarding schizophrenia can be negative. Feelings or attitudes may also be described as attributions and how people can make sense of symptoms and behaviour associated with schizophrenia. Attribution theory (Heider, 1958) originates from social psychology and describes the variation in how people understand and respond to topics such as mental illness and specific to this programme of research: schizophrenia. Social psychologist Bernard Weiner (1985) described attitudes, emotion and behaviour as a ‘cause and effect’ process, as emotion may be generated from people’s meaning of the illness; usually negative attribution and emotion regarding the symptoms of schizophrenia. Weiner (1985) discussed how people explain causes of behaviour and events by either internalising or externalising the cause, whilst evaluating if the situation is stable or unstable, and concluding if actions are in or out of the person’s control. Attribution theory may be applied to family communication, as the way in which families express emotion may be explained by the ‘cause and effect’ process (Weiner, 1985).

Despite the relevance of attribution theory to this programme of research, there are some criticisms to note. It may be criticised for being vague in its definition as attribution can describe a person’s explanation of behaviour, or alternatively attribution may describe
making a specific dispositional trait inference from behaviour (Malle, 2003). In addition attribution theory may be too cognitive in explanation leaving little scope for social function. For example a relative may explain a service user’s drug taking behaviour as addictive with no self control. However drug taking may be largely explained by social circumstances (Fuller et al., 2003; Levy & Pierce, 1990). Further, this point highlights the use of interventions that increase people’s understanding in an attempt to alter their cognition, attributions or attitudes. For example the use of evidence based cognitive behaviour therapy (Beck, 1960) and family intervention (Barrowclough & Tarrier, 1992) show how knowledge can help change cognition that may explain or maintain some behaviour. With this in mind, attribution theory presents an interesting theoretical underpinning in describing attitudes and relationships about schizophrenia and the treatment of schizophrenia.

1.17 Family Emotion and Schizophrenia

Given the stress associated with a diagnosis of schizophrenia, families can respond in different ways. The expression of emotion between family members within family dynamics has developed into a concept called ‘Expressed Emotion’ related to the treatment of schizophrenia. The term expressed emotion (EE) was generated by Brown and colleagues (1962) to understand how a family’s emotions are important in the treatment of schizophrenia. Evidence regarding EE has proven it a valid and reliable concept in the treatment of schizophrenia (Hooley, 1985). Relatives presenting low expressed emotion are more likely to attribute the behaviour of the service user to the mental illness (Vaughan & Leff, 1976b), referring to Weiner’s (1985) explanation of external causation which is out of the service user’s control. Some relatives can display high expressed emotion toward the service user (Hooley, 2007). High expressed emotion may be described as being over involved with the service user, with possible expressions of hostility illustrated by critical
comments, for example (Hooley, 1985; Vaughan & Leff, 1976b). This refers to Weiner’s (1985) description of attributions that are internalised and controlled. When relatives attribute the symptoms of schizophrenia as internal and controlled by the service user, this can lead to blame. The service user can then feel stressed or experience reduced self esteem, which may result in relapse (Barrowclough & Tarrier, 1992). Such stress – vulnerability explanations draw on Zubin and Spring’s (1977) simplistic model showing that when individuals are stressed biological, psychological and social elements become vulnerable to illness.

Similar to Weiner’s (1985) model, Hooley (1987) also developed an attribution model of expressed emotion that describes relatives beliefs of schizophrenia, with a focus on volition and control that service users have over their behaviour (i.e. symptoms of schizophrenia). Hooley (1987) suggests that often relatives demonstrating high expressed emotion view negative symptoms of schizophrenia as highly problematic and therefore attribute the control of such behaviours negatively, indicating that the service user chooses to behave in a negative way.

EE can be measured using the conventional method of the Camberwell Family Interview (CFI: Vaughan & Leff, 1976a), which assesses responses from family members of the service user with schizophrenia. Alternatively the five minute speech sample may also be used to assess EE, where the family member is asked to talk about the service user for five minutes. Speech is recorded and analysed for low and high EE comments (Magana et al., 1986). The speech sample is less robust than the CFI, but offers a shorter and quicker method of assessing EE. The aim of interventions designed to assess EE are to reduce the emotion expressed by family members; this in turn can produce social benefits for the family and service user (Sellwood et al., 2001), such as improved relationships (Leff et al.,
1989), reduced relapse rates in psychotic symptoms (Barrowclough et al, 1999) and an increased understanding and knowledge of schizophrenia (Picknett-Schenk et al., 2008).

1.18 Staff Emotion and Schizophrenia

Expressed emotion (EE) is also a factor in the staff – service user relationship. Tatton and Tarrier (2000) used the five minute speech sample (Magana et al., 1986) to assess EE in case managers of service users with schizophrenia. The findings presented clinical implications, as high EE ratings amongst staff negatively impacted on the outcomes of service users. The findings were supported by a Belgian study where staff showed over-involved relationships toward service users with frequent use of hostile and critical comments (Van Humbeeck et al., 2001). High EE displayed from staff toward forensic service users (Moore et al., 2002) may have a negative impact on the successful delivery of family interventions, as staff may present over-involved emotions towards service users, which according to the EE literature would be a risk to heighten relapse of schizophrenia (Vaughan & Leff, 1976b).

1.2 Psychological Treatments for Schizophrenia

Psychological treatment options have been developed for schizophrenia with respect to reducing EE. Under best practice guidelines for schizophrenia, psychological treatments such as cognitive behaviour therapy (Rathod et al., 2010) and family intervention (Department of Health, 2002; Dixon, 2009; National Institute of Clinical Excellence, 2009; Pilling et al., 2002) have been suggested. Such treatments focus on psychological problems related to the illness. Family intervention, for example, encourages the service user and their family to understand, recognise, cope with, and manage symptoms and behaviour for the future. Attribution theory (Weiner, 1985) is important to the work of schizophrenia and family intervention as the theory may explain how high expressed emotion is generated.
Expressed emotion (EE) is a key component in the schizophrenia literature and family interventions aim to reduce EE by altering negative attributions regarding the symptoms of schizophrenia (e.g., symptoms viewed as controlled or internalised).

1.21 Family Intervention for Schizophrenia

Under the umbrella of family intervention there are numerous variants to the approach. These are based on different theoretical models of family intervention. For example a popular method is cognitive behaviour therapy (CBT) focused family interventions which use Beck’s 1967 model of CBT. CBT is used to inform the structure of family intervention and therefore have a focus on cognitions and behavioural responses (e.g., Barrowclough & Tarrier, 1992). Cognitions and behaviours are discussed in session with relatives to help them better understand and cope with schizophrenia. Problem solving can help gain a sense of coping with the mental illness (Barrowclough & Tarrier, 1992; Kuipers et al., 2002; Mueser & Gingerich, 1994). Another model of family intervention is behavioural family intervention (e.g., Falloon et al., 2004). This technique focuses on behaviour change using social skills training, communication training, problem solving and/or coping skills in a structured manner. A third approach is a psychoeducational family intervention (e.g., Buchkremer et al., 1995) which educates relatives about schizophrenia, but does not use cognitive or behavioural methods. Finally, the mixed or eclectic approach to family intervention uses a mixture of cognitive and behavioural methods in combination with techniques and methods from other psychotherapeutic schools or orientations (e.g., Leff et al., 1982). Despite the various forms of family intervention, little is known about which approach is best to use in the treatment of schizophrenia.

1.22 Evidence Base for Family Intervention in the Treatment of Schizophrenia

It has been shown that education, skills training, relapse work and support can be successful in treating schizophrenia (Pftammer et al., 2006; Pharaoh et al., 2010; Pilling et
People diagnosed with schizophrenia and their families can experience positive benefits by taking part in psychological interventions, resulting in reduced psychotic symptoms and reduced relapse episodes (Tarrier et al., 1994), improved social functioning (Sellwood et al., 2001) such as improved relationships and communication (Xiong et al., 1994), along with reduced expressed emotion (Leff et al., 1989), reduced stigma (Chow et al., 2010) and a reduced feeling of burden (Giron et al., 2010). In addition families can experience improved knowledge and therefore a developed understanding of the illness (Picknett-Schenk et al., 2008). Family interventions are one of the most successful psychosocial interventions in treating schizophrenia (Patterson & Leeuwenkamp, 2008). Although literature on family intervention is plentiful, many of the outcome measures focus solely on the rate of reduced relapse in psychotic symptoms as a primary outcome measure (e.g., Falloon et al., 1982; Garety et al., 2008; Tarrier et al., 1988). There are many possibilities for positive outcomes in addition to reduced relapse, such as social outcomes, for instance improved relationships. Consequently, further investigation of social outcomes is needed.

1.23 Flexibility of Family Interventions

Family interventions can be applied in different settings to produce positive results for those taking part. Most of the evidence base relating to family interventions is taken from community and general mental health services, as seen in large meta-analyses (e.g., Pftammer et al., 2006; Pharaoh et al., 2010; Pilling et al., 2002). However an area of mental health that is largely neglected is forensic services (Pearson & Tsang, 2004), which provide mental health care for service users who have committed a crime and have a mental illness diagnosis (Rutherford & Duggan, 2007). This may be due to the complexity of cases and related challenges in conducting research within such high-risk environments compared to general mental health services (James, 1996; Nedopil, 2009).
1.3 Forensic Settings and Schizophrenia

A report by Bradley (2009) identified that mental illness remains a problem in prisons and that prisoners are better placed within forensic services (HM Inspectorate of Prisons, 2009) than in mainstream prisons. These service users pose a high risk to themselves and the public (Putkonen & Vollm, 2007) and are therefore detained within low, medium or high security environments. The security placement depends on the service user’s criminal conviction, history and mental illness diagnosis. Such forensic characteristics create challenges for mental health services, as additional security measures must be assessed and managed in addition to treating the mental illness (James, 1996; Nedopil, 2009). Within the forensic services over 70% of service users have a diagnosis of schizophrenia (American Psychiatric Association, 2004; Flyger, 2007; McKeown, 2007; RCoP, 2008). Given that there is a high prevalence rate of schizophrenia within forensic services, and that family intervention is one of the most effective psychological treatment options (Patterson & Leeuwenkamp, 2008), the National Institute of Clinical Excellence guidelines suggest that all families (experiencing schizophrenia) should be offered family intervention (NICE, 2007; 2009). However these guidelines are based on research (e.g. Pharaoh et al., 2006; Pilling et al., 2002) that does not include a forensic sample, therefore the applicability of these guidelines to the forensic population should be questioned, despite forensic services treating a high percentage of service users diagnosed with schizophrenia. Family intervention is thought to be transferrable to forensic settings (Richards et al., 2009), although only two studies have reported successful implementation; one within a child forensic service (e.g., Atchinson et al., 2009), and one within a male, medium secure service (e.g., Peddie, 2009). Unfortunately these two studies were not published in peer reviewed journals.
Table 1.1 provides a comparison between family interventions in general mental health services and those undertaken in forensic services. Here, both social and practical aspects are listed and provide a rationale for family intervention to be used within forensic services. Given the similarities between the two mental health services there is a clear rationale for the use of family intervention within forensic environments based on need, policy, diagnosis and the transferrable potential.

**Table 1.1 - Comparing family intervention between general mental health and forensic services**

<table>
<thead>
<tr>
<th>Similarities</th>
<th>Differences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schizophrenia diagnoses for majority of service users</td>
<td>Higher risk and violence with forensic service users</td>
</tr>
<tr>
<td>Same multidisciplinary team set up and ability to transfer skills (engagement, liaison, psychosocial interventions)</td>
<td>Due to security and potential risk, family intervention may be confined to the secure unit</td>
</tr>
<tr>
<td>Services users have regular contact with family members</td>
<td>Possible heightened family emotions with forensic relatives (guilt, burden, stigma)</td>
</tr>
<tr>
<td>A need for recovery / improvement in service users (integration, communication)</td>
<td>More prominent need for forensic service users to learn relationship skills in recovery due to length of incarceration</td>
</tr>
<tr>
<td>Government policy to involve families in care of service users with schizophrenia</td>
<td>Little research in forensic services</td>
</tr>
<tr>
<td>Clinical importance- social and public priority</td>
<td>Family homes tend to be long distances from the forensic units</td>
</tr>
<tr>
<td>Lack of knowledge of family intervention</td>
<td></td>
</tr>
<tr>
<td>Problems with implementing family intervention</td>
<td></td>
</tr>
</tbody>
</table>
1.31 Problems associated with Implementing Family Intervention for those with Schizophrenia

Although there is a robust evidence base for family intervention (Pftammer et al., 2006; Pharaoh et al., 2010; Pilling et al., 2002), there are key problems in its implementation. The issue of poor implementation has been well documented in the literature. Implementation refers to the ability to successfully integrate and maintain an intervention, in this case into a service, fulfilling educational and service needs (Backer et al., 1986). Brown (2000) highlighted that despite the rich research conducted in the field, family intervention studies have failed to put research into practice. This point is echoed across services caring for people with schizophrenia (Cohen et al., 2010; Faddon, 1997; Michie et al., 2007; Smith & Velleman, 2002) and is summarised in Table 1.2.

1.311 Attitudes of staff and families

Attitudes towards family intervention can influence the therapeutic process (Brooker et al., 2003). Attribution theory (Heider, 1958) may explain how attitudes are generated about schizophrenia, as sometimes relatives do not have the correct information about schizophrenia and can generate negative attributions about the illness. For example relatives may view the service user as in control of their behaviours, associated with schizophrenia, and therefore develop negative attitudes towards the service user. This principle may apply to clinical staff attitudes toward family intervention. Although staff are likely to hold the relevant knowledge about schizophrenia and its symptoms, staff may generate negative attributions about family intervention due to past negative experiences of poor treatment implementation or lack of interest from service users and their families. Managerial staff holding negative attitudes about treatment can impact on training, time, clinical supervision and the use of skills (Baguley et al., 2000). Studies show that this negative outlook can have a ‘knock on effect’ on other staff and consequently effect staff
morale (Brooker et al., 2003; MacInnes, 2000; Michie et al., 2007; Tarrier et al., 1999). As mental health service users generally have little motivation and rely on a lay person’s knowledge of psychological therapies, they may need staff to explain the benefits and processes involved in therapy. If staff do not hold positive attitudes about a therapy they are unlikely to encourage service users to be involved, despite the evidence base and the potential for positive outcomes. In forensic services however, research has found that forensic staff often do project positive attitudes towards service users (Higgins & Ireland, 2009) and psychosocial interventions [including family intervention] (Gudjonsson et al., 2010; Lammie et al., 2010; Redhead et al., 2011).

Similarly, the views and experiences of staff are important to successful implementation of family intervention, as staff are likely to have experienced past strategies and potential issues that have previously hindered implementation. Staff experiences are vital to understand as part of an assessment process and to ensure service development (Beal et al., 2007; Fadden, 1997). Despite this, there have been no recent studies investigating the experiences of staff towards implementing family intervention within forensic services. Geelan and Nickford (1999) investigated the experiences of staff within medium secure forensic services, with regards to the use of family work. Many of the issues raised echo other published results on implementation in general mental health settings such as lack of training, time and poor supervision (see Table 1.2). However as a sole study, an update is much needed into the barriers of forensic family intervention.

Few studies have assessed the attitudes of families towards family intervention (e.g., Buizza et al., 2007; Irani et al., 2004), reporting only that families can hold negative attitudes due to the feelings of stigma and burden associated with schizophrenia. There are no recent examples of assessed family attitudes within forensic services. This represents a clear gap in the literature.
1.312 Participation of service users and families

Many studies have documented the difficulties in involving and motivating individuals to participate in family intervention programmes (e.g., Brennan & Gamble, 1997; Fadden, 2006; Mairs & Bradshaw, 2005; Smith, 1992). Government and mental health bodies often advise on the involvement of families and carers (e.g., DOH, 1999; 2002; The Schizophrenia Patient Outcomes Research Team: PORT, 2009), however family involvement is still a key implementation problem. Support groups set up for carers are poorly attended and are, therefore, seldom maintained (Shihabuddeen & Gopinath, 2005) despite a high number of relatives providing care for service users with schizophrenia (Cohen et al., 2010). Lack of family participation thus presents difficulties in adhering to service guidelines.

Various factors can influence family involvement, for example families can experience high levels of emotion such as guilt and distress when coping with schizophrenia (Brady, 2005; Ferriter & Huband, 2003; Rose, 2007). If the service user becomes violent and aggressive family members are less likely to be motivated to participate, due to the service user’s behaviour (MacInnes, 2000). This may be more prominent within forensic services, given the index offence(s). Relatives can be victims of the service user’s offence (Ferriter & Huband, 2003), and may even blame the service user for their behaviour (Barrowclough et al., 2005). This trauma may impact on a relative’s decision to be actively involved in a family intervention and presents a challenge for forensic staff to encourage participation from families in order to help improve outcomes (Crown Prosecution Service, 2010). As described in the expressed emotion section (see section 1.17), EE can be explained by attribution theory, as negative experiences of schizophrenia and a lack of knowledge about the illness can generate negative attributions about schizophrenia and towards the service user (Chan, 2010). This may reflect as high
expressed emotion, which is thought to be more common in forensic settings due to the more serious nature of the service user’s offence and the complexity of the mental illness (Moore et al., 2002).

Families also experience stigma in having a family member diagnosed with schizophrenia (Buizza et al., 2007) and this seems to be increased within forensic settings (Nordström et al., 2004). Families are unlikely to participate in family work at mental health units if they have experienced stigmatisation.

The challenges associated with encouraging and maintaining a family’s motivation for a family intervention are heightened within a forensic environment (Goldstein, 2007; Ireland & Worthington, 2009). This point relates to the motivational aspect of attribution theory, as a family may not be motivated to take part in a family intervention based on their attitudes and understanding about schizophrenia and the service user. For example if the service user’s choice of behaviour; such as taking drugs is viewed as causal to the onset or maintenance of schizophrenia, then the family may feel disheartened to take part in a family intervention. Also, if a family do not make progress as quickly as they had hoped they may participate less or not at all. There are important variables to consider when suggesting and inviting families to be involved in a family intervention such as risk and vulnerability (Evans, 2000; Nedopli, 2009). Such variables require further investigation for i) family intervention and ii) within forensic services.

1.313 Training

The training of staff in mental health services has been well documented due to the development of psychosocial training courses, such as the Thorn initiative based at the Institute of Psychiatry, London (Gamble, 1995) and the COPE course based at the University of Manchester, UK (Bradshaw et al., 2000). Both courses were developed in light of the growing evidence for psychosocial treatment for psychosis (Brooker 1992; Leff
The aim of the courses was to train mental health practitioners in psychosocial interventions such as family intervention and cognitive behaviour therapy. The courses produced new skills and positive attitude changes in staff who took part in the training and positive outcomes for the service users treated by trained staff (Gamble et al., 1994; Lancashire et al., 1997). Although initially the courses were only specific to community nurses, the format of these courses was successful and the majority of nurses graduated with a new skill set (Bradshaw et al., 2003). However, the courses were criticised when problems developed in implementing these skills (Couldwell & Stickley, 2007; Fadden, 1997; Gamble, 1997; Gourney, 2000; Lancashire et al., 1997; O’Carroll et al., 2004). Kavanagh and colleagues (1993) found that staff had problems applying the skills they had learned in training: lack of managerial support or poor clinical supervision are two problems that can be said to have influenced this (Smith & Velleman, 2002). Nevertheless these courses were a step in the right direction in building a skill set offering psychosocial interventions in the treatment of schizophrenia. Recent studies have shown that training in psychosocial approaches, such as family intervention, have not only improved staff skills but have also had a positive impact on staff regarding attitude, knowledge and stigma (Gudjonsson et al., 2010; Lammie et al., 2010; Redhead, 2011). Such results are encouraging for the future of family intervention within forensic services.

1.314 Support & Supervision

Lack of support and supervision is a clear problem in many settings of mental health. A number of authors have commented on a lack of clinical supervision being delivered across settings (Baguley et al., 2000; Fadden et al., 1997; Smith & Velleman, 2002). Supervision is a valuable and well-promoted technique, highly regarded by professional bodies in mental health, and it is therefore unprofessional that staff working in
potentially high risk environments receive poor or no supervision (Brooker et al., 2003; Hawkins & Shohet, 2000). It has been suggested that each unit have supervision policies and contracts for each staff member to adhere to (DoH, 2002). Pereira and colleagues (2005) along with Geelan and Nickford (1999) found that few units adhered to such supervision guidelines.

1.3.15 Work demands

Staff working with service users, particularly in forensic environments, regularly deal with crisis situations requiring immediate attention (Fisher & Ireland, 2010; Sainsbury Centre for Mental Health, 2008). Such situations impact on time and priority of ward activity by producing an increased workload (Michie et al., 2007). Busy workloads can have a negative effect and produce feelings of burden and burnout in staff (Doyle et al., 2007). These stressful occurrences are part of the weekly work routines of forensic ward staff. Such demands make it difficult for managers to release staff members for training and give any kind of priority to this (Sin & Scully, 2008; Tarrier et al., 1999). Further, once trained, staff may struggle to receive clinical supervision due to time demands and therefore may not put their skills into practice (Fadden, 1997; Smith & Velleman, 2002). Secure care is a demanding service that requires the best management and organisation for all activities to be fulfilled (Sainsbury Centre for Mental Health, 2009). Various reports have criticised the organisation of general wards (Baguley et al., 2000; Smith & Vellman, 2002). The understanding of such wards is paramount to ensure successful practice, yet this has not been researched within forensic environments, again indicating a gap in literature.

1.3.16 Lack of skills and knowledge

Another problem associated with poor implementation of family interventions are inappropriate referrals by doctors, social workers and nurses for example (Brooker et al, 2003; Farhell & Cotton, 2002). Staff do not often have the appropriate information to
adequately refer service users to family services. However, it can be assumed that if staff had the knowledge of family intervention (even if they were not involved in its delivery), they would be better informed to refer families appropriately. This principle relates closely to team management and time issues yet such issues have not been assessed within forensic environments, indicating another gap in the literature. Psychosocial intervention training in forensic services certainly improves staff knowledge of the treatment (Gudjonsson et al., 2010; Lammie et al., 2010; Redhead et al., 2011). It may be that an element of this training could be disseminated to all forensic staff to improve their knowledge of such services and therefore facilitate more appropriate referrals. This highlights an opportunity for further research.

1.317 Needs of service users and families

A further reason for poor implementation of family interventions in forensic environments is that the psychological needs of the population have seldom been addressed. If an intervention is to be delivered to a population, the population’s needs must be identified (Thomas et al, 2004). As with most needs, they are ever changing and in order to meet the demand for psychological intervention and be relevant to each service, these ever changing needs must be monitored and acted upon (DoH, 2002, MacInnes, 2000).

1.4 Needs Assessment for Schizophrenia

To date, needs assessment studies have included general mental health settings, with few examples of forensic needs assessments. Studies have found that there is a need in general mental health settings for service users diagnosed with schizophrenia to be involved in family intervention (e.g., Barrowclough et al., 1999; Brooker et al., 2003; Smith & Velleman, 2002). Although research is limited, this is echoed within forensic services (Antonacci et al., 2008; Gourney, 2005; Richards et al., 2009).
Quinn, Barrowclough and Tarrier (2003) assessed the needs of relatives in a community mental health setting. The authors developed an assessment measure named the family questionnaire (FQ: Quinn et al., 2003). The FQ is a 48 item questionnaire administered by interview. It focuses on symptoms, concern and coping with schizophrenia, and the measure thus allows an understanding of how a diagnosis of schizophrenia can impact on relatives. Quinn and colleagues found that schizophrenia does negatively effect family members, causing increased concern and feelings of not being able to cope. This measure is now used widely as an assessment of relative’s outcomes during family interventions (Fernández et al., 1999; Sellwood et al., 2001).

Another study explored the needs of relatives and resulted in the generation of a further assessment measure. Barrowclough and colleagues developed the Relative’s Cardinal Needs Schedule (RCNS: Barrowclough et al., 1998). Although the RCNS is somewhat dated now, it remains a useful tool to inform the structure of a clinical interview in discussing relevant issues associated with schizophrenia and family dynamics. The FQ and the RCNS are designed to be administered together: if relatives score highly on the FQ concern and poor coping items, the area of concern will be regarded as a cardinal need on the RCNS, therefore requiring intervention.

Despite the FQ and the RCNS questionnaires being popular and standardised measures, they may not be the best technique for solely assessing relatives needs. As the measures are administered via interview, participants may respond with socially desirable responses. In addition the FQ may be critiqued as it provides participants with pre-determined responses and these options may not be applicable to all participants. Therefore participants may either not respond to some questions or use a response that does not best represent their need, then affecting the validity of the data. Both the FQ and the RCNS were generated through research in community mental health services. This may limit the
questionnaires applicability across schizophrenia services. The questionnaires may not be as sensitive to possible differences associated with schizophrenia in forensic services for example.

Along with the needs of the family, a thorough needs analysis ought to include an assessment of the wards in which service users are cared for. Such an assessment would be useful in understanding whether family intervention is being offered and whether the ward has the facilities and resource to provide such an intervention. It is important to understand whether forensic wards are adhering to government standards when treating schizophrenia (NICE, 2009).

Very few needs assessments have been conducted within forensic services and those that have been published largely relate to the security needs of service users (Cohen et al., 2000; Shaw et al., 1994) rather than the psychological, emotional or social needs of the individual and their family.

1.5 Competing Interventions for Schizophrenia

In 2004 Professor Christine Barrowclough gave a presentation at the European Association of Behavioural and Cognitive Therapy Conference in Manchester, UK (Barrowclough, 2004). Her presentation looked at the reductions in the use of family interventions compared to increases in the use of CBT. Interestingly, Barrowclough was able to demonstrate how family intervention research reached its peak in the 1990s whereas CBT research continues to grow cumulatively each year. One explanation could be that family intervention had proved its evidence base in 1990s, so less research was conducted thereafter. However, despite its evidence base, family interventions were not being utilised. Another explanation put forward was that CBT had overshadowed family intervention as the ‘new therapy’. Layard’s reports (2004) further pushed the CBT focus and left family
intervention in the background. Further comparisons made between interventions concluded that family intervention is a more complex treatment requiring longer commitment from service users and families. This links to problems associated with participation and motivation (Fadden, 2006).

Pilling and colleagues (2002) employed meta-analytic methods in order to investigate the efficacy of CBT and family intervention in the treatment of schizophrenia. They concluded that both CBT and family intervention should be offered to service users diagnosed with schizophrenia with CBT being offered on an individual basis to the service user and family intervention to the whole family group. Although family intervention and CBT are applied as different techniques, their fundamental principles can overlap. For example, the model of family intervention advocated by Barrowclough and Tarrier (1992) uses CBT as a basis for family intervention. Therefore, the popular CBT may be combined with family intervention so that they are jointly utilised in the treatment of schizophrenia.

1.6 Barriers specific to Family Intervention within Forensic Institutions

Forensic establishments have been vulnerable to mixed reports. Negative portrayals may be explained by lay peoples misunderstanding of forensic services and this is further hindered by negative media portrayal (Angermeyer & Schulze, 2001). Forensic mental health services treat complex cases that are often the subject of media reports, to which people can base their views and attitudes. This point emphasises the theme of attribution theory in the thesis, as people are influenced by the media’s representation in generating ‘cause and effect’ attributions about forensic mental health cases. The media may allow the reader to infer an internal and controlled element in the behaviour of forensic service users (Weiner, 1985).
In addition to lay peoples attributions of forensic institutions, McKeown and fellow forensic professionals offer personal accounts that discuss the experiences of forensic staff within forensic services in Pilgram’s book (2007). Here, staff discuss the difficulties they have faced whilst working at Ashworth high secure hospital, UK. McKeown’s account echoes findings from other investigatory studies around staff attitudes and poor or bias organisation of wards (Bailey et al., 2003; Brennan & Gamble, 1997): it seems that even now, as a modern high secure forensic hospital, Ashworth still has aspects of the institutionalised days, with key members making decisions rather than a true systemic approach to care and organisation. The possible absence of a systemic approach to family intervention may be the case in other forensic services, negatively influencing change for training and attitudes towards family intervention. However this is one example of staff experiences in working within Ashworth hospital and cannot be generalised within or across forensic services. This perspective is bias towards a single forensic staff member’s viewpoint and does not provide debate from relatives, service users or management within the same forensic environment, which may be interesting to the literature. A key problem for forensic services is the lack of research in the area, however and more positively, research is being conducted in forensic services by leaders in the field of clinical psychology and psychiatry to improve psychological interventions and clinical procedures in forensic care (Tarrier et al., 2010; Qurashi et al., 2010). Tarrier and colleagues (2010) conducted the first randomised controlled trial investigating schema modal therapy in the treatment of personality disorder within Ashworth high secure hospital. Outcomes did not support the use of the therapy for this population, although the study did provide a feasible framework for future studies in high secure hospitals. The study also provided a number of learning points for future research: to generate power calculations for the sample, to use a larger sample, to include intensive therapy and to ensure comprehensive therapist
preparation. To add to recent clinical forensic research Qurashi and colleagues (2010) investigated the reduction of seclusion episodes for service users at Ashworth high secure hospital. They reported that with the successful implementation of managerial and clinical frameworks associated with clinical governance and performance monitoring, that the reduction of seclusion for service users had no adverse effects regarding aggressive incidents towards other service users or staff. Such positive improvements at a high secure hospital demonstrate successful and current research based on the needs of the population to improve care.

1.61 Summarising the Barriers to Successful Family Intervention Services

With such a large number of issues creating a barrier to family intervention, the size of the problem is clear. Table 1.2 attempts to summarise the barriers to successful implementation of family intervention within general and forensic mental health services.
<table>
<thead>
<tr>
<th>Author</th>
<th>Study</th>
<th>Barriers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fadden, 1997</td>
<td>Behavioural Family Therapy</td>
<td>Time</td>
</tr>
<tr>
<td></td>
<td>Survey method of 86 therapists</td>
<td>Funding</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Available supervision</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Appropriate clients</td>
</tr>
<tr>
<td>Brooker et al., 2003</td>
<td>Questionnaires’ and interview to collect data</td>
<td>Time</td>
</tr>
<tr>
<td></td>
<td>from UK training courses on general mental health</td>
<td>Motivation</td>
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<td></td>
<td></td>
<td>Supervision</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Support</td>
</tr>
<tr>
<td>Mairs &amp; Bradshaw, 2005</td>
<td>Review of published literature</td>
<td>Efficient referrals</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Engagement or families</td>
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<tr>
<td></td>
<td></td>
<td>Timely intervention</td>
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<tr>
<td></td>
<td></td>
<td>Poor commitment from families</td>
</tr>
<tr>
<td>Hawkins &amp; Shohet, 2000</td>
<td>Editorial</td>
<td>Supervision – no policies in place</td>
</tr>
<tr>
<td>Tarrier et al., 1999</td>
<td>Review of the literature</td>
<td>Validity of treatments</td>
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<tr>
<td></td>
<td></td>
<td>Teaching strategies</td>
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<td></td>
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<td>Poor evaluation of treatments</td>
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<tr>
<td>Brennan &amp; Gamble, 1997</td>
<td>Investigation on staff views</td>
<td>Lack of appropriate clients</td>
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<td></td>
<td></td>
<td>Poor referrals- lack of knowledge</td>
</tr>
<tr>
<td>Smith &amp; Birchwood, 1990</td>
<td>Investigation of staff needs / opinions</td>
<td>Unwillingness to work past 5pm</td>
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<td></td>
<td></td>
<td>Lack of skills</td>
</tr>
<tr>
<td>Baguley et al., 2000</td>
<td>Investigation of 21 undergraduate trainees</td>
<td>Lack of support from managers and colleagues</td>
</tr>
<tr>
<td>Anderson &amp; Adam, 1996</td>
<td>Editorial</td>
<td>Lack of managerial support</td>
</tr>
<tr>
<td>Smith &amp; Velleman, 2002</td>
<td>Review of the literature</td>
<td>No co-ordinator / senior support</td>
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<td></td>
<td>Supervision</td>
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<td></td>
<td></td>
<td>Appropriate referral</td>
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<td></td>
<td></td>
<td>Co-working &amp; Flexibility</td>
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<tr>
<td>Author</td>
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<td>Barriers</td>
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<tr>
<td>McFarlane et al., 1993</td>
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<td>Complexity of family work acts as a barrier of its own</td>
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<tr>
<td>Michie et al., 2007</td>
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<td>Geography</td>
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<td>Lack of training</td>
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<td>No need identified</td>
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<td>Lack of professional time</td>
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<td>Lack of facilities</td>
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<td>Not seen as beneficial</td>
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<td></td>
<td></td>
<td>Supervision</td>
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<tr>
<td>Barrowclough, 2004</td>
<td>Conference presentation</td>
<td>CBT has taken over from family intervention focus</td>
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<tr>
<td>Cohen et al, 2010</td>
<td>Implementing family intervention</td>
<td>Limited time for staff</td>
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<td>Worry of burden for families</td>
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<td>Misconception of low family contact / support by staff</td>
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</tbody>
</table>

In order to overcome such problems of implementation a suitable policy is required for each service to provide family intervention. Policy should be based on a thorough needs analysis using evidence based strategies and research (Milne & Roberts, 2002).

1.7 Evidence Based Research – Solving the Problems

It is generally accepted that health care should be given according to a strong evidence base and that there are established conventions guiding the nature and production of this evidence (Cochrane Consumer Network, 2010). Such evidence becomes established
through policy recommendations of good and accepted practice, for instance the National Institute of Clinical Excellence guidelines (NICE, 2009; 2010). However, bridging the gap between evidence and practice remains a perplexing problem. Fifteen years ago Anderson & Adams (1996) commented that “the provision of mental health services bears little relation to research” whereas “psychiatry incorporates many commonly used treatments whose comparative effectiveness is equivocal at best”, (pp505). There seems to be a significant difficulty in implementing research-supported interventions into routine clinical practice as Table 1.2 summarises for family interventions. Effective methods of disseminating and implementing psychological interventions ought to be subject to empirical investigation. There is considerable research in this area ranging across healthcare disciplines. Literature suggests that it is as important to have a research base for the implementation of interventions, as it is to have the evidence base for the intervention itself (Blackwood, 2006; Grol et al., 2007; May et al., 2007). Without a clear and effective route for an intervention from clinical trial stage to service implementation, the utility of an evidenced based intervention is unclear.

1.71 Psychological theories related to implementation issues

Attribution theory (Heider, 1958) may explain some issues associated with implementation of family intervention. Attitudes and meaning that people hold about schizophrenia and family intervention as a treatment option could impact on the success of its implementation. As described earlier, if people view schizophrenia as internal and controlled by the service user, then relatives or staff members may be less likely to participate in the care of the service user, i.e. a family intervention. This generates a barrier to implementation requiring a solution.

The use of psychological models in implementing health care is becoming a well studied area. Baker (2001), Foy (2007) and Michie and colleagues (2005) offer
implementation solutions based on social, cognitive, behavioural and health perspectives of psychology.

Figure 1.A combines the MRC (2000) framework with psychological approaches (Bartholomew, 2001; May, 2006), and aims to provide a possible framework for assessing, implementing and evaluating family interventions, which is grounded in psychological theory. Grol and colleagues (2007) advocate that no matter what the health care setting, it is important to have psychological perspectives involved to inform service change.

Poor implementation of family interventions is a complex problem to solve, however latest research offers a possible solution, as illustrated in Figure 1.A. The processes summarised by Figure 1.A meet the requirements of reviewing literature as well as assessing the needs of the population (emotionally and practically) in order to plan an evidence based intervention which can be maintained in a forensic setting.

This model is not suggesting an ultimate solution, as it fails to explain how to persuade families to consider family intervention in the treatment of schizophrenia. However, based on expert opinions from researchers and literature in the field, this model aims to demonstrate successful and structural approaches.
Figure 1.A - Implementation solution diagram for family intervention services

Stage 1

<table>
<thead>
<tr>
<th>A- Intervention Mapping</th>
<th>B- Normalisation process</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Bartholomew, 2001)</td>
<td>(May, 2006)</td>
</tr>
<tr>
<td>Needs assessment &amp;</td>
<td>Workability and integration</td>
</tr>
<tr>
<td>5 step planning model</td>
<td></td>
</tr>
</tbody>
</table>

Stage 2

<table>
<thead>
<tr>
<th>C- MRC Framework (2000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Theory, Modelling, Exploratory Trial, RCT, Long term implementation</td>
</tr>
</tbody>
</table>

Stage 3

<table>
<thead>
<tr>
<th>D- Service Champion</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Smith &amp; Velleman, 2002)</td>
</tr>
<tr>
<td>Maintenance</td>
</tr>
<tr>
<td>Supervision</td>
</tr>
</tbody>
</table>

1.7.11 Intervention mapping - stage 1A

Stage 1a (e.g., Bartholomew, 2001) focuses on health education development by drawing on the theory of motivational (Maslow, 1970) and communicative psychology (Eisenson et al., 1963). This needs analysis stage of Figure 1.A attempts to answer this thesis research question: to thoroughly explore the needs of the population. By combining motivational and communicative techniques, it is hoped that service users, staff and relatives will take part in the research. The framework has five steps: i) creating objectives, ii) utilising theory based methods and practical strategies, iii) designing and organising a program, iv) specifying implementation plans, and v) program evaluation plans. This model highlights the importance of the implementation process in having a grounding in psychological theory, developing a thorough needs assessment, considering practical and environmental contexts or issues, and developing thorough evaluation procedures. Throughout all stages communication and sharing of information is considered important.
The needs assessment links to Grol and colleagues (2007) work where characteristics are identified for effective service change. These characteristics are associated with communication, awareness, interest, understanding, insight, attitude and a decision to change by the staff group.

1.7.12 Normalisation process – stage 1B

Stage 1b (e.g., May, 2006) presents a theoretical model to describe how interventions become part of routine clinical care, using a sociological perspective. The model focuses on the workability and the integration of an intervention to eliminate problems with delivery. The sociological theory (Calhoun, 2002) aims to facilitate organisational-social knowledge to reshape the ‘society’ of forensic mental health services for family intervention, based on the needs and experiences of service users, relatives and staff. The social interaction of service users, relatives and staff is an important component to inform the workability and integration of change within the forensic family intervention service.

The implementation planning process and normalisation models are crafted in order that they take place at the same time, thus complementing one another. They require planning for the service and incorporate communicative and organisational issues such as integration of skills into the service following assessment. As the needs assessment produces data it is shared with the staff group on a practical level, with an aim to distribute understanding to implement the findings. This stage may be most suitable to offer a social and emotional aspect, based on the need data, to motivate and encourage families to consider family intervention as a solution to coping with schizophrenia.

1.7.13 MRC framework – Stage 2

Once the planning stage is complete, stage two describes how this information would be put into practice (e.g., MRC, 2000), using a five phase model that draws on the
function and form for developing an intervention. The importance of theory is the starting point to explore the area and develop hypotheses to test and model developing mechanisms that influence outcomes and interactions using communication as a facilitator. The trial phase requires a replicable protocol to test the variables that lead to the randomised controlled trial stage, to compare the intervention with an alternative technique to care. A protocol ought to be highly robust with results statistically powerful to inform the final stage of the long term implementation of the intervention; and if it is replicable and maintained (MRC, 2000).

1.7.14 Service champion – Stage 3

Once a system is in place it must be maintained over time. Stage 3 develops the key components to facilitate this: support, time, supervision and evaluation. As Smith and Velleman (2002) suggest from their successful implementation of family intervention, the employment of a service champion is a key component. The service champion will manage the family service and provide supervision. Skills in training, excellent communication and experienced modern management will be essential to assess and monitor staff and the needs of the service. This final stage is designed to provide successful maintenance of the service (e.g., Smith and Velleman, 2002; Stanbridge and Burbach 2007).

Linking the four sections of implementation, Figure 1.A provides not only a summary of the main areas, but also a framework to guide implementation of such complex interventions. Future implementation should therefore aim to facilitate evidence based research into clinical practice. The implementation solution model (Figure 1.A) could be utilised across settings, as Bartholomew (2001) intended with intervention mapping. The model focuses on the importance of communication for a facilitator to succeed in the assessment and implementation stages also taking into account personal needs and service feasibility.
1.72 Successful Implementation Models of Family Intervention

Examples of other successful models in family intervention implementation are presented in Table 1.3, which aims to summarise the solutions to successful implementation within a service. Ultimately the various theories aim to create service change. By changing behaviours, services can develop a new working ethos towards family intervention.

Smith and Velleman (2002) present an example of how they successfully implemented a family intervention service within the Avon & Wiltshire Mental Health Partnership NHS Trust, UK. The success of this project has led to the service being recognised as an NHS beacon site for successful implementation of a family intervention service. Initial problems to the implementation of family intervention were identified within local mental health services: insufficient management and lack of professional support along with a lack of training, lack of supervision, inappropriate referrals, poor co-working and case management, little flexibility of delivery, and disputes associated with crisis versus strategic ways of working. The barriers were then targeted for problem solving by including the board of directors in the initiative for the new family service. A business plan was developed detailing the implications of a family intervention service, including cost efficiency. Once the board of directors were interested in the service, a service lead was appointed to oversee future operations who championed the service, developing key links with managers, other leads and directors to influence change within the organisation. The service lead then worked through problems of working hours, the supervision and training of staff as well as encouraging motivated clinical staff to become involved. This new emphasis on change and family work created flexibility and a new understanding so that it was possible to provide appropriate referrals to the family team, with successful co-working. The service lead, or ‘service champion’, continued to take responsibility for the
service’s development and evaluation. Despite Smith and Vellman’s (2002) beacon award for successful implementation of family intervention, this project was only applicable to general mental health services and it therefore cannot be assumed that this strategy would apply to other psychosis services. Further needs analysis should be conducted to include the needs of mental health service areas, such as forensic or learning disability services.

In a similar example, Stanbridge and Burbach (2007) accomplished implementation of a family intervention service in Somerset, UK. Using the service champion strategy, the service was commissioned and supported by the NHS Trust Board. The service champion was able to assess need, include carer groups and therefore meet the needs of both families and staff. This strategy included staff training, improved attitudes and increased knowledge of family intervention; the result was a successful family intervention service in mainstream mental health services (e.g., Stanbridge & Burbach, 2007). As with the Smith and Velleman (2002) study, Stanbridge and Burbach’s (2007) study only details the successful implementation within a single service. The implementation strategies were designed for small professional teams, however it would be interesting to establish if the same strategies could be utilised for i) larger teams and ii) across multiple mental health services to show consistency of success. Both studies sampled NHS populations and it would be useful to investigate any similarities or differences between private sector mental health services for family intervention.
Table 1.3- A summary of implementation techniques for family intervention (FI) services

<table>
<thead>
<tr>
<th>Author</th>
<th>Paper</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Barrowclough &amp; Tarrier, 1992</td>
<td>Family intervention approach (manual)</td>
<td>Maintaining family involvement</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Family and service relationship</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Violence &amp; aggression present</td>
</tr>
<tr>
<td>Goldstein &amp; Miklowitz, 1995</td>
<td>Review of the literature</td>
<td>Key stages to effective family intervention: engagement, education, coping,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>communication, problem solving, crisis intervention.</td>
</tr>
<tr>
<td>Kuipers, 2006</td>
<td>Implication paper</td>
<td>Crucial ingredients in success of FI and psychosis: carer needs for self</td>
</tr>
<tr>
<td></td>
<td></td>
<td>esteem, depression and coping.</td>
</tr>
<tr>
<td>Leff, 2000</td>
<td>Application paper</td>
<td>Adopting a systemic approach to FI including managers in initial training</td>
</tr>
<tr>
<td>Smith &amp; Velleman, 2002</td>
<td>Implementation paper</td>
<td>Service Champion approach: experienced trained clinician to lead the</td>
</tr>
<tr>
<td></td>
<td></td>
<td>service. Disseminate skills, support staff, organise service, link</td>
</tr>
<tr>
<td></td>
<td></td>
<td>research to practice.</td>
</tr>
<tr>
<td>Mairs &amp; Bradshaw, 2005</td>
<td>Review paper</td>
<td>Service user and carer led models to deliver FI</td>
</tr>
<tr>
<td>Kuipers et al., 1992</td>
<td>Implementation paper</td>
<td>Carer led programme</td>
</tr>
<tr>
<td>Burbach &amp; Stanbridge, 2006</td>
<td>Implementation paper</td>
<td>FI endorsed and encouraged by all management levels, Champion strategy</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Manage workloads, Appropriate supervision, Team based training</td>
</tr>
<tr>
<td>Sin et al., 2007</td>
<td>Implementation paper</td>
<td>Psychoeducation carer led programme</td>
</tr>
<tr>
<td>Bailey et al., 2003</td>
<td>Implementation of FI</td>
<td>Key components: co-working, supervision, MDT teams and flexible approach</td>
</tr>
<tr>
<td>Author</td>
<td>Paper</td>
<td>Solution</td>
</tr>
<tr>
<td>------------------------</td>
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<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>May et al., 2007</td>
<td>Normalisation process model (May 2006)</td>
<td>Evaluation model focusing on workability and integration of an intervention into practice</td>
</tr>
<tr>
<td>Doran et al., 2006</td>
<td>Pay for Performance FI</td>
<td>Practitioners work on a incentive system and gain more salary if they deliver FI to patients</td>
</tr>
<tr>
<td>Medical Research Council, 2000</td>
<td>Framework for complex interventions</td>
<td>5 step process of education, modelling, trialling, RCT and long term implementation</td>
</tr>
<tr>
<td>Michie et al., 2007</td>
<td>Implementation paper based on psychological theory</td>
<td>Theory based implementation interview (TBII) to understand the barriers</td>
</tr>
<tr>
<td>Bartholomew et al., 2001</td>
<td>Implementation mapping</td>
<td>5 step model covering objectives, theory strategies, planning, implementation and evaluation. Based on the needs of the population.</td>
</tr>
<tr>
<td>Haley, 2010</td>
<td>Implementing family intervention in Ireland using telepsychiatry</td>
<td>Using video conferencing to provide educational FI to relatives in rural Ireland</td>
</tr>
<tr>
<td>Peddie, 2009</td>
<td>Medium secure male rehab ward - family intervention</td>
<td>Consultant and management support Needs analysis, Service lead, Flexibility Specific supervision, Clear structure to include risk management</td>
</tr>
<tr>
<td>Atchison et al., 2009</td>
<td>Tuesday Group – CAMHS forensic family intervention</td>
<td>Planning the group Informing staff – sharing g knowledge Clear structure to the intervention Feedback and evaluation</td>
</tr>
</tbody>
</table>

1.73 Successful Implementation of Family Intervention Services within Forensic Services

Although research is limited, it is encouraging to find a number of studies where a family intervention service has been successfully implemented within forensic services (Atchison et al., 2009; Peddie, 2009), along with additional forensic studies that demonstrate the success of psychosocial training in improving staff attitudes and
knowledge of family intervention (Doyle et al., 2007; Gudjonsson et al., 2010; Lammie et al., 2010; Redhead, 2011). These studies show that there is a need for such services and that family interventions could be adapted within secure, forensic environments. However, far more research is required to understand the needs, attitudes and barriers that are specific to forensic services for family intervention.

With an increase in forensic service users (Coid et al., 2001) and a demand for clinically trained staff, particularly in medium secure services (Rutherford & Duggan, 2007); services must react to the demand and changing times.

1.7.4 Forensic Specific Barriers in Geographic Limitations

The distance a family is required to travel between a forensic unit and their home has become a forensic-specific barrier to family interventions (Geelan & Nickford, 1999). Families tend to live great distances from the unit and thus the burden of travelling to visit can reduce the number and duration of visits. One possible solution to this would be to draw on new technology available, such as web cameras, also referred to as telepsychology in literature. However, most telepsychology literature is focused on health and general mental health services showing a distinct gap in research concerning forensic services.

1.8 Modern Technology in Mental Health Treatment

Telepsychology has been shown to be effective in the treatment of depression (e.g. Nelson et al., 2003); panic (using CBT via video conferencing, e.g. Bouchard et al., 2004), anxiety (using computerised CBT [CCBT] e.g., Baer et al., 2007), and post-traumatic stress disorder (using virtual reality, e.g. Wiederhold & Wiederhold, 2004). Larger reviews of the literature have suggested that the outcomes for telepsychology are promising, generating similar positive outcome variables as face-to-face therapy (Emmpelkamp, 2006; García-Lizana, & Muñoz-Mayorga, 2010). Along with the psychological benefits of reduced anxiety and reduced stigma (e.g. Miller, 2001), telepsychology also allows for increased
confidentiality, a better rapport between the service user and family members, increased convenience and acceptability (e.g., De las Cuevas et al., 2006; Marks et al., 2007; O’Reilly et al., 2008). Practical benefits are also reported, not least the reduced travel times (e.g., Bose et al., 2001; Hayler et al., 2003; Jones et al., 2001; O’Reilly et al., 2007) and reduced waiting list times (e.g., Brodey et al., 2000; Elford et al., 2001; Hilty et al; 2002; Leonard et al., 2004; McLaren et al., 1996; Monnier et al., 2003). Such positive outcomes for a relatively new approach to psychological therapy are reflected in guidelines approving the use of telepsychology, for example CCBT (NICE, 2006).

A study in Australia reported that service users felt less threatened when using telepsychology (Kavanagh & Yellowlees, 1995). Additional studies reported that service users found telepsychology inspiring, enjoyable and less stigmatising (Baigent et al., 1997; Gammon et al., 1998; Pakyurek et al., 2010). Researchers have also found that service users feel less inhibited and, therefore, more truthful in their responses due to the separation effect of telepsychology (Onor & Misan, 2005). The separation effect refers to the distance between two parties taking part in telepsychology, via a telephone line or an internet connection. As the two parties are not in the same room when taking part in telepsychology, different responses can be experienced. Telepsychology presents both advantages and disadvantages for family intervention. Service users feel at ease with the separation from family members when discussing emotion provoking situations. Emotions such as guilt, burden and stigma may commonly present in such situations and the separation effect could make such negative emotions easier to cope with. The separation effect could act as a problem solving solution in encouraging service users to participate in family intervention, as they may feel more comfortable to discuss situations when not in the same room as their relatives. Relatives may also feel safer in taking part in a family intervention from a non-forensic setting (e.g., local clinic or family home), which may also
encourage continued participation. However the separation effect may act as a negative aspect to family intervention as the family as a whole may require face-to-face contact to communicate effectively. This further highlights the importance of needs assessment in family intervention in offering a family the most suitable treatment option (e.g., face-to-face or telepsychology [web camera] family intervention) for their needs.

Expanding on the benefits, telepsychology has been found to be cost effective (Alessi et al., 1999; Brown, 1998; Harley, 2006), and, therefore, has potentially wider economic benefits for services. Initially, telepsychology was successful within primary mental health care services but the technique has now been expanded to other mental health areas including serious mental health services and continues to treat schizophrenia with positive outcomes (e.g., Haley et al., 2010; Zaylor et al., 2001). This is encouraging for the future of telepsychology.

1.81 Modern Technology within Forensic Services

As with many aspects of this literature, few studies have investigated telepsychology within forensic environments (e.g., Haley et al., 2010; Zaylor et al., 2001). However two reviews have been published advocating the relevance and applicability of the technique within forensic services (Antonacci et al., 2008; Saleem et al., 2008). Most telepsychology studies in forensic services focus on clinical assessment and court communications (Miller et al., 2008; Zaylor et al., 2001). However research in this field is growing across the world. Sullivan and colleagues (2008) discussed the relevance and need for telepsychology by concluding that telepsychology within Australia is critical for forensic services, given the vast geography of the country.

1.82 Future for Modern Technology and Forensic Services

Due to the risk associated with forensic service users, security measures are in place to prevent service users having open internet access. However, studies have shown
that telepsychology may be extremely beneficial to service users, families and the forensic services (Antonacci et al., 2008; Khalifa et al., 2008; Sullivan et al., 2008) especially due to certain characteristics of the population, such as families living great distances from the units (Geelan & Nickford, 1999). Telepsychology within forensic services clearly requires further investigation and development. With constant developments to update and modernise mental health services across the world, the use of telepsychology in forensic services could provide a new benchmark in modern mental health care.

1.83 Psychological theory conclusion underpinning the literature

The theory of attribution is applicable to this programme of research as first, it is relevant to the literature on schizophrenia. As a mental illness that is associated with stigma, schizophrenia is understood at various levels by different people. However, to most lay people schizophrenia is poorly understood (NICE, 2009) and negatively portrayed by the media (Hand, 2010). It is this understanding and lack of knowledge about schizophrenia that can create negative attitudes and attributions about the illness. If people do not understand a diagnosis of schizophrenia and the associated symptoms, they may think that individuals with schizophrenia have full control over their behaviour. Second, a key component in the treatment of schizophrenia is expressed emotion (EE). Attribution theory can explain the development and maintenance of EE. Relatives’ beliefs of schizophrenia may be of volition and control, which result in negative attributions of the individual producing critical and hostile communication, therefore resulting in high expressed emotion (Hooley, 1985). However, if families view schizophrenia as a mental illness and have an understanding of the symptoms that are typical of the illness, then the family are less likely to cope by using social control and therefore display low expressed emotion (Greenley, 1986). Third, as a treatment of schizophrenia, family intervention is the primary psychological treatment choice (NICE, 2009). This evidence based intervention is
associated with attribution theory as many of the principles involved target how families may attribute symptoms of schizophrenia, such as education about schizophrenia and problem solving to reduce expressed emotion (Barrowclough & Tarrier, 1992; Kuipers et al., 2002). Therefore family intervention works to assess and alter any negative meaning that families hold about the symptoms of schizophrenia. This education about schizophrenia can positively change negative attributions to improve outcomes for the family.

Attribution theory highlights the importance of understanding the needs and attitudes of families to best inform the practice of family intervention, with an overall aim to improve knowledge of schizophrenia and outcomes for families experiencing the mental illness.

1.9 The aims of the work presented in this thesis

Existing meta-analyses investigating the effectiveness of family intervention in treating schizophrenia have focused largely on the outcome measure of relapse rate. As family intervention is designed to change behaviours relating to social communication and psychoeducation and to improve psychotic symptoms, the first aim of this PhD was to determine whether family intervention does indeed lead to improvements in these areas. This was achieved by using meta-analytic procedures including meta-regression (Chapter 3). Additional goals of this meta-analysis were to investigate the duration of the effects of family interventions; to examine whether family intervention methods which included CBT were more successful than other treatment regimes; and to determine whether the quality of studies using family intervention influenced the effect sizes.

Research has shown that service users experiencing schizophrenia are not automatically offered family intervention services as part of their treatment. Hence, the
second aim of this PhD was to investigate whether forensic service users with a diagnosis of schizophrenia express a desire for family interventions by using a needs analysis. First, a preliminary report investigated 137 forensic service users (Chapter 4). The initial goal was to assess the psychological needs of service users with respect to family intervention. The second goal was to assess staff to measure whether they have the skills to be able to deliver family intervention. The third was to assess the provision of the forensic wards in delivering a family intervention service.

Preliminary data from Chapters 3 and 4 should provide an understanding of the components underlying the effectiveness of family intervention for schizophrenia as well as an understanding of service user needs for family intervention, staff skills and ward provision. Research then progressed to investigating the needs of relatives. It was important to extend the comprehensive needs analysis to include the needs of relatives of forensic service users. This was completed using questionnaire and interview techniques to assess the needs of 18 relatives (Chapter 5).

Developing a wealth of data into family intervention services within forensic care, the research expanded by investigating the experiences of clinical staff who would administer a family intervention within forensic services. Although staff have ‘hands-on’ experience in working within a secure environment with service users and their families, no prior research had investigated the experiences and perspectives of clinical staff with respect to family interventions. Chapter 6 investigates the perspectives of staff regarding the barriers and the possible solutions to successful implementation of family intervention within forensic services. The study raised key barriers that were consistent with previous literature. However a forensic-specific barrier was the increased distances between forensic units and family homes which in turn led to increased travel times for families and staff, increased travel expenses, increased time off work, reduced ability to take part in
interventions and increased staff expenses. As a solution to this multifaceted barrier, staff generated the idea of using new technology as a solution to provide family interventions for families.

With the components of forensic family intervention being investigated through Chapters 3-6, a greater understanding started to develop of the current situation, skills, needs, provision, morale and support in forensic services. In light of Fadden’s work (2006; 2009), a further investigation into attitudes was required to draw a conclusion on this comprehensive needs analysis. Literature cannot seem to agree on the attitudes of the forensic population (service users, families and staff) towards family intervention. Few studies have reported on attitude in relation to family intervention. Therefore Chapter 7 encompassed the assessment of attitudes of relatives and clinical staff toward family intervention within forensic services.

The next step in the research was to pilot the use of telepsychology in a forensic setting, based on findings from studies discussed in Chapters 3-7. This unique method of communication had not been researched or utilised before within forensic services. The aim was to provide a family intervention to the family of a forensic service user. Chapter 8 describes the piloting of web based family intervention within a medium secure, forensic service. The technique of forensic family intervention with the use of a web camera was named e-FFI and was delivered over a period of 14 weeks to female family members of a medium secure forensic service user (the user’s mother and sister). The study is presented as a case and feasibility report including the assessment, formulation, intervention and evaluation of the technique, along with the family’s feedback, clinical outcomes and clinical implications for forensic services for the future.
1.91 Note on collaboration and published material

The current thesis has been approved to be formatted in the alternative or paper format by the University of Manchester. The thesis contains a number of chapters that have been prepared for publication in peer reviewed Journals. The published chapters are referenced on each of the relevant title pages throughout the thesis. The paper format was thought most suitable as the thesis provides recent and relevant information to add to the small research field of forensic psychiatry. The chapters that have been accepted or submitted to Journals are Chapters 4-7 and Chapter 8.

The author completed the work of this thesis and submitted papers with the support of a supervisory team. Professor Nicholas Tarrier and Dr Patricia Gooding provided professional academic and clinical supervision throughout the research period contributing to the design of the studies, as well as providing input on write-up, analysis, and theory. They are therefore recognised as co-authors. John McGovern in Chapter 4 is recognised as a co-author because he was the lead researcher on a previous research project which fed into the current thesis. He therefore assisted in the set up of the funding for the PhD and contributed to revisions of the paper presented as Chapter 4. Dr Dougal Hare, referenced in Chapter 7, is recognised as a co-author as he provided training and support in the use of Q methodology as well as contributing to revisions of the paper presented as Chapter 7.

1.92 Note on ethical approval for the programme of research

The programme of research gained ethical approval for each stage of the research from two National Research Ethics Committees (NREC): Central Manchester REC and North West Manchester 8 REC, UK (see Appendix 1.1). In addition to NREC approval the programme of research obtained ethical approval from the participating NHS Trust sites research and development departments using a research passport (see Appendix 1.2).
2. METHODS

2.1 Methodological considerations

It was important to choose suitable methods in order to address the aims, objectives and design of each individual study in the programme of research comprising this thesis. It is also an advantage in any programme of research if a number of different methods are used to address research goals, for instance, qualitative and quantitative methods and the use of case studies. The use of various research methods aims to add validity and reliability to this programme of research, as similar themes can be found in data across differing methods, showing consistency in the findings. An example of this were the barriers that staff highlighted in Chapter 6, using thematic analysis. The same themes were then presented in Chapter 7 from the Q method, attitudinal study. This current chapter describes the different methodological approaches used in this programme of research and illustrates how they meet the aims of each empirical study.

2.2. Meta-analysis (Chapter 3)

Meta-analytic methods are commonly used in modern psychological research into the evidence base underlying randomised controlled trials of interventions (e.g. Gooding & Tarrier, 2009; Tarrier et al., 2008; Wykes et al., 2008). Such methods allow the statistical analysis of results from multiple studies (Borenstein & Hedges, 2009). Meta-analytic methods collate data from any number of studies to report effect sizes or treatment effects. Many variables are analysed to best report on the effectiveness of an intervention. Consequently, meta-analytic results are regarded as robust compared to single study results due to their analysis of a collation of studies measuring the same variables. A criticism of
meta-analysis is that the method allows for multiple studies to be analysed together (Borenstein et al., 2007). This could overlook smaller and important associations and therefore be too generalised.

Hedge’s $g$ was used as a measure of effect size in Chapter 3 as it is appropriate for small sample sizes (Borenstein et al., 2006; Hedges & Olkin, 1985). As the studies were heterogeneous, a random effects model was used since it incorporates both the random variation within and between the different studies. In addition to the Hedge’s $g$ analysis, the effect sizes for the treatment variables were compared using Cochran’s $Q$ (Cochran, 1954). The Cochran’s $Q$ statistic tested the null hypothesis to see if data were similar between the individual studies included in the group. The $Q$-between statistic allowed direct and detailed comparison between multiple sub-groups, comparing significant effect sizes in order to highlight significant differences between groups. A small $Q$-between value is consistent with $P$ values of near 1 (Borenstein et al., 2006).

The use of meta-analytic methods as opposed to a narrative literature review for example was optimal because the study aimed to systematically review the evidence base for family intervention, and include multiple outcome variables. Narrative reviews are criticised for being subjective as reviewers can value studies differently and therefore outcomes may lack transparency. Also narrative reviews have reduced power to synthesise findings across multiple studies. The larger the amount of studies, the less useful narrative reviews may be as a narrative reviewer may struggle to process multiple studies and multiple covariates. However, multiple studies can be analysed using meta-analysis (Borenstein et al., 2005) to compare effect sizes of common outcomes found from family interventions, such as reduced relapse, reduced psychotic symptoms, improved knowledge of schizophrenia and improved relationships.
2.21 Measure of quality

As part of the meta-analysis conducted in Chapter 3, an assessment tool named the Clinical Trials Assessment Measure was used (CTAM: Tarrier & Wykes, 2004) [see Appendix 3.1]. The CTAM is a measure of methodological rigour and assesses each individual study for sample size, recruitment, allocation to treatment, outcome measures, controls, treatment types and data analysis. A final score can range from 1-100, with 100 showing the highest methodological rigour. A cut-off of 65 and above indicates methodologically rigorous studies. The CTAM has established reliability and validity when compared to other scales that measure trial quality (Tarrier et al., 2008) and was used to assess the quality of family intervention studies included in the meta-analysis. Despite the CTAM providing a useful measure of quality for psychological interventions it may be criticised for being biased against qualitative research methods and outcomes, as none of the fifteen items of the CTAM consider possible qualitative feedback regarding the use of a psychological intervention. As with any questionnaire measure the items are open to the researcher’s personal understanding of the item. Generally the researcher conducting the investigation would complete the CTAM measure for each of the individual studies included, presenting possible researcher bias in generating scores. Nonetheless, this measure was useful in highlighting family intervention studies that were of methodological rigour in relation to their effect sizes and outcomes for family intervention.

2.3 Questionnaire tools and interview measures

Many standard psychological questionnaire measures can be used within family intervention studies however few of these are specific to forensic services. The use of questionnaires aims to produce a baseline measure to determine the effectiveness of an
intervention. Often questionnaires are administered pre, mid and post-treatment to track patterns in the data.

In the assessment of service users, one forensic specific measure employed in this thesis was the Camberwell Assessment of Need – Forensic Version (CANFOR, Thomas et al., 2003). The 25 item rating questionnaire is aimed at assessing the needs of forensic service users and covers areas related to psychotic symptoms, treatment and accommodation. The needs of service users are rated as met, unmet or not applicable; thus unmet needs requiring further treatment are clearly identified. The CANFOR is the sole standardised forensic measure used in this thesis: all other measures utilised in this programme of research were designed for the general mental health population. Unfortunately no alternative options of forensic needs assessment measures were available to compare with the CANFOR in the selection process. However given the research conducted that supports the validity and reliability of the measure (Thomas et al., 2008), the CANFOR is an adequate measure to use for a forensic needs assessment. Thomas et al., (2008) tested the consensual and content validity with 60 forensic service users and 50 staff. Concurrent validity was tested using the Global Assessment of Functioning (APA, 2004) and all three types of validity were found to be satisfactory. The reliability of the CANFOR was tested with 77 forensic service users and 65 staff from medium and high secure forensic units. Inter-rater reliability of need was found to be high for service users (0.991) and staff (0.998) and test-retest reliability of need was found to be moderately high for service users (0.797) and staff (0.852).

In addition to the CANFOR but not specific to the forensic population, the Social and Behavioural Schedule (SBS: Wykes & Sturt, 1986) was used in Chapter 4. The SBS is a 21 item questionnaire used to assess social and behavioural aspects of a service user’s needs. Items are scored as moderate or severe problems and this was thought to be a useful
assessment in highlighting the social needs of forensic service users. The reliability of the SBS was assessed across three domains (Wykes & Sturt, 1986): inter-rater reliability showed highly significant Kappa scores (Cohen, 1960) and percentage agreement across the 21 items of the SBS (N= 28, mean= 94%, range= 84-100%). This was also true of inter-informant reliability (N= 44, mean= 86%, range= 70-99%). When data were subject to test-retest reliability analysis, results showed that 15/21 items of the SBS were significant (N= 51, mean= 83%, range= 72-96%). The SBS is frequently used in mental health although it is a dated tool, having been developed twenty-five years ago. Nonetheless many of the social and behavioural items draw on the problems associated with mental health and as described by recent diagnostic manual standards (DSM-V, 2010). The SBS does not identify forensic specific or relevant items such as security level, political need, co-morbid personality disorder or offending behaviours. Therefore it was planned that by using a combination of forensic and non-forensic measures that the needs of the forensic population would be adequately represented.

Measures that were used in the programme of research but required adaptation to be sensitive to the forensic population included the Family Questionnaire (FQ; Quinn et al., 2003) and the Relative’s Cardinal Needs Schedule (RCNS; Barrowclough et al., 1998). The FQ, a 48 item measure administered by interview, is a suitable measure given the prevalence of schizophrenia in the forensic services as it is specific to the assessment of the mental illness (APA, 2004; Flyger, 2007; McKeown, 2007). A factor analysis was utilised to test the validity of the five subscales of the Family Questionnaire involving 158 relatives. Results showed that the subscales accounted for 48.0% of the variance with eigenvalues between 1.98-11.47. Concurrent validity tests found the Family Questionnaire to be acceptable. Test-retest reliability was conducted with 41 relatives who completed the questionnaire 2-3 weeks later, producing a coefficient of 0.77 (range 0.59-0.88). Reliability
of the Family Questionnaire was reported as good for all scales with $\alpha$ coefficients at 0.8 or above and inter-item correlations below 0.45. Currently, there are no measures of family functioning which have been designed for use in forensic contexts.

The FQ lists symptoms of schizophrenia and assesses i) the frequency of each symptom, ii) the relative’s concern for the symptom, and iii) the relative’s coping ability with respect to each symptom. Symptoms are categorised into five groups: negative symptoms, anti-social behaviours, interpersonal problems, affective symptoms and psychotic symptoms. Final scores reflect how the relative is coping and concerned with the symptoms of schizophrenia. As a family intervention usually aims to support relatives by helping to improve their coping skills with this mental illness, such data is helpful in informing future family intervention services. The FQ may be criticised as it uses a Likert style of responding to the items and this technique may not be applicable to all participants. Participants may feel forced to fit into the pre-determined categories when their true view may be different. This is a common problem with quantitative questionnaire measures (Manstead & Semin, 2001).

The Relative’s Cardinal Needs Schedule is associated with the FQ, as the FQ identifies items to be discussed in the RCNS interview. The RCNS reports acceptable reliability when tested with 27 relatives for inter-rater reliability across the 14 sub-scales ([Cohen’s, 1960] kappa mean= 83.8%, range= 59.3-96.3%). Concurrent validity was established as acceptable with 45 relative-patient pairs. The RCNS questionnaire comprises fourteen sections and is administered by interview to gain information about the relative’s support, coping ability, relationships, hardship, and emotions regarding the family member with schizophrenia. A cardinal need is determined when a symptom is recorded as a concern that the relative is interested in seeking help for. The RCNS asks specific questions associated with the symptoms highlighted by the relative in the FQ interview. Such a
questionnaire is a useful tool in informing a structure that can be used in a clinical interview setting when discussing relevant issues associated with schizophrenia along with the family dynamics relating to the illness. As the RCNS requires the FQ to be administered first this may be regarded as a disadvantage. It could be time consuming and mentally or emotionally demanding on the participants to take part in the dual-measure. This could affect the performance and response given by participants.

In the current programme of research the FQ and the RCNS were adapted to be sensitive to the forensic service user’s relatives by removing questions regarding household responsibilities; the forensic service user would of course reside at the forensic unit and not the family home.

Three measures were created specifically for this programme of research in light of no suitable established methods for the forensic services. The measures aimed to assess the psychological needs of forensic service users, the family intervention skills of staff and the extent to which forensic wards already provide a family intervention service.

First, a training needs questionnaire was developed (Appendix 4.2) and piloted in partnership with the NHS North West Specialist Commissioning Team and the co-authors of Chapter 4, and with representatives from each of the participating units. The questionnaire consisted of seven sections covering 68 skills in regards to: staff job role, clinical supervision, professional qualifications, further practice qualifications, knowledge of psychological therapies, skills areas and special interests. This measure provided information on the skills that clinical staff had which were relevant to forensic services and to what extent they were supervised in these specific skills. Such a questionnaire was not available despite extensive literature searches. No other questionnaires included the relevance of supervision for each specific skill and with clinical supervision being a key component in mental health care (Department of Health, 2000), this questionnaire aimed to
prioritise supervision. Unfortunately, no validity or reliability outcomes for the training needs questionnaire were produced prior to its use in the current programme of research. However the training needs questionnaire was sampled with a forensic group of staff that were not included in the final data collection. The aim of this was to test if the questionnaire was relevant to the staff group and if the format of the questionnaire was comprehensible. The feedback from this sample of staff informed the final version of the training needs questionnaire that was then completed by 317 staff members (see Chapter 4).

Second, in light of no forensic specific measures assessing the psychological needs of forensic service users, a psychological measure was created in Chapter 4. The 49 item psychological questionnaire (Appendix 4.1) was developed for use by forensic staff in order to identify the psychological needs of their service users. This measure assessed anxiety, depression, common psychological traits, anger, psychotic symptoms and relapse, index offences and family contact between service users and their relatives. It was intended to identify the psychological-specific symptoms that service users experienced. Items from standardised mental health measures were considered in the questionnaire (e.g. Beck’s Depression Inventory: BDI, 1961), in addition to i) forensic specific items regarding index offences and ii) family intervention relevant items such as family contact. The psychological needs questionnaire was not formally validated or tested for reliability prior to use in the programme of research. A research team of forensic professionals gave feedback on how relevant and usable the questionnaire would be to a forensic service user group.

The National Minimum Standards (NMS; Department of Health, 2002) suggest that family intervention should be offered to all families experiencing schizophrenia. In an attempt to assess whether the forensic wards offered family intervention services and in the
absence of such a developed measure, the NMS guidelines were used to develop a simple questionnaire checklist (Appendix 4.3). The checklist asked ward managers to provide evidence that family interventions were being offered to service users and their families at the time of assessment. This checklist may be criticised for being too simple in its approach as it is not a standardised questionnaire, nor had it been tested for reliability or validity. The checklist was suitable as a survey method to gain an understanding to what extent had the forensic wards attempted to meet the Department of Health guidelines regarding family intervention. Rather than gaining a simple yes or no answer, this NMS questionnaire aimed to gain evidence to prove that a family intervention service was being offered, that complied with the NMS (2002).

**2.4 Thematic Analysis (Chapter 6)**

Thematic analysis is a process for coding qualitative information (Boyatzis, 1998) which allows the exploration of explicit data. Compared to alternative methods that explore qualitative data such as grounded theory, conversation analysis or discourse analysis; thematic analysis is more flexible as it is not bound by theory and can therefore be utilised in different frameworks (Braun and Clarke, 2006). As Chapter 6 explored staff views of the barriers and the solutions to family intervention in forensic services for the first time, theoretical freedom was required to generate themes in the data. Thematic analysis may be criticised for being too simple a technique and it is poorly acknowledged in the field of psychology compared to quantitative methods. It is a non-technical method which may be regarded as a negative point, yet thematic analysis does provide a structure to produce a rich and detailed account of data (Braun and Clarke, 2006). Thematic analysis therefore seemed suitable for exploring the i) possible barriers and the ii) possible solutions to successful implementation of family intervention within forensic services presented in
Chapter 6. This use of thematic analysis aimed to problem solve and organise data by showing any patterns in the responses that staff generated to the questions posed. Thematic analysis incorporates the theory of attribution, as it is interested in how people make sense of content, which describes how people attribute meaning in situations.

2.5 Q methodology (Chapter 7)

Q methodology (Brown, 1980; Stephenson, 1953) enables the diversity of subjective beliefs to be systematically and empirically investigated without recourse to predetermined structures. This methodology was carefully chosen after considering other methods of examining attitudes such as Likert scaling (Likert, 1932) or Thurstone scaling (Thurstone & Chave, 1929). Q was the most suitable method to explore the attitudes toward family intervention as it allows a descriptive of the data rather than simply agreement or disagreement with statements. Q method is considered a mixed methodology as it incorporates qualitative techniques to gather data that can then be analysed using quantitative factor analysis. Q method is poorly understood compared to other established research methods and is therefore sparsely used in research (Dziopa & Ahern, 2011). Q can be useful as an exploratory tool allowing participants to consider each statement in relation to their attitude on a topic, rather than a quick snap-response. Q method may be regarded as a method that incorporates attribution theory as it is interested in understanding the attitudes or attributions that individuals hold about a topic.

In a study using Q method, individual attitudes are elicited through sorting a set of statements (e.g., a Q set [see Appendix 7.1]) selected from a wide range of relevant literature and resources. Participants are encouraged to reflect on the degree to which statements concur with their beliefs on the subject in question. Q methodology is increasingly being used to investigate attitudes in the field of mental health (Cross, 2005;
Flitcroft et al., 2007; Gregg et al., 2009; Watts & Stenner, 2005). Q methodology was a suitable technique to explore attitudes in Chapter 7 as it enabled exploration of relatives and staff attitudes towards family intervention and the use of a web camera to facilitate it without the restrictions of predetermined responses as is often the case with attitudinal questionnaires.

The advantage of using mixed methodology (i.e. qualitative and quantitative research methods) in this thesis highlights the benefits of considering the research questions from different research perspectives. For example, quantitative methods using standardised questionnaires often offer well researched and clinically utilised tools to provide numeric data for quantitative analysis and explanation. Alternatively, the use of qualitative methods such as thematic analysis and Q methodology offer a more detailed exploration and description of the data, but can lack the numerical power. Advantageously, some methods of qualitative and quantitative methods can be combined within the same study to describe the same data; using qualitative Q method and quantitative factor analysis to present results for example. The use of different methodological approaches in investigating family intervention within forensic services allows cross-comparison of results, rather than limiting findings to a single research method. This may be helpful to establish if data present similar or different outcomes using different methods. The use of mixed approaches may add to the validity and reliability of the data. As forensic research is sparse, the mixed method allows open-mindedness for new data to be absorbed and considered in this programme of research. As an example, Chapter 6 used quantitative methods to assess the needs of relatives in relation to their appraisal of the frequency, their concern and their coping with their relatives (service user’s) symptoms of schizophrenia. Chapter 7 may be used to cross-reference some of the data in Chapter 6 to gain a qualitative understanding of attitudinal statements that refer to the coping with symptoms of
schizophrenia (i.e. statement 11: family interventions help relatives cope). Also Chapter 7 explored relatives and staff attitudes towards the use of e-FFI, resulting in open-minded attitudes. This data was followed up in Chapter 8, when the family who took part in the e-FFI feasibility study commented on the ease, applicability and usefulness of the technique despite initial fears in using a web camera.

The methods and tools summarised in this chapter were carefully selected and proved valuable to the programme of research. The information collected from such tools informed a preliminary case study investigating the feasibility of a web camera facilitated family intervention (see Chapter 8).
Chapter 3

A meta-analysis of the efficacy of family interventions in the treatment of schizophrenia

3.1 Abstract

Family interventions are an evidenced based psychological intervention in the treatment of schizophrenia. Such interventions have been available for over twenty years. This study explores the efficacy and maintenance effects of family interventions in the treatment of schizophrenia, across multiple outcome variables. Literature searches highlighted randomised controlled trials under the description of family intervention. These studies were subject to a meta-analysis that included 2764 service users with a diagnosis of schizophrenia, subject to a number of outcome variables. A measure of quality was introduced to the family intervention literature, as an additional factor. The meta-analysis showed that overall, family interventions have a significant positive effect over time. The NNT =5. Overall family interventions continue to produce significant outcomes for service users and their families, which are maintained up to 8 years following treatment cessation. However more research, including the investigation of social outcome variables and improvement in knowledge of schizophrenia, would be valuable to extend and conclude on the positive effects that family interventions can produce for families.
3.2 Introduction

Family interventions have been used as a psychological treatment for depression (Berkowitz, 1998), substance misuse (Haddock et al., 2003), bipolar disorder (Shaub, 2002), and schizophrenia (e.g., Pflammatter et al., 2006; Pharaoh et al., 2006; 2010; Pilling et al., 2002). With respect to schizophrenia, the main focus of family interventions has been to reduce relapse rates (Bustillo et al., 2001; Falloon et al., 1982; Pitschel-Walz et al, 2001) which is a persistent problem in these service users (American Psychological Association, 1994). However, they have also been effective in reducing psychotic symptoms (Falloon et al., 1982; Glynn et al., 1992; Kuipers et al., 2002; Randolph et al, 1994; Zhang et al., 1994), improving social and psychological functioning in those with a diagnosis of schizophrenia (e.g., Barrowclough et al., 2001; Chien & Chan, 2004), and improving knowledge about schizophrenia in relatives (Merinder et al., 1999). The main goals of the current meta-analysis were to determine the extent to which family interventions are effective in treating those with a diagnosis of schizophrenia, to determine whether these effects are short or long lasting, and to determine whether family interventions are effective across four different outcome measures of reduced relapse; reduced psychotic symptoms; improved social functioning and improved knowledge of schizophrenia. There are two novel aspects of this meta-analysis which set it apart from two other such studies (Pharaoh et al., 2010; Pilling et al., 2002). First, the effects of family interventions on all four outcome measures have been assessed and, more importantly, compared. Second, a measure of the methodological quality of the included studies was incorporated into the analysis.

The effectiveness of family interventions on relapse rates has been addressed by meta-analysis research in this area (e.g. Pfammatter et al., 2006; Pharaoh et al., 2010; Pilling et al., 2002). Meta-analyses are growing in popularity in psychology research and
are recognised as a respected method to present multiple outcomes on a given topic (Bornstein, 2007). However meta-analyses may fall into criticism as results can be too generalised, as ultimately many studies are grouped together which can conceal smaller and important detail in individual studies. Therefore the individual detail of each study included in a meta-analysis must be considered by the researcher and presented for the reader.

The current meta-analysis was interested in whether family intervention is effective at ameliorating psychotic symptoms, improving social functioning and improving knowledge about schizophrenia, in addition to reducing relapse. It is well established that the positive and negative symptoms of psychosis can have a large impact on daily functioning, affecting social and occupational functioning, and eating and sleeping patterns (APA, 2007; NICE, 2009). There is some evidence that family interventions reduce psychotic symptoms. For example, Falloon and colleagues (1982) found that a third of service users taking part in a family intervention treatment showed signs of reduced psychotic symptoms up to nine months after treatment, compared to two thirds of service users in a standard treatment who showed little change in such symptoms. Similar results have been reported by other studies (Glynn et al., 1992; Kuipers et al., 2002; Zhang et al., 1994). It is clearly important to evaluate the strength of these findings taken together to determine whether symptom reduction is a legitimate target for family interventions.

A large body of evidence has shown that people with a diagnosis of schizophrenia have difficulties with social functioning (Barrowclough et al., 1998; 1999; Chien, 2008; Sellwood et al., 2001). Family interventions encourage communication and family contact in an environment which is supportive and can nurture constructive social dynamics between family members (Barrowclough & Tarrier, 1992; Kuipers et al., 2002; Pharaoh et al., 2006). Hence, these interventions seem well suited to improving social functioning. Social outcome variables addressed in family intervention studies have included measures
of social functioning (Barrowclough et al., 2001; Chien & Chan, 2004; Chien, 2008), social adjustment (Brooker et al., 1992), communication skills (Bellack et al., 2000) and relationship formation (Barrowclough et al., 1999). However, despite the potential importance of these social outcome variables, they have been reported by only a few family intervention studies (Barrowclough et al., 2001; Brooker et al., 1992; Chien & Chan, 2004, Sellwood et al., 2001; Xiong et al., 1994). Again, it is important to assess whether this corpus of studies, albeit small, lends support to the idea that family interventions can be used to improve social communication skills in those with schizophrenia.

Closely associated with the work of family intervention for schizophrenia is attribution theory (Heider, 1958). Attribution theory relates to the social and knowledge factors discussed here; of how others may perceive schizophrenia negatively as a ‘cause and effect’ problem that is attributed to the individual’s control (Weiner, 1985). Such attributions can influence the successful treatment of a service user with schizophrenia. For example if a relative attributes the service user’s behaviour as internal and controlled by the individual, their attitude and response is likely to be negative. This attribution may be due to a lack of knowledge about schizophrenia and the symptoms. Therefore research has shown that family intervention providing improvement in knowledge about schizophrenia can alter the attributions of relatives. Relatives can accurately attribute symptoms to the mental illness instead of the service user which can result in reduced relapse, reduced symptoms and improved relationships (Barrowclough & Tarrier, 1992, Kuipers et al., 2002).

A number of studies have demonstrated the benefits of educating service users and relatives about schizophrenia (Merinder et al., 1999; Posner et al., 1992; Smith & Birchwood, 1987). This can include communicating information about the consequences of a diagnosis of schizophrenia for a family member across a number of domains, including
medical (e.g., the effects of medication or failing to take medication), psychological (e.g., countering feelings of fear; understanding communication issues), and societal (e.g., learning about the stigmatisation that is associated with schizophrenia (Barrowclough & Tarrier 1992; Kuipers et al., 2002). A small number of studies have included this sort of psychoeducation in their family intervention programs (Bradley et al., 2006; Buchkremer et al., 1995; 1997; McFarlane et al., 1995). It is important to assess whether consequent increases in illness related knowledge has occurred.

In addition, little is known about the effect of different clinicians delivering family interventions. Some studies used psychologists or psychiatrists (Sellwood et al., 2001; Tarrier et al., 1994) with other studies using nurses (Brooker et al., 1992) or mental health practitioners (Chien & Chan, 2006; Chien, 2008) to deliver the intervention. A further aim of this meta-analysis was to investigate if the type of clinician delivering the family intervention influences effectiveness.

Studies are usually included or excluded in a meta-analysis based on a number of strict pre-set criteria. However, stringent criteria may result in too few studies being included especially where the quality of the studies is variable and the available studies are relatively few, as was the case with the studies identified for the current meta-analysis (Toneatto et al., 2003). Rather than exclude studies which failed to meet rigorous entry criteria, an alternative approach is to rate studies for methodological quality and then determine whether effect sizes are associated with that measure of quality. Indeed, even when stringent inclusion criteria are used, the methodological quality of the studies still varies (Tarrier & Wykes, 2004). Tarrier and Wykes (2004) developed the Clinical Trial Assessment Measure (CTAM) to quantify the methodological quality of clinical trials of psychological treatments. As with many assessment measures the CTAM is vulnerable to researcher bias as the researcher may complete both the CTAM scoring for each of the
studies along with the (meta) analysis. The CTAM may be criticised for being focused on quantitative analysis as none of the fifteen items of the measure assess or consider possible qualitative feedback on the use of a psychological intervention. However, the CTAM has been used effectively in a number of studies, including three meta-analyses which showed that methodological quality was inversely related to effect sizes (Gooding & Tarrier, 2009; Tarrier et al., 2008; Wykes et al., 2008). The CTAM was, therefore, used to quantify methodological quality in the current meta-analysis.

The overall aim of this work was to systematically review studies that included a family intervention for individuals with schizophrenia. The first prediction was that family interventions would improve outcome variables overall, compared to control conditions. The second prediction was that the effects of family interventions would endure beyond the first month after treatment cessation. The third prediction was that family interventions would produce significant improvements across four outcome measures of reduced relapse rates, reduced psychotic symptoms, improved social functioning and improved knowledge about schizophrenia. The final prediction was that poorer quality studies would be associated with greater effect sizes, as a greater effect size represents poorer results.

A number of issues were of additional importance in establishing the key components of family interventions. These were i. whether one type of treatment delivery produced better outcomes than other modes of delivery (i.e. group, individual, and mixed); ii. whether the type of therapists carrying out the therapy influenced treatment effectiveness; iii. whether the sample treated in family interventions affected outcomes (i.e. relative, relative plus service users), and iv. whether attrition rates, the percentage of men in the sample, the number of treatment sessions, age and date of publication were associated with effect sizes. A final aim was to present an idea of ‘numbers needed to treat’ (NNT) using family interventions. The NNT provides economic information about the
resources needed to gain successful results in family intervention as well as realistic outcomes for future family intervention (Laupacis et al., 1988; Pilling et al., 2002; Sellwood et al., 2001).

3.3 Method

Search strategy

Electronic searches of the literature were undertaken using online databases PsychINFO and Web of Science. Key words searched using Boolean criteria were: “family therapy AND mental health”, “family intervention AND randomised controlled trial”, “psychosis AND psychosocial intervention”, “expressed emotion AND family work”, “relapse AND social outcomes”, and “relatives AND schizophrenia”. Reference lists from the relevant literature were hand searched and review articles were scanned so that all relevant studies were included.

As family intervention studies have been conducted as early as 1978, this meta-analysis identified an inclusive sample of randomised controlled trials from 1978 to August 2010. The search identified 2451 hits. The following inclusion and exclusion criteria were then applied to this database of studies.

Selection

Inclusion criteria: Studies were included if they were published in a refereed journal; had a treatment or experimental group which consisted of a form of family intervention; had a control group for comparison with the treatment group (such as treatment as usual, no treatment or waiting list control, or another form of treatment); had an outcome measure of relapse or an outcome which indicated i. reduced psychotic symptoms, ii. improved social functioning or iii. improved knowledge about schizophrenia. Follow up studies of original research were also included.
Exclusion criteria: Studies were excluded if they sampled service users with diagnoses other than schizophrenia, such as bipolar disorder, and if they had no control group. Papers that were clinical descriptions, qualitative studies, case series, review papers or treatment manuals were excluded, as were papers in languages other than English. Studies were also excluded from the analysis if they had a focus on training rather than treatment outcome measures (e.g., Dixon et al., 2001; Laube & Higson, 2000). Forty-one studies survived the applied criteria.

Attrition rates

Trials which assess the effectiveness of psychological treatments are prone to attrition (Leon et al., 2006). Attrition rates are important because they can indicate biases occurring across the duration of the trial and, therefore, signal information about the acceptability of the intervention and conditions of the trial (Berry et al., 2000). Attrition can occur at different points of therapy. For the current meta-analysis two attrition rates were established i) the ‘recruitment attrition rate’ which refers to the percentage of people who were recruited from an eligible sample and ii) the ‘trial attrition rate’, which were those from the recruited sample who completed the treatment schedule. The ‘recruitment attrition rate’ shows the drop out rate before official recruitment and the ‘trial attrition rate’ shows the drop out rate during the family intervention. This can be important in detecting possible reasons for poor engagement or non-completion in therapy and may also highlight possible reasons for poor implementation.

Evaluation of the trial methodology

The Clinical Trials Assessment Measure (CTAM: Tarrier & Wykes, 2004) was used to assess the quality of the studies. The CTAM assesses the following factors: sample size, recruitment, allocation to treatment, outcome measures, controls, treatment types and data analysis. A final score can range from 1-100, with 100 showing the highest
methodological rigour. A cut-off of 65 and above indicates methodologically rigorous studies. The CTAM has established reliability and validity when compared to other scales that measure trial quality (Tarrier et al., 2008). One of the authors, NT, who also developed the CTAM (Tarrier & Wykes, 2004), carried out the quality assessments in this study to ensure consistency. NT was blind to the outcome of the studies to negate potential rater bias.

**Statistical analysis**

Hedge’s $g$ reports the standardised mean difference between samples (Borenstein et al., 2009). This was chosen as similar to Cohen’s $d$ (Cohen, 1969), the mean difference can be divided by the standard deviation to create the standardised mean difference. This can then be compared across studies that use different measures to assess the outcome. As the meta-analysis encompasses many studies using a range of different measures to assess the same outcome, Hedge’s $g$ is comparable across studies. Using Hedge’s $g$ a moderate effect size would be in the range of 0.5-0.8 and a large effect size would be 0.8 and above. In addition, Hedge’s $g$ was used as a measure of effect size because it is appropriate for small sample sizes (Borenstein et al., 2006; Hedges & Olkin, 1985). In all cases, where family intervention was effective, the effect sizes were negative because a positive outcome of therapy is denoted by less relapse, a smaller frequency of psychotic symptoms, less social dysfunction, and a smaller degree of poor knowledge. Confidence intervals (CI) at 95% were calculated. Analyses were conducted with comprehensive Meta-Analysis 2.2.034 (Borenstein et al., 2005). As the studies were heterogeneous, a random effects model was used because it incorporates both the random variation within the studies and the variation between the different studies. Meta-regression analyses, using the methods of moments, were performed to determine whether the quality of studies, attrition rates, percentage of men and number of sessions predicted effect sizes.
In addition to the Hedge’s $g$ analysis, the effect sizes for the treatment variables were compared using Cochran’s $Q$ (Cochran, 1954). The Cochran’s $Q$ statistic tested the null hypothesis to see if data were similar between the individual studies included in the group. The $Q_{between}$ statistic allowed direct and detailed comparison between multiple sub-groups, comparing significant effect sizes to highlight significant differences between groups. A small $Q_{between}$ value is consistent with $P$ values of near 1 (Borenstein et al., 2006).

3.4 Results

Study characteristics: Forty-one studies, plus 11 follow-up studies were identified that met the inclusion criteria and their characteristics are detailed in Tables 3.1a and 3.1b. Included in these studies were 2764 service users with a diagnosis of schizophrenia.
Table 3.1a – Family intervention descriptive statistics for the x 41 meta-analysis studies; presenting attrition, percentage of men, age, time points, number of sessions and CTAM scores for each study.

<table>
<thead>
<tr>
<th>Study &amp; country</th>
<th>N – Eligible</th>
<th>N- Recruit ed</th>
<th>N- Compl eted</th>
<th>N- FU</th>
<th>Attrition recruitme nt %</th>
<th>Attrition treated %</th>
<th>% men recruited</th>
<th>Age</th>
<th>Data point (wks)</th>
<th>Number of sessions / duration</th>
<th>CT A M</th>
</tr>
</thead>
<tbody>
<tr>
<td>3. Bradley, Couchman, Perlaesz, Nguyen, Singh &amp; Riess 2006 Australia</td>
<td>59</td>
<td></td>
<td></td>
<td></td>
<td>30</td>
<td>33.6 / 8</td>
<td>78****</td>
<td>26</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Brooker, Tarrier, Barrowclough, Butterworth &amp; Goldberg 1992, UK</td>
<td>60</td>
<td>54</td>
<td>30</td>
<td>10</td>
<td>45</td>
<td>70</td>
<td>33.1 / 7.8</td>
<td>52 ****</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Buchkremer, Monking, Holle &amp; Hornung 1995, Germany</td>
<td>333</td>
<td>151</td>
<td>99</td>
<td>55 35</td>
<td>72</td>
<td>27 / 6.6</td>
<td>156****</td>
<td>9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Buchkremer et al, 1997 Germany</td>
<td>191</td>
<td>147</td>
<td>132</td>
<td></td>
<td>58</td>
<td>31.3</td>
<td>104****</td>
<td>10-30 over 48 weeks</td>
<td>65</td>
<td></td>
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<td>% men recruited</td>
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* = 0-3 months time point analysis (0-12 weeks), ** = 4-6 months time point analysis (13-26 weeks), *** = 6-12 months time point analysis (27-51 weeks), **** = 12 months plus time point analysis (52> weeks).
Table 3.1b- Descriptive information for the 41 family intervention studies covering type, delivery, sample, professions, venue and outcome measures
Location of studies: Seven studies (17%) were carried out in the United Kingdom, and eleven (27%) were conducted in the United States. Three (7%) were carried out in Australia and four (10%) in Spain, seven (17%) in China, two (5%) in Germany and one each in Japan, the Netherlands, Italy, India, Canada, Greece and Denmark (see Tables 3.1a & 3.1b).

Gender: Thirty-eight (92%) of the forty-one studies provided gender data. The sample comprised of over 50% of males for the majority of the studies (N=29, 76%). These thirty-eight studies did not compare outcome variables for males and females.

Age: Forty (98%) of the forty-one studies provided age data. The mean age collapsed across all studies was 32 (SD=7.3, Range =21-54, Median=31.3).

Diagnostic information: In accord with the inclusion criteria, all the service users included in the meta-analysis had a diagnosis on the schizophrenia spectrum. This diagnosis was assessed using various tools which were, in part, determined by the date of the study and the available instruments at the time. The Structured Clinical Interview for DSM- III / IV (SCID: Spitzer et al., 1985) was the most common instrument, followed by the Present State Examination (PSE: Wing et al., 1974), the Global Assessment Scale (GAS: Endicott et al., 1976), and the Positive and Negative Syndrome Scale (PANSS: Kay et al., 1987). See Table 3.1b for measures used by each study.

Design of the studies: Across all time windows, twenty-six studies (62%) provided cohort event data. Three studies (7%) provided pre- and post-treatment means (Barrowclough et al., 2001; Brooker et al., 1992, Hazel et al., 2004), four (9%) provided independent group means and standard deviations (Giron et al., 2010; Merinder et al., 1999, Schooler et al., 1997, Telles et al., 1995) and nine (22%) provided means and standard deviations (Chien & Chan, 2004; Chien et al., 2006; Chien, 2008; Magliano et al., 2006; Mueser et al., 1999; Pickett-Schenk et al., 2008; Posner et al., 1992; Smith &
Birchwood, 1987; Szmukler et al., 1996) for family intervention outcome variables after treatment.

_outcome measures:_ Of the original forty-one studies, 24 (59%) had a primary outcome measure of relapse. Seventeen (41%) studies focused on other outcome measures. These outcome measures were reduction in psychotic symptoms (N= 12, 29%) [Barrowclough et al., 2001; Dyck et al., 2000; Falloon et al., 1982; Glynn et al., 1992; Kulhara et al., 2008; Magliano et al., 2006; Randolph et al., 1994; Smith & Birchwood, 1987; Telles et al., 1995; Zastowny et al., 1992; Zhang et al., 1994], increase in relative’s knowledge of schizophrenia (N = 4, 10%) [Merinder et al., 1999; Posner et al., 1992; Smith & Birchwood, 1987; Pickett-Schenk, 2008], and improved social functioning (N =8, 20%) [Barrowclough et al., 1999; 2001; Bellack et al., 2000; Brooker et al., 1992; Chien et al., 2006; Chien, 2008; Pickett-Schenk et al., 2008; Xiong et al., 1994]. Twelve studies had secondary outcome measures, which were psychotic symptoms (N = 5) [Barrowclough et al., 1999; 2001; Buchkremer et al., 1995; Falloon et al., 1982; Giron et al., 2010], improved relationships (N = 1) [Xiong et al., 1994], reduced burden (N=3) [Chien et al., 2006; Giron et al., 2010; Magliano et al., 2006] and social functioning (N = 3) [Barrowclough, 1999; Giron et al., 2010; Hazel et al., 2004].

For the current analysis, the primary outcome variables which were identified by the study were used. Nine out of the 11 follow up studies used the same outcome measure as the original study, and were all relapse rates. Only one study reported follow up data on psychotic symptoms only (Randolph et al., 1994) and one study reported social functioning outcome measures (Sellwood et al., 2001). One study (Bellack et al., 2000) reported communication outcome measures in the follow up study whereas the original study reported only relapse outcome measures (Schooler et al., 1997).
Quality of the studies: The current CTAM mean for family intervention trials was 61.1 ($SD = 15.7$) which was similar to 61.2 ($SD = 18.1$) reported in a study examining the effectiveness of CBT in the treatment of schizophrenia (Wykes et al., 2008). Other meta-analyses using the CTAM have recorded lower means of 55.7 ($SD= 15$) in an assessment of CBT for suicide prevention (Tarrier et al., 2008), 41.6 ($SD=19.0$) in an assessment of the effects of CBT for gambling (Gooding & Tarrier, 2009) and 35.3 ($SD = 12.4$) in the use of virtual reality in mental health settings (Gregg & Tarrier, 2007). Table 1a presents the CTAM scores for each study. The mean CTAM score was 61.1 ($SD = 15.7$, $Range = 17-97$). Twenty-three studies (56%) fell below the cut off mark of 65/100 for methodological rigour (Wykes et al., 2008). Eighteen studies (44%) reached the cut off mark of 65 or above. Of these, ten studies (55%) were published in the 2000’s, six (33%) published in the 1990’s, with one (6%) published in the 1980’s and one (6%) in the 1970’s. This observation indicates that the majority of studies with acceptable methodological rigour were more recent publications.

Attrition Rate: Attrition rates across the studies differed as some studies showed low attrition rates (Barrowclough et al., 1999; Leff et al., 1982), whereas other studies had high attrition rates (Buchkremer et al., 1995; Dyck et al., 2002). To investigate possible biases occurring due to attrition, two measures of attrition were used. First, the percentage of participants who were eligible for the trial but did not proceed to recruitment was calculated ($recruitment\,attrition= 20\%, \,SD= 20.1$, $Range= 23-542$), followed by a second attrition rate named trial attrition that represented the participants who did not complete the intervention ($trial\,attrition = 46\%, \,SD= 13.9$, $Range= 24-462$).

Family intervention components

Content of treatment: Family interventions were influenced by, or included, cognitive and behavioural approaches (CBT) for sixteen (39%) of the forty-one papers.
These studies used cognitive and behaviour change via social skills and communication training, problem solving and coping skills in a structured manner (Barrowclough et al., 1999; 2001; Brooker et al., 1992; Dyck et al., 2000; 2002; Falloon et al., 1982; Garety et al., 2008; Glynn et al., 1992; Kulhara et al., 2008; Linszen et al., 1996; Montero et al., 2001; Sellwood et al., 2001; Tarrier et al., 1988; Telles et al., 1995; Xiong et al., 1994). Nine studies (22%) used a mixed or eclectic approach to family intervention, utilising a mixture of methods from various psychotherapeutic schools or orientations (Chien & Chan, 2004; Goldstein et al., 1978; Hogarty et al., 1986; 1991; Leff et al., 1982; Schooler et al., 1997; Shimodera et al., 2000; Tomoras et al., 2000; Vaughan et al., 1992). Sixteen studies (39%) used a psycho-educational focussed family intervention providing information or education to relatives, with no cognitive or behavioural methods described (Bradley et al., 2006; Buchkremer et al., 1995; 1997; Chien & Chan, 2004; Chien et al., 2006; Chien, 2008; Hazel et al., 2004; McFarlane et al., 1995; Merinder et al., 1999; Pickett-Schenk et al., 2008; Posner et al., 1992; Ran et al., 2003; Smith & Birchwood, 1987; Szmukler et al., 1996; Zastowny et al., 1992; Zhang et al., 1994). See Table 2 for detail.

Mode of treatment delivery: Twenty-nine (71%) studies included treatment sessions with both the service user and the relative, and 12 (29%) studies consisted of interventions with the relative only. Twenty (49%) studies delivered the family intervention in a group environment whereas 17 (41%) studies conducted family interventions in individual, one-to-one, sessions with the therapist. Four (10%) studies used a mixture of both group and individual methods (Leff et al., 1982; 1990; Zhang et al., 1994; Xiong et al., 1994). The ‘mode of treatment delivery’ for each study can be seen in Table 3.1b.

Number of sessions and duration of treatments: Thirty-seven studies gave explicit information about the number of sessions comprising the therapy programme (90%, Mean = 21.5, SD = 1.4). The least number of sessions used was four (Smith & Birchwood, 1987),
and the greatest was 96 (Dyck et al., 2002). The duration of treatment also varied. In one study, treatment was delivered within six weeks (Goldstein et al., 1978). In contrast, treatment lasted two years in another study (Schooler et al., 1997). Twenty-seven studies (66%) delivered treatment within a six to twelve month time frame (See Table 3.1a).

**Profession of therapist delivering the treatment:** Various professionals administered the family interventions representing psychology, psychiatry, nursing and the counselling professions. Psychologists or psychiatrists administered the family intervention in twenty-two (68%) studies; ten studies (32%) used a multi-disciplinary team of mental health practitioners (Buchkremer et al., 1995; 1997; Chien et al., 2006; Chien, 2008; Giron et al., 2010; Glynn et al., 1992; Kulhara et al., 2008; Magliano et al., 2006; Zastowny et al., 1992; Vaughan et al., 1992). Information on profession is shown in Table 3.1b.

**Effect size results**

There were forty-one studies included in the analysis. Eleven studies provided follow up data from the original study which were analysed separately (Barrowclough et al., 1999; Bellack et al., 2000; Falloon et al., 1982; Haddock et al., 2003; Hogarty et al., 1991; Leff et al., 1982; 1990; Randolph et al., 1994; Sellwood et al., 2001; Tarrier et al., 1988; 1989). Two studies provided more than one follow up period (Sellwood et al., 2001; Tarrier et al., 1989) and six single studies provided follow up data within the original paper (Bradley et al., 2006; Chien et al., 2006; Chien, 2008; Giron et al., 2010; Tomoras et al., 2000; Xiong et al., 1994).

The first prediction was that family interventions would be effective overall (after treatment had finished). As can be seen from Figure 3.1, the overall effect size was highly significant ($N = 41$; $Hedge’s g = -0.518$, $p<0.0001$), showing that family interventions are effective in treating schizophrenia.
Figure 3.1: Forest plot showing effect sizes for N=41 family intervention studies
**Time points**: The second prediction was that the effects of family interventions would be sustained. Consequently, the effect sizes of outcome variables were examined at a time point of up to one month after treatment cessation and a second time point after one month and beyond. At the first time point for outcome data collected within one month after treatment cessation, the effect size was significant \((N=20, 49\%, \text{Hedge's } g= -0.428, \ p< 0.0001)\). This result indicates that the successful outcomes from family intervention can be seen up to one month after treatment cessation. When the second time point was analysed the effect size was also significant \((N= 21, 51\%, \text{Hedge's } g= -0.674, \ p< 0.0001)\), showing that these successful outcomes can be seen beyond one month after treatment cessation. When the difference between the two time points were compared, the difference was significant \((Q_{between}= 8.38, \ p<0.004)\), indicating that the benefits of family intervention were greater beyond one month after treatment cessation. The overall effects of family intervention were also maintained at follow up \((N= 11, \text{Hedge's } g= -0.618, \ p< 0.0001)\).

**Types of outcome variable**: The third prediction was that effect sizes would be comparable for four outcome variables, namely, reduced relapse rate, reduction in psychotic symptoms, improvements in social functioning and improvements in the relatives’ knowledge about schizophrenia.

**Reduced relapse rate**: Relapse outcome variables collapsed across both time points had significant effect sizes evidencing reduced relapse \((N=24, 57\%, \text{Hedge’s } g= -0.508, \ p< 0.0001)\). Reduced relapse was observed up to one month after therapy cessation \((N=12, 29\%, \text{Hedge’s } g= -0.364, \ p< 0.0001)\) and also beyond one month \((N=12, 29\%, \text{Hedge’s } g= -0.709, \ p< 0.0001)\). When these effect sizes were compared the difference was significant \((Q_{between}= 8.2, \ p<0.004)\), meaning that the benefits of family intervention were
significantly stronger beyond the first month after treatment cessation. Significant effects in reduced relapse were maintained at follow up points ($N= 7$, Hedge’s $g= -0.698, p< 0.0001$).

**Reduced psychotic symptoms:** As with the data based on relapse rate, across 12 studies family intervention therapy was found to have a significant effect size in reducing both positive and negative psychotic symptoms ($29\%$, Hedge’s $g= -0.378, p< 0.0001$). These effect sizes were significant at both the first ($N=5, 12\%$, Hedge’s $g= -0.289, p< 0.05$) and second time points ($N=7, 16\%$, Hedge’s $g= -0.451, p< 0.001$), although the difference was not significant. The effects of reduced psychotic symptoms were maintained at follow up, although the number of studies included in the analysis was small ($N= 2$, Hedge’s $g= -0.833, p< 0.0002$).

**Improved social functioning:** Across nine studies, family interventions significantly improved social functioning ($21\%$, Hedge’s $g= -0.626, p<0.0001$). Again, the effect sizes were significant at the first ($N=5, 12\%$, Hedge’s $g= -0.400, p< 0.012$) and second time points ($N=4, 10\%$, Hedge’s $g= -0.869, p< 0.0001$) and the difference was significant ($Q_{between} = 4.1, p<0.042$), showing that social functioning was greatly improved beyond one month after treatment cessation.

**Improved relatives knowledge of schizophrenia:** Only four studies measured improvements in knowledge. The effect size was significant overall ($10\%$, Hedge’s $g= -0.572, p<0.0001$), showing that family interventions can improve relatives knowledge of schizophrenia. The small sample size precluded further subdivision of these studies to assess if this effect could be maintained over time.

In summary, family interventions improved all four outcome measures. Improvements in relapse rates were evident after one month following therapy cessation, which were also observed for reductions in psychotic symptoms, and improvements in social functioning.
Table 3.2 – Effect sizes for family intervention in the treatment of schizophrenia, across multiple variables for 41 studies and 11 follow up studies: Testing the efficacy and maintenance of family interventions

<table>
<thead>
<tr>
<th>Outcome</th>
<th>N (%)</th>
<th>Hedge’s g effect size</th>
<th>Standard Error</th>
<th>Variance</th>
<th>Lower Limit</th>
<th>Upper Limit</th>
<th>Z Value</th>
<th>P Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall effect size</td>
<td>41 (100)</td>
<td>-0.518</td>
<td>0.041</td>
<td>0.002</td>
<td>-0.598</td>
<td>-0.438</td>
<td>-12.687</td>
<td>0.000</td>
</tr>
<tr>
<td>1 month</td>
<td>20 (49)</td>
<td>-0.428</td>
<td>0.051</td>
<td>0.003</td>
<td>-0.529</td>
<td>-0.328</td>
<td>-8.371</td>
<td>0.000</td>
</tr>
<tr>
<td>1 month plus</td>
<td>21 (51)</td>
<td>-0.674</td>
<td>0.068</td>
<td>0.005</td>
<td>-0.807</td>
<td>-0.541</td>
<td>-9.964</td>
<td>0.000</td>
</tr>
<tr>
<td>FU</td>
<td>11</td>
<td>-0.618</td>
<td>0.098</td>
<td>0.010</td>
<td>-0.811</td>
<td>-0.426</td>
<td>-6.299</td>
<td>0.000</td>
</tr>
<tr>
<td>Relapse</td>
<td>24 (57)</td>
<td>-0.508</td>
<td>0.059</td>
<td>0.003</td>
<td>-0.624</td>
<td>-0.392</td>
<td>-8.569</td>
<td>0.000</td>
</tr>
<tr>
<td>1 month</td>
<td>12 (29)</td>
<td>-0.364</td>
<td>0.078</td>
<td>0.006</td>
<td>-0.516</td>
<td>-0.212</td>
<td>-4.688</td>
<td>0.000</td>
</tr>
<tr>
<td>Plus 1 month</td>
<td>12 (29)</td>
<td>-0.709</td>
<td>0.091</td>
<td>0.008</td>
<td>-0.808</td>
<td>-0.530</td>
<td>-7.760</td>
<td>0.000</td>
</tr>
<tr>
<td>FU</td>
<td>7</td>
<td>-0.698</td>
<td>0.119</td>
<td>0.014</td>
<td>-0.931</td>
<td>-0.465</td>
<td>-5.876</td>
<td>0.000</td>
</tr>
<tr>
<td>Psychotic symptoms</td>
<td>12 (29)</td>
<td>-0.378</td>
<td>0.103</td>
<td>0.011</td>
<td>-0.580</td>
<td>-0.176</td>
<td>-3.667</td>
<td>0.000</td>
</tr>
<tr>
<td>1 month</td>
<td>5 (12)</td>
<td>-0.289</td>
<td>0.153</td>
<td>0.023</td>
<td>-0.589</td>
<td>-0.011</td>
<td>-1.889</td>
<td>0.059</td>
</tr>
<tr>
<td>Plus 1 month</td>
<td>7 (17)</td>
<td>-0.451</td>
<td>0.139</td>
<td>0.019</td>
<td>-0.724</td>
<td>-0.178</td>
<td>-3.239</td>
<td>0.001</td>
</tr>
<tr>
<td>FU</td>
<td>2</td>
<td>-0.833</td>
<td>0.267</td>
<td>0.071</td>
<td>-1.357</td>
<td>-0.309</td>
<td>-3.116</td>
<td>0.002</td>
</tr>
<tr>
<td>Social functioning</td>
<td>9 (21)</td>
<td>-0.626</td>
<td>0.115</td>
<td>0.013</td>
<td>-0.852</td>
<td>-0.400</td>
<td>-5.435</td>
<td>0.000</td>
</tr>
<tr>
<td>1 month</td>
<td>5 (12)</td>
<td>-0.400</td>
<td>0.160</td>
<td>0.026</td>
<td>-0.714</td>
<td>-0.087</td>
<td>-2.503</td>
<td>0.012</td>
</tr>
<tr>
<td>Plus 1 month</td>
<td>4 (10)</td>
<td>-0.869</td>
<td>0.166</td>
<td>0.028</td>
<td>-1.195</td>
<td>-0.544</td>
<td>-5.236</td>
<td>0.000</td>
</tr>
<tr>
<td>Knowledge</td>
<td>4 (10)</td>
<td>-0.572</td>
<td>0.083</td>
<td>0.007</td>
<td>-0.735</td>
<td>-0.409</td>
<td>-6.876</td>
<td>0.000</td>
</tr>
<tr>
<td>------------------</td>
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<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>-------</td>
</tr>
<tr>
<td>Content of treatment</td>
<td>41 (100)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CBT</td>
<td>16 (39)</td>
<td>-0.437</td>
<td>0.08</td>
<td>0.007</td>
<td>-0.60</td>
<td>-0.27</td>
<td>-5.28</td>
<td>0.000</td>
</tr>
<tr>
<td>Psycho-educational</td>
<td>16 (39)</td>
<td>-0.603</td>
<td>0.05</td>
<td>0.003</td>
<td>-0.71</td>
<td>-0.49</td>
<td>-10.9</td>
<td>0.000</td>
</tr>
<tr>
<td>Eclectic</td>
<td>9 (22)</td>
<td>-0.391</td>
<td>0.08</td>
<td>0.008</td>
<td>-0.56</td>
<td>-0.21</td>
<td>-4.42</td>
<td>0.000</td>
</tr>
<tr>
<td>Family member treated:</td>
<td>41 (100)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient only</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Relative only</td>
<td>12 (29)</td>
<td>-0.536</td>
<td>0.077</td>
<td>0.006</td>
<td>-0.687</td>
<td>-0.384</td>
<td>-6.933</td>
<td>0.000</td>
</tr>
<tr>
<td>Both patient &amp; relative</td>
<td>29 (71)</td>
<td>-0.511</td>
<td>0.048</td>
<td>0.002</td>
<td>-0.605</td>
<td>-0.417</td>
<td>-10.629</td>
<td>0.000</td>
</tr>
<tr>
<td>Delivery</td>
<td>41 (100)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group</td>
<td>20 (49)</td>
<td>-0.484</td>
<td>0.050</td>
<td>0.002</td>
<td>-0.581</td>
<td>-0.387</td>
<td>-9.764</td>
<td>0.000</td>
</tr>
<tr>
<td>Individual</td>
<td>17 (41)</td>
<td>-0.563</td>
<td>0.076</td>
<td>0.006</td>
<td>-0.713</td>
<td>-0.413</td>
<td>-7.366</td>
<td>0.000</td>
</tr>
<tr>
<td>Mixed</td>
<td>4 (10)</td>
<td>-0.799</td>
<td>0.214</td>
<td>0.046</td>
<td>-1.219</td>
<td>-0.379</td>
<td>-3.729</td>
<td>0.000</td>
</tr>
<tr>
<td>Therapist</td>
<td>32</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Psychiatrists /</td>
<td>22 (68)</td>
<td>-0.450</td>
<td>0.061</td>
<td>0.004</td>
<td>-0.569</td>
<td>-0.330</td>
<td>-7.379</td>
<td>0.000</td>
</tr>
<tr>
<td>Psychologists</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other mental health practitioners</td>
<td>10 (32)</td>
<td>-0.428</td>
<td>0.101</td>
<td>0.010</td>
<td>-0.626</td>
<td>-0.230</td>
<td>-4.235</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Note: Hedges g effect size reports the standardised mean difference between variables (Bornstein, 2009).
**Quality of studies:** The final prediction was that studies with the poorest quality would have the highest effect sizes. This was assessed with a meta-regression analysis which was non-significant ($z = 0.285, p = 0.775$), showing that the quality of family intervention studies did not predict effect size.

**Components of family interventions:** A number of additional issues were addressed to determine additional key components of family interventions. An assessment was made of whether i. type of treatment delivery, ii. profession of therapists, iii sample treated, iv. attrition rates, v. the percentage of men in the sample, vi. the number of treatment sessions, vii. age and viii. date of publication were associated with effect sizes.

**Mode of treatment delivery:** The effect size was highly significant for the 20 studies which used a group therapy format (49%, Hedge’s $g = -0.484, p < 0.0001$) and for the 17 studies which used individual family therapy sessions (41%, Hedge’s $g = -0.563, p < 0.0001$). The four studies which used a mixture of individual sessions and group work also had a significant effect size (10%, Hedge’s $g = -0.799, p < 0.0001$) [see Table 3.2]. These significant results indicate that individual, group and a mixture of treatment delivery in family interventions are all effective in producing successful outcomes. When these effect sizes were compared, the difference between all comparison groups were non-significant. This non-significant result shows that the differences between the three treatment delivery options were not strong enough to conclude that one was more effective than the other.

**Therapist profession:** The effect size was significant for the 22 studies that used psychologists or psychiatrists to deliver the family intervention treatment (68%, Hedge’s $g = -0.450, p < 0.0001$) and for the ten studies which used other mental health practitioners to deliver therapy (32%, Hedge’s $g = -0.428, p < 0.001$). See Table 3.2 for the full results. When the two categories for therapists delivering the family intervention were compared, the difference was non-significant. These results show that family interventions delivered by a range of mental health professionals produce successful outcomes for service users and families, yet not one profession produces significantly better results than the other.
Family member treated: Effect sizes were highly significant, and comparable, for the 12 studies which delivered therapy to relatives alone (29%, Hedge’s $g = -0.536$, $p < 0.0001$) and for the 29 studies which delivered therapy to relatives together with service users (71%, Hedge’s $g = -0.511$, $p < 0.0001$). The difference between the two effect sizes was non-significant. This result suggests that family interventions delivered to relatives alone or in a family group produce successful outcomes, but neither variation of treatment delivery produced significantly better outcomes when compared.

The extent to which the two measures of attrition rate, the percentage of men sampled, the number of treatment sessions delivered, age and the date of publication predicted the effect sizes were investigated with meta-regression analyses. The percentage of men sampled in the studies did not significantly predict effect sizes ($z = 1.35$, $p = 0.17$), nor did attrition from recruitment [recruitment attrition rate] ($z = 1.4$, $p = 0.14$) or the number of therapy sessions administered ($z = 0.68$, $p = 0.4$). These non-significant results indicate that variables such as gender, drop out rates after recruitment and the number of therapy sessions offered do not have an effect on outcomes following family intervention. However, attrition from treatment [trial attrition rate] was a significant predictor ($z = 2.6$, $p < 0.05$), meaning that the greater attrition rates predicted the smallest effect sizes. The date of publication was also associated with effect sizes ($z = 2.68$, $p < 0.007$), highlighting that the more recent publications produced better results.

Numbers Needed to Treat (NNT): As the majority of studies in this meta-analysis provided relapse data, the NNT was calculated on the risk of relapse outcome variable using the NNT equation (Laupacis et al., 1988). For one service user to benefit from the intervention, then five service users and their families must be treated (NNT=5). Other meta-analyses report an NNT of 7 (Pharaoh et al., 2010) and 8 (Pilling et al., 2002), so the current result appears acceptable. As part of the NNT, two additional results were generated to show the potential risk of relapse for the experimental group (family intervention) = 0.26 and risk of relapse in the control group (treatment as usual) = 0.5. This shows that the potential risk of
relapse for the group receiving family intervention was nearly half of the potential risk of relapse in the control group.

3.5 Discussion

The first prediction of this study was that the effect size would be significant across studies which had used family interventions compared to a control condition to treat schizophrenia. This prediction was up-held and is in accord with two other meta-analyses (Pharaoh et al., 2010; Pilling et al., 2002). The second prediction was that the effects of the family interventions would endure beyond one month after therapy had ceased. This was found to be the case, and the effects were stronger when outcome variables were collected at a time point beyond one month after therapy cessation compared to an earlier time point of up to one month after therapy cessation. This was further supported by the follow up data, which evidenced strong significant effects for outcome variables up to eight years after family intervention treatment (Tarrier et al., 1994). Pilling and colleagues (2002) also reported that family interventions were effective up to 12 months after therapy ended. Pharaoh and colleagues (2006) found that reduced relapse rates were significant at twelve, eighteen and twenty-four months after treatment, but, perhaps surprisingly, not significant at six months and ambiguous from three years and beyond.

One issue with family intervention research is that the outcome measure of relapse rate has tended to be dominant (Pitschel-Walz et al., 2001). A third aim of the current meta-analysis was to determine whether three other outcome measures, namely, reduced symptoms of schizophrenia, improvements in social functioning, and knowledge about schizophrenia would all be benefit from family interventions. Findings were positive because the effect sizes were significant for all four outcome measures. Notably, improvements in relapse rate, in reducing psychotic symptoms and in social functioning were significant at both time points, and improvements in the outcome variables were stronger at the longer time point. From a clinical perspective this finding is important because it suggests that family
interventions can be used to target a range of psychological processes, and maintain long standing effects.

Only Pharoah and colleagues (2006; 2010) have examined social functioning in addition to relapse rate and found that family interventions benefitted social functioning outcome measures. Their analysis (2006) included a sample of four studies, whereas the current meta-analysis included nine, meaning that it has better statistical power. Both the study of Pharoah and colleagues (2006) and the current meta-analysis assessed general social impairment. A characteristic of the studies assessed by Pharoah and colleagues (2006) was that they all used the Social Functioning Scale (Birchwood et al., 1990) whereas the current analysis included studies which used the Social Functioning Scale along with the Specific Level of Functioning Scale, (Schneider et al., 1983) and the Social Adjustment Scale (Birchwood, 1983). This implies that the positive effects of family interventions on social functioning generalises across measurement tools and is not simply the effect of one measurement tool tapping into one aspect of social functioning. Indeed, an examination of each scale demonstrates that across studies the effects of family interventions range of social abilities have been assessed. For example, the Social Functioning Scale previously originated as the Social Adjustment Scale (Birchwood, 1983) assessed seven aspects of functioning: withdrawal; interpersonal functioning; pro-social activities; recreation; competence-independence; performance-independence and employment. The Specific Level of Functioning Scale covered three areas of functioning: self maintenance; social functioning and community living skills. The Social Functioning Scale (Birchwood et al., 1990) seems to cover a larger range of social processes and therefore assesses a larger range of social abilities.

Family interventions appear to provide and nurture a range of psychological skills including those pertaining to social functioning and those producing an increased knowledge of schizophrenia and the implications of the disorder. This concurs with work showing that reducing expressed emotion in families results in reduced relapse rates through improving
social communication skills and encouraging a cohesive and supportive environment (e.g., Barrowclough & Tarrier, 1992; Ferriter et al., 2003).

The final prediction of this meta-analysis was that, based on effect sizes being inflated by poor methodological rigour (Thornley & Adams, 1998), effect sizes would be inversely associated with the quality of the studies, as has been found in previous meta-analyses (Gooding & Tarrier, 2009; Tarrier et al., 2008; Wykes et al., 2008). This was the first study to include the CTAM in a meta-analysis investigating family intervention. The mean score for the studies in the current meta-analysis did not reach the cut off value of 65. Previous meta-analyses using the CTAM reported lower mean scores of 37.4 (Gregg & Tarrier, 2007), 41.6 (Gooding & Tarrier, 2009), 55.7 (Tarrier et al., 2008) and 61.2 (Wykes et al., 2008), indicating that the current meta-analysis had better quality studies compared to previous analyses. However, the previously observed inverse relationship between effect sizes and methodological rigor (Gooding & Tarrier, 2009; Tarrier et al., 2008; Wykes et al., 2008) was not evidenced in the current meta-analysis. The CTAM results, therefore, indicate a ‘real effect’, suggesting that the variables of family intervention are not an artefact of the methodology. This is the opposite of CBT meta-analytic studies using the CTAM which showed that low CTAM scores significantly predict greater effect sizes (Gooding & Tarrier, 2009; Tarrier et al., 2008; Wykes et al., 2008).

However, an interesting, and related, finding was that the date of publication was positively associated with the effect sizes, meaning that the more recent studies were associated with smaller (i.e. less negative) effect sizes. CTAM scores were also positively correlated with publication date, meaning that better quality studies were more recent as would be expected from the literature (Barrowclough et al., 2001; Chien & Chan, 2004; Garety et al., 2008; Kulhara et al., 2008; Montero et al., 2001; Ran et al., 2003; Sellwood et al., 2001). This highlights the importance of future meta-analyses examining psychological treatment effects analysing the i) effect of the quality of studies and the ii) effect of time of publication on effect sizes.
Family interventions provide significant benefits for people taking part in the intervention, but it is not clear which combination of family intervention parameters are most effective (Kuipers et al., 2002). Three of these parameters include the intervention being delivered i. on an individual one-to-one basis versus a group or mixed setting, ii. by various health professionals, and iii. to the family with or without the service user present. With a heterogeneous array of parameters used in family intervention, the current analysis attempted to identify key components of successful family interventions. Results indicated that mixed modes of treatment delivery were associated with the greatest effect size, although all modes of treatment delivery were effective, and equivalently so. Our findings concur with those of Pilling and colleagues (2002), in that group delivery of the intervention alone produced the smallest effect sizes. As the type of health professional did not significantly predict effect size it may be assumed that the skills of the therapists are most important and not their core profession in producing positive family intervention outcomes. Similarly no difference in effect was found between family interventions that involved the service user and those that did not, possibly suggesting that it is the relatives that are the key ingredient to a family intervention. This relates to expressed emotion (Brown, 1985) and the impact that relatives can have on the occurrence and treatment of schizophrenia.

The remaining parameters of interest were two measures of attrition rate, the number of treatment sessions delivered, and the age of the sample. Trial attrition rates were positively associated with effect sizes. This means that more positive, and therefore, smaller effect sizes were associated with greater rates of attrition, that is, a greater drop out during family treatment. This negates any suggestion that a selection bias was operating across studies in which only individuals who were most likely to benefit from the intervention remained in the study because this would have produced a negative association between attrition rate and effect size. Neither the number of sessions delivered nor the age of the sample were associated with effect sizes. These last two findings are null, however they may nevertheless
have important implications. For example, the mean age range of the sample of studies was large. The benefits of family interventions, then, do not appear to be limited by age effects. Similarly, positive effects of family interventions do not appear to depend on treatment sessions that are over a long time period. The Association for Family Therapy and Systemic Practice in the United Kingdom (2009) recommends that family interventions in the treatment of schizophrenia should last between three and twelve months in duration. The National Institute for Clinical Excellence (NICE) recommends that family interventions should be offered for a minimum of ten sessions in the recent update in the treatment of schizophrenia guidelines (NICE, 2009). The Patient Outcomes Research Team (PORT, Dixon, 2009) recently published guidelines suggesting that family interventions be offered for a duration of six to nine months. However they did comment that in circumstances where service users have limited time, as little as four sessions of family intervention can be beneficial, and should therefore be offered. Our results do not contradict these guidelines.

Finally, the number needed to treat (NNT) was investigated. Previous systematic reviews have reported an NNT of seven and eight (Pharaoh et al., 2010; Pilling et al., 2002). The current analysis indicated an NNT of five with of 2.6% risk of relapse. This is the lowest relapse-risk percentage reported in the published family intervention literature. This suggests that family interventions may be implemented in a cost-efficient manner, as i) family intervention provides a reduced risk of relapse compared to others in the control conditions (not receiving family intervention) and ii) the NNT of five means that five service users need to be treated to prevent one adverse outcome (i.e. relapse), compared to higher numbers of eight reported in previous meta analyses.

Five limitations of this meta-analysis warrant discussion. First, meta-analysis as a method allows the inclusion of multiple diagnostic tools which can be a limitation. The tools may differ in their definition of schizophrenia and focus on differing aspects of symptomology, therefore assessing something that differs from an alternative tool. In
addition, some individual tools will be more research based and structurally sound than competitors, yet in a meta-analysis diagnostic tools are classed as similar measures of schizophrenia. These individual differences between studies sampled may hinder the validity and reliability of the data produced in a meta-analysis.

Second, a publication bias may have been operating because meta-analyses may over-represent smaller studies with highly significant results and under-represent larger studies reporting null, or weaker, effects. For the current study, 846 insignificant unpublished studies would have been needed to nullify the effect sizes reported (Rosenthal, 1994). This indicates that it is unlikely that a publication bias was operating in the current meta-analysis. Third, the sub group analysis made it difficult to produce meaningful data as the sub groups became too small in number, therefore limiting further analyses in some cases. Fourth, to complete this review of family interventions it would have been ideal to detail the generalisability of the results across various mental health settings, that include forensic services. Unfortunately most of the studies were limited to community or general mental health settings, despite guidance that family interventions should be offered to all families experiencing schizophrenia (NICE, 2009). Fifth, the exclusion criteria set for the study limited the range of family intervention studies included in the final analysis. Although the exclusion criteria are important in specifying the remit of studies to be analysed, some relevant studies may fall outside of the criteria. For example studies that were published in a language different to English were rejected, this may have excluded a number of studies from different parts of the world and therefore excluding various cultures involved in family intervention. Future analyses may aim to translate non-English studies to then be included in a final analysis.

Given the findings from this study, future modifications could aim to follow up and improve on the results by updating the meta-analysis to include any recently published studies (post 2009); investigating the effectiveness of family intervention in the treatment of schizophrenia. Future research studies should aim to include larger numbers of studies
reporting outcome variables such as improved knowledge of schizophrenia, which would then enable powerful sub-group analyses for family intervention. It would be interesting to compare the outcomes of family intervention studies with comparison groups in different mental health settings (i.e. community groups versus inpatient and forensic services), to establish possible differences between services. Any difference found may inform the need for service-specific family interventions.

In conclusion, family interventions not only reduce relapse rates but they have significant benefits in reducing psychotic symptoms associated with schizophrenia, improving social functioning and increasing knowledge about schizophrenia in relatives. Therefore, the effects of taking part in a family intervention are seen for the whole family. This study has shown that these significant effects produced from family interventions can be maintained beyond treatment cessation and in some cases up to eight years after treatment (Tarrier et al., 1994).

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Chapter 4

An assessment of patient need for family intervention in forensic services and staff skill in implementing family interventions

4.1 Abstract

Family interventions result in clinical benefits in the treatment of schizophrenia. This report investigates i) if forensic patients have a need for family intervention, ii) if staff have the skills to deliver family intervention, and iii) the availability of family intervention on forensic wards. The needs of 137 forensic patients and skills of 318 forensic staff were assessed. Patients showed considerable unmet need and relapses were common. Most forensic patients (72%) had regular contact with their relatives, of whom 56% were involved in the patient’s discharge planning. Only 7% of staff felt that they were skilled in family interventions and less than half of these received clinical supervision in its application. Family interventions were infrequently available. The results indicate that the future development of family interventions in forensic services is worthwhile, as the need is apparent and is supported by regular family contact, but that it is currently rarely available.

4.2 Introduction

Schizophrenia is a serious relapsing condition, in which relapse is associated with a heightened risk of harm to self and others (Herz and Melville, 1980), which may be perceived as more or less serious depending on the context. For instance, people in community mental health services present a relatively low risk of harm to others whereas those in forensic services tend to pose a higher risk and are often treated in secure, usually locked, environments (Davison, 2006). There is a potential association between psychosis and crime as the experience of hallucinations and delusions may lead some individuals to commit serious crimes, such as, assault, sexual offences or murder. Substance misuse is commonly co-morbid with psychosis potentially resulting in heightened risk of harm and exposure to criminal activity (Brooker, Sirdifield and Gojkovic, 2007; Snowden, 2001).

Government guidelines have been developed which indicate that family interventions should be available to all people experiencing schizophrenia from community (Department of Health: DOH, 1999) to forensic environments (DOH, 2002; 2007). However despite such guidelines little family work is offered to forensic patients (Gourney, 2005; McCann and McKeown, 1995). There may be a number of reasons for this, such as: the particular family history; whether relatives are abusive or hostile towards the patient; if the relatives have been the victims of a criminal offence or violent behaviour committed by the patient; the frequent presence of co-morbid personality disorders, especially anti-social personality disorder, in the patient; and, the geographic separation of patients from their home locality and family. Some of the potential barriers relate to attribution theory (Heider, 1958), which explains how the relationship between relative and patient can become negative given the presence of schizophrenia. Attribution theory describes how relatives may make opinions about the patient’s behaviour; believing that the behaviours are chosen by the patient, rather than symptoms of schizophrenia, referring to internalised attributions (Weiner, 1985). This can result in negative emotions being directed towards the patient such as hostility and blame, generating an additional barrier in emotional dynamics for treatment. A combination of such
factors may mean that patients and their families are difficult to treat with family interventions from both a clinical and practical perspective. Furthermore there may be insufficient evidence to support the application of such therapies to forensic settings, the needs of patients may be poorly understood and these needs are not integrated into care plans, staff may be inadequately trained to deliver such therapies and ward and management policies may not support their implementation. The goal of this paper is to address these issues, with a focus on the potential effectiveness of family interventions for people with psychotic symptoms and/or schizophrenia in forensic units.

The first issue is whether family intervention therapies are appropriate for individuals in a forensic setting who have mental health problems. Family interventions work by changing the way family members inter-relate and behave, with the goal of improving the family environment (Barrowclough and Tarrier, 1992; Fadden 2006; Kuipers et al, 1992). The rationale for the development of family interventions for those with schizophrenia arose from two observations. First, the quality of the family environment has consistently been associated with relapse in schizophrenia. Higher relapse rates were reported in patients living with family members who scored high on measures of expressed emotion (EE), characterised by emotional over-involvement and expressions of criticism and / or hostility, compared to those living with families who scored low on expressed emotion (Bebbington and Kuipers, 1994; Butzlaff and Hooley, 1998; Kavanagh, 1992). The second observation was that the burden endured by a family caring for a relative suffering from schizophrenia can have a considerable emotional cost (Barrowclough, Johnston and Tarrier, 1994; James, 1996; McCann and McKeown, 1995; McKeown, 2007; Pearson and Tsang, 2004; Pollio, North and Foster, 1998), and may ultimately impact on relapse rates (Leff et al., 1982). For example, the guilt and burden felt by parents with a child suffering from schizophrenia in secure settings has been reported, with symptoms, such as, social withdrawal and unusual sleep patterns of the patient being highlighted as particularly difficult to cope with (Ferriter and Huband, 2003; Pearson and Tsang, 2004; Tsang, Pearson and Yuen, 2002). Thus, family
interventions were designed with the broad aims of helping families to cope with the burden of having a relative with schizophrenia, reducing psychotic symptoms (Barrowclough et al., 1999; Kuipers, 2006), and reducing relapse rates (Barrowclough and Tarrier, 1992; Kuipers et al., 1992; Tarrier, Barrowclough and D’Ambrosio, 1988). Intervention was based upon: i) establishing an alliance with the family (Hatfield, 1979), ii) increasing the knowledge-base relating to schizophrenia and, iii) improving family members’ understanding of relationships with the goal of reducing high expressed emotion (Barrowclough et al., 1987; 2001). These factors would appear important for families of patients in forensic services and the implementation of family interventions in these services would have potential benefit.

There are difficulties with transferring treatment methods developed and evaluated in community settings to secure forensic services. In addition to the prevalent diagnosis of schizophrenia within the forensic population, co-morbid personality disorders are frequent. Personality disorders affect a high percentage of people in-patient (Casey, 2000) and forensic services (Hildebrand and de Ruiter, 2004; Timmerman and Emmelkamp, 2001), but little is known about the effective treatment of co-morbid psychosis and personality disorders. However, there is a growing body of literature indicating that the use of cognitive behavioural techniques has been successful in treating some personality disorders (Davidson, Tyrer, Gumley, Tata, et al., 2006; Gieson-Bloo, van Dyck, Spinhoven, van Tilburg, et al., 2006; Linehan, 1993). Furthermore, patients with personality disorders have positive outcomes of reduced relapse associated with living with high expressed emotion relatives, particularly those living with relatives high on emotional over-involvement (Hooley, Perry and Hoffman, 1999). This is the opposite from the schizophrenia and expressed emotion literature. Most of this research has focussed on borderline personality disorder, whereas, recent reviews have shown that antisocial personality disorder has a higher occurrence in forensic populations and may be much more difficult to treat (Lader, Singleton and Meltzer, 2003; O’Brien, Mortimer, Singleton & Meltzer, 2003; Sirdifield, Gojkovic, Brooker and Ferriter, 2009).
With patients diagnosed with schizophrenia and personality disorders being prevalent in the forensic population and family intervention being suggested as best practice by the Department of Health there is a gap in the evidence base as to how to implement family interventions within this population. This is due both to the lack of knowledge on how to treat co-morbidity (such as, personality disorders) and on how to transfer a community based intervention to a secure setting with all the inherent problems this environment might introduce. The Government has produced guidelines for treatment, but those guidelines contain little specific guidance as to the type or nature of the family intervention which should be delivered and they contain no clear training plan.

The second issue concerns the extent to which empirical evidence supports the use of family interventions in forensic populations, and forensic populations who suffer from schizophrenia. Again the evidence for the efficacy and effectiveness of family interventions is derived from studies carried out in community based services. There have been no documented attempts to apply what is known about family interventions from community based samples to forensic populations. However, Government guidelines provide an optimistic stance regarding the evidence base for family intervention in the treatment of schizophrenia (DOH, 1999; 2002; NICE, 2003; 2009). For forensic services, the Department of Health’s (2002) National Minimum Standards are the most comprehensive guidelines suggesting that low secure units should be providing family intervention to all patients and their families. The Department of Health (2007) have published guidelines for medium secure environments, although specific therapies are not detailed. There are no guidelines for core interventions at high secure levels of care, for patients with schizophrenia or their families.

The third issue concerns the needs analysis of patients, staff and the organisation of forensic services. New mental health initiatives often seem to be set with little consideration for the needs of the population of service users and a comprehensive needs analysis is seldom undertaken. The importance of assessing the needs of the population is essential to any
change in a service. Milne and Roberts (2002) suggested that the correct system for staff training starts with an appropriate needs assessment of patients, staff and organisational goals, which leads to learning objectives being identified to plan the training programme that will later be implemented and evaluated. There are few measures to assess the needs of staff. Most needs assessment measures for patients are carried over from more general mental health areas and therefore neglect forensic specific issues, such as, the Social Behaviour Schedule (Wykes and Sturt, 1986). The Social Behaviour Schedule is used widely in the field of mental health and presents good reliability and validity (Wykes & Sturt, 1986). One forensic specific measure is the Camberwell Assessment of Need – Forensic version (CANFOR; Thomas et al., 2003) which has been utilised in the assessment of the needs of forensic patients been described by Harty et al., (2003) and Thomas et al., (2004). The CANFOR presents good reliability and validity in assessing the needs of patients (Thomas et al., 2008). These studies highlighted a range of patient unmet needs, including, lack of daytime activities, drug and alcohol abuse, untreated sexual offences, safety issues, untreated psychotic symptoms, the lack of company and intimate relationships. The question is posed as to whether the professional staff, who are responsible for the care of these patients, have the required and appropriate skills to adequately address these unmet needs.

Secure forensic services have been somewhat neglected with regards to training and development in psychological therapies (Sainsbury Centre for Mental Health, 2003), with Government documents giving guidance for best practice but without specifying training. The necessity of a staff needs assessment related to implementation of family work in a forensic environment has been highlighted by a study investigating 39 secure units across England and Wales (Geelan and Nickford, 1999). Although somewhat dated now, there is no recent literature that contradicts these research findings. More recent literature either supports Geelan and Nickford’s findings (Faddon, 2006) or has a primary focus on prisons rather than secure forensic units (e.g., Brooker, Sirdifield and Gojkovic, 2007; Sirdifield, Gojkovic, Brooker and Ferriter, 2009). Problems which were noted by Geelan and Nickford (1999)
were: few staff were trained in family interventions; absence of facilities for family work; lack of staff time; geographical separation between unit and family home; and attitudes toward family intervention. Further factors have also been suggested as potential barriers to successful implementation of family interventions and include: enforced separation between patient and family; hostility displayed by families to the secure environment; security factors over-shadowing therapy; and stigma associated with visiting a secure unit (Geelan and Nickford, 1999; Tsang et al., 2002). More positively, Ewers, Bradshaw, McGovern and Ewers (2002) found that training forensic nurses in psychosocial interventions not only reduced their burnout rates but improved their attitudes and knowledge about serious mental illnesses.

Three predictions follow from the current literature. First, patients with schizophrenia in forensic units have a need for family intervention; second, staff working for forensic services will demonstrate a lack of the skills required to deliver family interventions; and third, forensic wards will not have the structure to adequately provide family interventions to patients and their families. Thus this study will test the hypotheses that forensic patients have a need for family interventions; that their families will have the appropriate contact and engagement with the services; but that family interventions will not be available through both lack of staff training and lack of organisational support.

4.3 Method

Design

Structured questionnaires and interviews were used to assess patient need, staff skill and ward standards.

Sample selection

Information was obtained from forensic wards selected from a sample across North West England NHS Trusts, representing low, medium and high secure mental health services. Wards were recruited through opportunity sampling. In total, 11 out of a possible 27
forensic wards took part; five low secure, five medium secure, and one high secure. Three of the low secure wards were individual wards on hospital sites, the remaining two formed a specialist low secure unit. The five medium secure wards formed a specialist medium secure unit. The single high secure ward was part of a high secure hospital.

From each of these wards, clinical staff members were requested to take part. Patients were sampled based on the inclusion of the wards. Every patient on each ward had their needs assessed.

Ethical approval was granted by Central Manchester Research Ethics Committee (see Appendix 1.1 and 1.2).

Measures

Measures were selected and developed if necessary to assess: patient need, staff skill and ward standards for family intervention.

Patient need

To assess the psychological, social, behavioural and forensic needs of patients, the following measures were used:

i) The Camberwell Assessment of Need: Forensic Short Version (CANFOR: Thomas et al., 2003); is a 25 item rating questionnaire aimed at assessing the needs of forensic patients. Needs of patients are rated as met, unmet or not applicable.

ii) The Social Behavioural Schedule (SBS: Wykes and Sturt, 1986); is a 21 item questionnaire to assess social and behavioural aspects of a patient’s needs. Items are scored as moderate or severe problems.

iii) A 49 item questionnaire was developed for staff to identify the psychological needs of their patients. The measure assessed anxiety, depression, common psychological traits, anger, psychotic symptoms and relapse, the index offences and family contact (see Appendix 4.1).
Staff skills

A training needs questionnaire was developed and piloted in partnership with the NHS North West Specialist Commissioning Team, with representatives from each of the participating units. The questionnaire consisted of seven sections, covering 68 skills, on: staff job role, clinical supervision, professional qualifications, further practice qualifications, knowledge of psychological therapies, skills areas, and special interests (see Appendix 4.2).

Ward standards

The National Minimum Standards (NMS; DOH, 2002) was used to develop a simple questionnaire checklist to record if ward managers were able to provide evidence if family interventions were being offered to patients and their families at the time of assessment (see Appendix 4.3).

Procedure

The study consisted of three phases in which patient need, staff skill and ward standards were investigated.

First, to assess patient need, all (key) nurses completed, after discussion with the multidisciplinary team, the three observer measures, giving their perspective on their patient’s needs.

Second, all clinical staff completed a training needs questionnaire.

Third, ward managers were asked to provide evidence of documents to demonstrate to what extent their ward met National Minimum Standards (DOH, 2002).

Analysis

Categorical parameters were summarised using frequencies, percentages and cross tabulations. Statistical comparisons were performed using Chi-squared tests (Pearson, 1900) for cross tabulations with adequate data in the categories, and Fisher’s Exact tests for cross
tabulations with smaller data in the categories. All analyses used the conventional two-sided 5% significance level.

*Note:* Advice was sought from University of Manchester statistician: Ms Sigrid Whiteside on the most suitable statistical test to analyse the data presented.

### 4.4 Results

**Sample characteristics**

**Patients:**

One-hundred-and-thirty-seven patients were assessed, of these 118 (86%) were male and 19 female, aged from 18 to 65 years old (*Mean* = 38, *SD* = 7.1), 78 were from low secure, 45 were from medium secure, and 14 were from high secure units.

**Staff:**

In total, 318 clinical staff completed the training needs questionnaire; 152 staff were from low secure, 141 were from a medium secure and 25 were from high secure units. A multidisciplinary sample of clinical staff completed the training questionnaire comprising of 124 staff /charge nurses, 119 nursing assistants, 13 occupational therapists, 11 ward managers, 9 deputy ward managers, 9 consultant psychiatrists, 6 social workers, 5 clinical psychologists, 4 education/skills trainers, 3 nurse therapists, 3 physiotherapists, 3 outreach workers, 3 assistant psychologists, 2 student nurses, 2 modern matrons, 1 registrar and service manager. Staff were aged between 20 to 63 years old (*Mean* = 43, *SD* = 10.2).

**Patient Need**

Table 4.1 details the percentage and number of patients with the problem or need specified.
Table 4.1 – Problems and needs identified by the named nurses of 137 forensic patients.

<table>
<thead>
<tr>
<th>Need/ problem identified</th>
<th>Measure</th>
<th>% of patients with the need / problem</th>
<th>N of patients with the need / problem</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accommodation</td>
<td>CANFOR</td>
<td>52</td>
<td>71</td>
</tr>
<tr>
<td>Daytime activities</td>
<td>CANFOR</td>
<td>42</td>
<td>58</td>
</tr>
<tr>
<td>Psychotic symptoms</td>
<td>CANFOR</td>
<td>34</td>
<td>47</td>
</tr>
<tr>
<td>Company</td>
<td>CANFOR</td>
<td>28</td>
<td>38</td>
</tr>
<tr>
<td>Psychological distress</td>
<td>CANFOR</td>
<td>24</td>
<td>33</td>
</tr>
<tr>
<td>Relationships</td>
<td>CANFOR</td>
<td>22</td>
<td>30</td>
</tr>
<tr>
<td>Treatment</td>
<td>CANFOR</td>
<td>22</td>
<td>30</td>
</tr>
<tr>
<td>Excessive smoking</td>
<td>SBS</td>
<td>20</td>
<td>27</td>
</tr>
<tr>
<td>Low self esteem</td>
<td>SBS</td>
<td>22</td>
<td>30</td>
</tr>
<tr>
<td>Suspicious</td>
<td>SBS</td>
<td>22</td>
<td>30</td>
</tr>
<tr>
<td>Eating problems</td>
<td>SBS</td>
<td>20</td>
<td>27</td>
</tr>
<tr>
<td>Alcohol problems</td>
<td>SBS</td>
<td>16</td>
<td>22</td>
</tr>
<tr>
<td>Poor hygiene</td>
<td>SBS</td>
<td>16</td>
<td>22</td>
</tr>
<tr>
<td>Poor memory</td>
<td>SBS</td>
<td>16</td>
<td>22</td>
</tr>
<tr>
<td>Bad habits</td>
<td>SBS</td>
<td>15</td>
<td>20</td>
</tr>
<tr>
<td>Odd conversation</td>
<td>SBS</td>
<td>15</td>
<td>20</td>
</tr>
<tr>
<td>Obsessional behaviour</td>
<td>SBS</td>
<td>10</td>
<td>14</td>
</tr>
<tr>
<td>Stealing problems</td>
<td>SBS</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>Sleep disturbance</td>
<td>SBS</td>
<td>6</td>
<td>8</td>
</tr>
<tr>
<td>Impulsive</td>
<td>PNQ</td>
<td>77</td>
<td>105</td>
</tr>
<tr>
<td>Lack of motivation</td>
<td>PNQ</td>
<td>58</td>
<td>79</td>
</tr>
<tr>
<td>Frequent relapse</td>
<td>PNQ</td>
<td>47</td>
<td>64</td>
</tr>
<tr>
<td>Easily irritable</td>
<td>PNQ</td>
<td>42</td>
<td>58</td>
</tr>
<tr>
<td>Anger</td>
<td>PNQ</td>
<td>31</td>
<td>41</td>
</tr>
</tbody>
</table>

Key - CANFOR: Camberwell Assessment of Need; SBS: Social Behaviour Schedule; PNQ: Psychological Needs Questionnaire.
Table 4.1 details the accumulative needs of the forensic patients, showing a break down and comparison of the needs of patients across low, medium and high secure units. Multiple Chi-square analyses were conducted comparing the following items showing non-significant results for patient need: psychotic symptoms ($p= 0.252$, df= 2), psychological distress ($p=0.188$, df=4), treatment ($p= 0.261$, df= 2), relationships ($p= 0.643$, df= 4) with security level. Results showed that outcomes were non-significant indicating that the needs of patients are a problem across the differing securities of forensic services.

(Note: medium and high secure wards were combined to make a single category as there was only one high secure ward included in the study. This was compared with the low secure category).

The psychological needs questionnaire asked if patients have regular (monthly) contact with their relatives and if relatives are involved in discharge planning. The results showed that a high number of forensic patients had contact with relatives (72%, $n=99$) and that 56% ($n=77$) of relatives were involved in the patient’s discharge planning. The range of contact that families had across wards was between 69% - 79%. When family contact was compared to forensic security (i.e. low versus medium and high secure) using Chi-Square analysis the results were non-significant, suggesting that the high contact between forensic families is true regardless of security type ($p= 0.492$, df= 1). As 39% of families had regular contact in low secure facilities compared to 33% of families in medium and high secure facilities.

Staff Skill in Family Intervention

The staff training questionnaire was completed by 318 clinical staff across the forensic units, a return rate of 87%. Twenty-two (7%) reported that they had skills in family intervention (low secure units $n=7$, medium secure units $n=14$, high secure units $n=1$). Less than half of these staff ($n=10$) received clinical supervision for the application of the intervention. Chi-Square analysis was unsuitable to analyse the comparison between family
intervention skills of staff and low, medium and high secure units, as the number of data items was too small. Therefore Fisher’s Exact test was utilised as it is suitable for small samples (Fisher, 1954). However, the results showed that there were no significant differences between the securities of the forensic sample for staff family intervention skills (p= 0.999). This result suggests that a lack of family intervention skills among forensic staff are true across forensic services; with small numbers of skilled staff in low (n=7, 32%) and medium / high secure services (n=15, 68%) demonstrating family intervention skills.

**Ward standards**

*National Minimum Standards:*

Of the 11 wards assessed, only 2 (18%) offered a family intervention to patients and their carers. During the data collection, staff gave verbal feedback about reasons for family intervention not taking place on the wards. These included: few staff trained to offer formal and appropriate family intervention; unsuitable families (due to the forensic history of the patient); families live too far away from the forensic unit; staff have insufficient time; and little organisational support to practice family interventions.

**4.5 Discussion**

Our results, in agreement with our first prediction, identified considerable unmet patient needs, including persistent psychotic symptoms, providing meaningful social interaction, reduced psychological distress, improving relationships, providing adequate treatment, accommodation and daytime activities. This was true across the low, medium and high secure settings. In addition, nearly 50% (n=64) of the patient sample experienced frequent relapses. The current needs analysis indicates that clinical need could potentially be addressed by the implementation of family interventions, given that family interventions aim to target the experience of persistent psychotic symptoms, the risk of frequent relapse and the impact of schizophrenia on the family with the aim of improving management and
ameliorating these problems (Barrowclough and Tarrier, 1992; Kuipers et al., 1992; Smith and Velleman, 2002).

Clearly, frequent contact between families and patients, and in this population between families and the forensic services, is a prerequisite for family interventions. Our results showed that the majority of patients across low, medium and high secure settings (72%) have high contact with their relatives and that families are frequently involved (56%) in discharge planning. To some extent these results were unexpected as it might have been likely that families would have lower contact with patients and services, due to the nature of the patient’s illness, forensic status, perceived stigma and practical issues. This point relates to attribution theory (Heider, 1958) as the meaning (attribution) that some relatives can attach to the behaviours of patients, with the addition of forensic offences, may produce heightened stigma or expressed emotion and possible reduced contact. However, the frequent contact between relatives finding suggests that families of forensic patients are not as resistant to psychosocial treatment approaches as may have been initially thought. It indicates that patients maintain a relationship with their family that can be the basis of a family intervention. This potentially constitutes a good foundation for the delivery of family interventions in forensic services as the low contact with, and poor engagement of, families with patients and forensic services has been previously identified as a barrier to the implementation of family involvement (Geelan and Nickford, 1999). However only two of 11 wards reported that they made available any type of family intervention, so it appears that little is being done in forensic services to maximise the potential for family interventions.

The second prediction, that the staff will lack the skills required to deliver family intervention, was confirmed. The results showed that a low number of trained staff were applying skills in family interventions, even though patients showed considerable unmet need. This lack of family intervention skill was a generic problem across forensic services (i.e. low, medium and high secure). Not only were there few staff trained in family intervention but those who were often did not apply their skills. With family intervention
usually or ideally requiring the work of two co-therapists per session, the number of trained staff per ward does not reflect the basic requirement to administer family intervention especially when taking into account cover required for staff absence. With three of the 11 wards having one trained therapist or less, family intervention cannot take place on these wards to any acceptable standard based on applying manualised family intervention protocols (Barrowclough and Tarrier, 1992; Kuipers et al., 1992). Other wards did have a larger number of trained therapists, but still did not allow for practical considerations, such as, staff illness, shift work or absence of therapists from the work place. Ideally a minimum of four to six or more trained therapists per ward would be required to provide a fluent and comprehensive family intervention service. Moreover, staff may struggle in applying family intervention skills, as only half of the very few trained staff received clinical supervision for their practice. The importance and value of clinical supervision is well documented (Bradshaw, Butterworth and Mairs, 2007; Milne, Pilkington, Gracie and James 2003; Vaughan, 2001; Winstanley, 2000) and is important for practice governance. Despite this, the current study reflects a clear account of poorly supervised staff. It is probable that not all staff can be adequately trained in family interventions. We estimate that between 10% to 30% of staff should be trained to provide a minimum to a reasonable family intervention service.

The final prediction, that the forensic wards will not provide formal family intervention to patients and their families, was partially confirmed. Although the majority of wards sampled did not provide family intervention, there were two wards that did provide the service. This demonstrates that minimum standards of good practice are not being attained (DOH, 2002; 2007; NICE, 2009) by the majority.

This study contributes to the literature by investigating and highlighting the needs of service users and the training needs of staff in forensic mental health services. The study has identified that families do have regular contact with forensic service users which is significant to the work of family intervention. Further, the study has shown that the provision
of family intervention is low, yet the need for psychological intervention is high. This study highlights the need for family intervention based on assessed need.

Given that family contact is high overall within the forensic units, it is disappointing to see that little family intervention takes place. The dedication families show to the patient, as demonstrated in their contact and involvement in discharge planning, should be maximised through family interventions. Family intervention could provide relatives with the knowledge about schizophrenia to re-attribute their meaning of the illness and the patient. Therefore family intervention with a committed and engaged family could potentially reduce psychotic symptoms and risk of relapse for the patient, due to the increased coping and management skills of relatives (Fadden 2006; Smith and Velleman, 2002). Relatives may experience reduced burden, improved knowledge and understanding, together with improvement in their mental well-being in addition to improved engagement with the mental health services and integration into management planning. There may also be economic advantages in providing adequate family interventions (McFarlane, 1995).

In spite of guidelines on the delivery of family interventions in forensic services these specifications provide little in the way of guidance as to the clinical nature of the intervention. Although there is a considerable literature on the evaluation of family interventions and on what these interventions should consist of in terms of clinical procedures, there may be numerous problems in implementing family interventions in a forensic population. Family interventions have been developed and evaluated for a population, which has mainly been community based and has contact with conventional mental health rather than forensic services. It is not known whether these methods will translate easily to a forensic setting and what adjustments will need to be made to accommodate differences in the setting, population and clinical presentation. Family interventions have been carried out in in-patient settings (e.g., Mansell & Fadden, 2009) but the nature of the forensic service and issues of security may pose a significant challenge. Similarly, the forensic patient population may present significant challenges in severity,
nature and presentation of illness and co-morbidity. Personality disorders are frequently co-
morbid in the forensic population although little is known about how to deal with this
clinically in a family intervention. Clinical approaches have been developed to treat
personality disorder (e.g., Davidson et al., 2006; Giesen-Bloo et al., 2006; Linehan, 1993;
Linehan et al., 1993) and these methods sometimes incorporate family sessions (e.g.,
dialectical behaviour therapy; Rathus and Miller, 2002), which may suggest modifications to
family interventions. However, these new treatment approaches have mainly dealt with
borderline personality disorder and much less is known about the potential to treat anti-social
and other personality disorders. The fact that patients in the forensic service have committed
a serious crime may also raise problems related to guilt, stigma and risk which are less
frequently encountered in conventional settings. These problems may be further compounded
if family members were the victims of this crime. Furthermore, relatives may feel significant
anxiety, hostility, stigma, shame or guilt as a consequence of the forensic and mental health
issues faced by the patient. The individualised needs based intervention is more easily
accommodated into existing manualised family interventions which are frequently needs-lead
and based upon individualised formulations (see Barrowclough and Tarrier, 1992; 1998;
Lobban and Barrowclough, 2009). A final point is that the organisational, security and
cultural characteristics of forensic services and the geographic separation of patients from
their families all need consideration.

4.6 Limitations

The study has a number of limitations. Patient need was assessed by the patient’s
named nurse. This may involve some bias in responses from staff, as named nurses could
have represented their patient’s need differently from the patient themselves. Nor did the
study include relatives’ needs in this investigation. However future research can add to these
results by investigating relative’s needs for family intervention.
The sampling of the wards was not an ideal method. Ultimately, all 27 forensic wards should have been included to provide the most generalisable data. However with 16 of these wards being high secure, there were many issues which resulted in the wards being unsuitable for involvement in the study. A higher number of patients within a high secure environment had no contact with their relatives due to their behaviour or crime(s) and, so, whole wards were unsuitable for inclusion to the project.

As the inclusion criteria were specific a limited number of wards met the criteria to participate in the study. Therefore the numbers of patients and staff who took part in the study were smaller than initially anticipated. During statistical analysis the small N reduced the reliability of the Chi-square tests. To resolve this problem Fisher’s Exact test (Fisher, 1954) was utilised which is suitable with the use of Chi-square for small numbers.

The National Minimum Standards (NMS) were generated for Psychiatric Intensive Care Units (PICU) and Low Secure Environments by the Department of Health (DOH, 2002). Although this study applied the standards to low, medium and high secure environments, to date no recommendations have been published for high secure environments. A limitation of using the NMS to assess all participating wards is that i) some items may not be as relevant for medium and high secure wards as for low secure wards, and ii) the NMS assessment did not undergo reliability or validity checks prior to use. The feedback from the NMS assessment reflects the work of Murphy (2007) who also found that supervision, training and service structure were all barriers to successful implementation of family intervention. The project focussed on family intervention need and therefore did not include wider and potentially important needs, such as security.

Both the Psychological Needs Questionnaire and the Training Needs Questionnaire were developed for the purpose of this study, however these two measures create a limitation as they did not undergo formal validity or reliability tests prior to use. Yet, a clinical team did provide feedback on the relevance and usability of the psychological needs questionnaire and the training needs questionnaire was sampled with a small group of clinical staff (at a non-
participating forensic unit) who trialled the questionnaire and provided feedback on the relevance and usability of the measure. Such limitations create ideas for future research.

Finally, forensic research may be associated with unique and specific limitations because many relatives of patients refuse to have contact due to forensic histories of the patient. However our results suggest that this does not reflect the majority of families. Given the focus of schizophrenia in this study, it would be interesting to incorporate the needs of personality disordered patients to add to the literature. With a growing literature examining the implementation problems of family intervention (Crofts, 2004; Fadden, 2006; Geelan and Nickford, 1999; Murphy, 2007), future work in the area of forensic care is needed to assess what the barriers are to successful implementation of family interventions.
Chapter 5

Coping with schizophrenia in forensic services: the needs of relatives

5.1 Abstract

Schizophrenia affects not only the patient but often their family too. The needs of relatives experiencing schizophrenia are important to treat the family as a whole. This study aimed to assess the needs of relatives of patients in forensic services; to understand their concerns, perceptions and ability to cope with the symptoms of schizophrenia. The needs of 18 relatives were assessed using the Family Questionnaire (FQ; Quinn et al., 2003) and the Relatives Cardinal Needs Schedule (RCNS; Barrowclough et al., 1998). The FQ revealed that all symptoms were rated as ‘frequent’. The RCNS supported the data from the FQ, as relatives displayed a need for support and information about the mental illness. Antisocial behaviours were rated as the highest cardinal need (83%) with negative symptoms, interpersonal behaviours, psychotic symptoms and affective symptoms also rated as cardinal needs by over half of the relatives. In conclusion, relatives have to cope with a range of symptoms and behaviours displayed by the forensic patient, which can be extremely difficult. Forensic services should provide support for families making information about antisocial behaviour a priority.

Key words: forensic, relatives, family intervention, schizophrenia, need

5.2 Introduction

Approximately 70% of people in forensic psychiatric services suffer from schizophrenia (American Psychological Association, 2004; Flyger, 2007; McKeown, 2007). Symptoms of schizophrenia, a criminal record and frequent history of violence and the impact of forensic restrictions can be problematic for the patient and to those close to them, such as family and friends. In such circumstances the symptoms that patients present can be difficult to cope with and may lead to relationship difficulties (Ferriter & Huband, 2003). Such relationship difficulties may be explained by attribution theory (Heider, 1958), as often families do not fully understand the behaviours presented by the patient with schizophrenia. Due to this lack of knowledge about schizophrenia relatives may attribute problem behaviours such as irritability or substance abuse as completely controlled and chosen by the patient. These attributions can lead to emotions of anger and blame, which can affect relationship dynamics. There are a range of effects that schizophrenia can have on an extended support network. As mental illness continues to be misunderstood by the general public (Hanley, 2010), families often feel stigmatised (Byrne, 2000) and burdened (Brady, 2005) in having a family member suffering with schizophrenia. This can have a negative impact on the family as they feel isolated and may experience negative feedback from others (Ferriter & Huband, 2003). The range of symptoms experienced in schizophrenia can put demands on a family’s time, finances and relationships (Tarrier, 1991). Some families experience feelings of guilt, because relatives can feel responsible for the development of a mental illness (Rose, 2007). These secondary effects of schizophrenia may be further heightened for families with a forensic family member, due to the increased severity of their illness and associated criminal behaviour (Pearson & Tsang, 2004; Tsang 2000). These effects of schizophrenia suggest that relatives of forensic patients will have an increased need for support from forensic services and other support organisations. Despite this increased need, very few needs assessments have been published into the needs of relatives of forensic patients.
Efficient service development should be based on quality needs assessment (Milne & Roberts, 2002). Research bodies highlight the importance of need assessments in the process of research (Department of Health, 2002), as a competent service will meet the needs of the targeted population. Need assessments should be carried out regularly to update changes in need and to modify a service to reflect these changes (Medical Research Council, 2000).

The assessment of need in schizophrenia research has been conducted with specific measures devised to target certain criteria. These include the needs of patients (Absalom et al., 2010; Hansson et al., 2001; McCann et al., 1996; Pierzchniak et al., 1999; Shaw et al., 2002; Thomas et al., 2004); relatives (Barrowclough et al., 1998; Drapalski et al., 2008; Sellwood et al., 2001); staff (Gamble & Midence, 1994; Gournay & Birley, 1998; Jones & Lowe, 2003); and service needs (Beal et al., 2007; Department of Health, 2002). However, despite the importance of needs assessments, the literature remains limited. For instance, some literature is focused on security needs (Shaw et al., 2002; Thomas et al., 2004), with little focus on psychological needs. Specific forensic needs related to criminal offences and associated impacts for the family are dated (Geelan & Nickford, 1999; McCann, 1993; McCann et al., 1996), and more recent studies are sporadic (Absalom et al., 2010; Lamb et al., 2007).

Barrowclough and colleagues have focused on the psychological needs of older adults with schizophrenia (Berry & Barrowclough, 2008); substance misuse (Gregg et al., 2009); self esteem (Barrowclough et al., 2003) and personality disorder (Bray et al., 2007). They have developed a number of assessment tools for families such as the Family Questionnaire, (FQ: Quinn et al., 2003) and the Relatives Cardinal Needs Schedule (RCNS: Barrowclough et al., 1998). These measures are important in the investigation of families experiencing schizophrenia because they allow an assessment of need and therefore increased understanding of the dynamics involved in the family relationship when managing schizophrenia, such as emotion, burden, coping, and appraisals. Although these measures are used clinically (Fernández et al., 1999; Sellwood et al., 2001), they are not specific to the
forensic population and measures often need adapting to meet the characteristics of the forensic population.

The current study had two main aims. The first was to determine the needs of family members with a relative who had a diagnosis of schizophrenia, who was also in a forensic service. The second was to compare the needs of family members who had a relative diagnosed with schizophrenia and were i) in a forensic service or ii) in a community mental health service.

5.3 Method

Design

A cross-sectional questionnaire design was utilised to investigate the needs of relatives.

Sample

Eighteen relatives took part in the study. The relatives had a family member at the forensic unit with diagnosis of schizophrenia. The relatives were invited from two medium secure, forensic units in the North West of England, UK.

Inclusion criteria

All relatives were a minimum of eighteen years old and were a relative of a patient on the forensic unit. Relatives i) had received consent from the patient to be invited to the project and ii) had regular (at least monthly) contact (in person on via the telephone) with the patient.

Measures

Relatives were asked to complete two measures. Firstly, the Family Questionnaire (FQ; Quinn et al., 2003); a 48 item measure which is administered via interview. The FQ is specific to diagnoses of schizophrenia. All of the relatives (N= 18) who took part had a family member with a diagnosis of schizophrenia. The forensic population have a high prevalence of schizophrenia (American Psychological Association, 2004; Flyger, 2007; McKeown, 2007) and so the FQ is relevant to this population. The FQ focuses on symptoms, concern and coping which allows an understanding of how the diagnosis of schizophrenia
impacts on the relative completing the measure. As this study aims to assess the needs of relatives with regard to their family member’s symptoms of schizophrenia, the FQ is a suitable measure given the scarcity of specific forensic measures. The FQ lists symptoms of schizophrenia assessing the i) frequency of each symptom, ii) relative’s concern for the symptom and iii) relative’s coping of each symptom. The symptoms are categorised into five groups: negative symptoms; anti-social behaviours; interpersonal problems; affective symptoms; and psychotic symptoms. Relatives rate their experience on a five point scale. This measure gauges the relative’s perception and concerns of the symptoms presented by their family member with schizophrenia. Internal consistency was reported as 0.8 for each subscale, and test-retest reliability was reported as 0.8 (Quinn et al., 2003).

The second measure was the Relative’s Cardinal Needs Schedule (RCNS; Barrowclough et al., 1998). This interview questionnaire comprises fourteen sections gaining information via interview about the relative’s support, coping, relationships, hardship and emotions in relation to the family member with schizophrenia. A cardinal need is determined when a symptom is recorded as a concern and the relative is interested in help for this item. The RCNS asks specific questions associated with the symptoms highlighted by the relative in the FQ interview. The RCNS is a useful tool to inform a structure to clinical interview in discussing relevant issues associated with schizophrenia and the family dynamics. The measure has adequate reliability (Barrowclough et al., 1998) and is widely used as an assessment tool (Pearce et al., 2006), to successfully inform the content of family interventions (Sellwood et al., 2001).

As the measures were not originally designed for the forensic population, each was adapted slightly to be sensitive to the relatives sampled. The FQ (Quinn et al., 2003) presents items assessing the patient’s choice of company, contribution towards home costs, drug and alcohol usage and if they stay out late at night. These questions are not applicable when interviewing the relatives of a patient who has been admitted to a forensic unit because often the patient has been at the forensic unit for a number of months and is unable to contribute to
home issues. It may actually cause distress to the relative in asking such questions. Hence, these questions were omitted.

Similarly, the RCNS (Barrowclough et al., 1998) includes items regarding hardship. Specifically the sub-question regarding household tasks and increased housework is not applicable to relatives of a forensic patient, as the patient will not reside in the family home to take part in housework. Therefore this item was deleted from the assessment.

Ethical considerations

The project received ethical approval by Manchester Eight Research Ethics Committee, along with full approval from the NHS Trust’s service user panel and research and development departments.

Procedure

Patients consented for their relative(s) to be contacted. Relatives were written to and informed about the study via the postal system. They were sent an invitation letter, information sheet and consent form. If they wished to take part in the study, relatives were asked to complete the consent form and return it to the researcher (VA-H), using the self addressed envelope with pre-paid postage. Once consent forms were received, the researcher contacted the relatives via the telephone to arrange convenient times to complete the two measures via telephone interview. Each relative had the two measures described to them with example questions and responses. The relatives could request a break at any time. Most interviews were conducted in two stages with the FQ completed in the first phone call and the RCNS completed in the second phone call. On average the FQ took 20 minutes to complete and the RCNS took 30 minutes to complete.

Analysis

Student’s t-test was used as a comparison of the two group means. This test is suitable for small sample sizes to confirm whether the two means provide similar analytical results or not. Therefore differences between the two groups are identified to be significant or non-significant.
5.4 Results

The eighteen relatives represented mothers (N= 8, 44%), fathers (N= 4, 22%), sisters (N= 3, 17%), brothers (N=2, 11%) and an aunt (N=1, 6%). All the relatives were of UK nationals and were aged between 33-72 years old (Mean= 54.5, SD= 12.6). Over half of the sample were married (N= 10, 56%); divorced (N= 3, 17%) or single (N= 5, 28%). Three relatives had retired, one was unemployed and fourteen were currently employed.

All eighteen relatives completed the FQ which allowed the first aim of the study to be addressed. Table 5.1 displays the mean responses from relatives for i) frequency of, ii) concern about and iii) coping with symptoms of schizophrenia. The results of the current study were compared with those of Fernández and colleagues (1999) who used the FQ with a general mental health population, with diagnoses of schizophrenia in Spain.

Table 5.1 - A comparison of the mean (SD) family questionnaire results of the current study and those of Fernández et al., (1999).

<table>
<thead>
<tr>
<th></th>
<th>Mean (SD) Current study / Fernández et al., 1999</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>72 (12)</td>
</tr>
<tr>
<td></td>
<td>90 (17)</td>
</tr>
<tr>
<td>Concern</td>
<td>50 (21)</td>
</tr>
<tr>
<td></td>
<td>43 (29)</td>
</tr>
<tr>
<td>Coping</td>
<td>47 (17)</td>
</tr>
<tr>
<td></td>
<td>34 (32)</td>
</tr>
<tr>
<td>N</td>
<td>18</td>
</tr>
<tr>
<td></td>
<td>20</td>
</tr>
</tbody>
</table>

Table 5.1 shows that (forensic) relatives rated symptoms as ‘frequent’. This was consistent throughout the five symptom categories. Relatives reported a range of concern responses, with interpersonal and affective symptoms receiving ‘a little’ concern; negative and psychotic symptoms receiving ‘moderate’ concern and; antisocial behaviours receiving ‘quite a lot’ of concern. Overall relatives were very resilient to ‘frequent’ symptoms responding with overall ‘adequate’ coping. Two categories received ‘fairly bad’ coping responses; negative symptoms and interpersonal behaviours.
When comparing the current study’s results with Fernández and colleagues (1999) data, the current (forensic) study responses for concern and coping of schizophrenia symptoms were rated higher than that of the general mental health population. This difference was non-significant when explored using the t-test, suggesting that the concern (p= 0.406, df= 1) and coping (p= 0.132, df= 1) of schizophrenia for relatives is regarded similarly despite the placement of their relative (i.e. the difference in the level of security, for example forensic versus general mental health services). However the frequency of the symptoms (of schizophrenia) were rated as less frequent by the relatives in the forensic sample (See Table 5.1). When the frequency was compared between the current study and that of Fernández and colleagues (1999), the difference was significant (p=0.006, df= 1). This result indicates that there were significant differences in how relatives perceive the frequency of schizophrenia symptoms in the patient, depending on the forensic or general mental health placement.

The eighteen relatives also completed the RCNS enabling the second aim of the study to be addressed. Table 5.2 displays the areas of need highlighted by relatives.
Table 5.2. The number and percentage of relatives who identified with each of the cardinal needs using the RCNS.

<table>
<thead>
<tr>
<th>Cardinal need: RCNS</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Support, information and liaison</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A1. Professional support</td>
<td>12</td>
<td>67</td>
</tr>
<tr>
<td>A2. Information –schizophrenia</td>
<td>18</td>
<td>100</td>
</tr>
<tr>
<td>A3. Relapse prevention</td>
<td>18</td>
<td>100</td>
</tr>
<tr>
<td><strong>Coping with symptoms</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B1. Psychotic symptoms</td>
<td>11</td>
<td>61</td>
</tr>
<tr>
<td>B2. Antisocial behaviour</td>
<td>15</td>
<td>83</td>
</tr>
<tr>
<td>B3. Negative symptoms</td>
<td>14</td>
<td>78</td>
</tr>
<tr>
<td>B4. Interpersonal problems</td>
<td>14</td>
<td>78</td>
</tr>
<tr>
<td>B5. Affective symptoms</td>
<td>9</td>
<td>50</td>
</tr>
<tr>
<td><strong>Relationships</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C1. Relationships</td>
<td>6</td>
<td>33</td>
</tr>
<tr>
<td><strong>Carer hardship</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D1. Employment hardships</td>
<td>6</td>
<td>33</td>
</tr>
<tr>
<td>D2. Household hardships</td>
<td>NA</td>
<td>-</td>
</tr>
<tr>
<td>D3. Financial hardships</td>
<td>NA</td>
<td>-</td>
</tr>
<tr>
<td>D4. Social activity hardships</td>
<td>4</td>
<td>22</td>
</tr>
<tr>
<td><strong>Carer negative emotions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E1. Negative emotions</td>
<td>12</td>
<td>67</td>
</tr>
</tbody>
</table>

Overall the RCNS data in Table 5.2 shows that there is a high level of need for support and information about mental illness, as one hundred percent of relatives identified this as a need area. All the relatives showed cardinal needs for information about schizophrenia and relapse prevention. Coping with symptoms produced high cardinal needs, which corresponded with the FQ data. Antisocial, negative, interpersonal, psychotic and affective symptoms were identified as needs by over half of the relatives (Range= 50-83%). Antisocial behaviours such as ‘impulsive behaviour’ and ‘hits other people’, received concern from relatives and a need was identified for help with such issues.
The relationships item was a lower cardinal need for relatives with 33% (N= 6) requiring help. The carer hardship item also received lower responses for relatives need. Employment hardships were raised by relatives but they felt that these were issues of the past that did not require any help at present. Social activity hardships were recorded by 22% (N= 4) of relatives, although they felt that these issues were also problems of the past that they did not require any help with now. Household and financial hardship items were removed from the interview as they were not applicable to relatives who had a family member detained within a secure, forensic unit.

The negative emotions item was recorded as a cardinal need by 66% (N= 12) of the relatives. The types of emotions discussed at interview related to relative’s loss, guilt and stigma associated with the patient’s offence and past behaviours. Relatives noted that they found it difficult to discuss their relative’s behaviour with friends due to the misunderstandings and stigma of mental illness.

Each of the FQ and the RCNS measures identifies similar items, showing validity in the data and between the measures. However it is interesting to point out that the FQ data describes relatives coping of antisocial behaviours as ‘adequate’, despite their concern being ‘frequent’. In further discussion, during the RCNS interview, relative’s rated antisocial behaviours as the highest cardinal need. It seemed that by allowing discussion of the antisocial behaviours, relatives concluded that they would benefit from help offered.

5.5 Discussion

The first aim of this study was to assess the needs of relatives of forensic patients. The study was successful in assessing the needs of the relatives with regard to the symptoms of schizophrenia, experienced by the patient within forensic services. Antisocial behaviours may generate the most concern and need for relatives, as these behaviours may be viewed as the patient’s choice to behave in such ways, for example, mixing with undesirable company; taking drugs or abusing alcohol. Many of these behaviours may be viewed as causal to the
start, development and maintenance of the mental illness. During the interviews a number of relatives discussed that “drugs were the start of the problem” and “he started using cannabis when he hung around with that group”. This theme is similarly depicted in a father’s perspective of schizophrenia and the impact that drugs had on his son’s mental health (Gregory, 2009). This point relates directly to the theory of attribution (Heider, 1958), as relatives can hold patients responsible for their symptomological behaviours and ultimately the cause and progression of schizophrenia.

The results seemed to relate to what may be expected of forensic relatives, as antisocial behaviours were rated as frequent and most concerning for relatives. This links to discussions with relatives around their experience of feeling loss, guilt and stigma in relation to the patient’s behaviour. The RCNS highlighted that antisocial behaviour was the highest scorer of cardinal need among the ‘coping with symptoms’ section. Antisocial behaviour is common within forensic environments given that all patients are admitted for a key index (criminal) offence. This behaviour is a characteristic describing personality disorder (PD); also a diagnosis prevalent within forensic environments (Moran & Hodgins, 2004). However it has been argued that antisocial behaviours are overdiagnosed, therefore leaving the PD structure of the diagnosis neglected from the understanding (Lilienfeld, 1998; Ogloff, 2006). The characteristics of PD are a history of disregard for the rights of others, a failure to conform to social norms, deceitfulness, impulsiveness and a failure to see the consequences of actions (APA, 2004). These characteristics can help us to understand why such antisocial behaviours are difficult to cope with, as a patient with PD is unlikely to empathise with relatives or take responsibility for their sometimes severe and criminal behaviour. PD may offer an explanation to why antisocial behaviour is rated highly by relatives although there are mixed views on the diagnosis of PD and the difficulties it presents to clinicians (NICE, 2010). The occurrence of PD in relation to schizophrenia has been discussed as an extension of the schizophrenia spectrum, rather than an independent diagnosis (Pulay et al., 2009). PD is also highly co-morbid with other mental illnesses and this creates debate in the field
regarding best practice for service users with PD. For example, many clinicians argue that service users with PD are better treated through the criminal justice system as opposed to utilising treatment options in forensic services; given the complexity of need (NICE, 2010).

The second aim of the study was to compare the needs of relatives between the current forensic sample and a community sample (Fernández et al., 1999), via the use of the family questionnaire (Quinn et al., 2003). In comparison with Fernández and colleagues (1999) study, the forensic relatives needs were similar, but heightened for concern and coping, compared to the Spanish, general mental health sample. This may reflect that when a criminal element is added as in forensic services the scores for concern and coping are increased, compared to the general mental health sample. This is further evidence to support the literature stating that the needs of the forensic population are greater (Brady, 2005; Pearson & Tsang, 2004; Rose, 2007; Tsang, 2000). Interestingly however the frequency of symptoms of schizophrenia in the current study were rated significantly lower by relatives in the forensic sample, compared to Fernández et al’s (1999) study with a non-forensic population. This result may be explained in a number of ways. First, the frequency ratings may also relate to the reality that relatives of forensic patients are likely to have reduced time with the patient, due to the forensic limitations with visiting or authorised leave. Relatives may be less aware of the frequency of symptoms, as the patient is detained within a secure unit, rather than residing within the family home where symptoms would be more noticeable.

Second, the relative’s perception of patient symptoms of schizophrenia may differ between a forensic and a non-forensic sample. It is a possibility that relatives (of patients in the community), in desperation view the symptoms of schizophrenia as more frequent to attain the patient increased or improved treatment. Relatives of forensic patients may regard their family member as already receiving the maximum treatment for their condition, whereas service users in the community are often regarded as ‘falling through the net’ (Onyett & Smith, 1998).
Third, forensic patients may have less frequent symptoms as the illness is managed at the forensic unit, but the attributions that relatives hold about the patient could generate feelings of high concern and poor coping ability. The use of attribution theory (Heider, 1958) would suggest that relatives may hold negative causal attributions: blaming the patient for their behaviour and possibly the illness. The relative may feel heightened concern as they believe that the patient has chosen to behave in a certain way (i.e. impulsive, aggressive). As initially most relatives are unfamiliar with the symptoms of schizophrenia, they are unsure of how to best manage the patient and therefore report a reduced ability to cope.

The findings may be compared to other studies using the FQ and the RCNS. Sellwood and colleagues (2001) assessed the needs of relatives of outpatients with schizophrenia. They also found antisocial behaviour to be the highest cardinal need. There was further similarity between the need for information about schizophrenia and relapse prevention, as a large number of relatives would take up help. Fewer needs were identified for relationship and hardship categories. The need associated with negative emotions was relatively high, similarly to the current study. The similarities between the current study and Sellwood and colleagues (2001) may suggest that the forensic population present a similar formulation to the outpatient population.

This study has contributed to the field by investigating and reporting the specific needs of relatives of forensic service users. Based on these results it would seem suitable to offer forensic families a tailored family intervention. Given the success and evidence base of psychological interventions in general mental health, such as cognitive behaviour therapy and family interventions for schizophrenia (Pilling et al., 2002); these therapies may be suitably adapted for the forensic population (Peddie, 2009; Richards et al., 2009). Family intervention can aid relatives in understanding the illness of schizophrenia which positively impacts on coping strategies, problem solving and looking to the future with reduced negative effects (Barrowclough & Tarrier, 1992; Kuipers et al., 2002). This intervention could potentially target the concerns that relatives present using a cognitive and behavioural framework to
work through the difficulties along with relapse prevention (Barrowclough & Tarrrier, 1992; Kuipers et al., 2002). In addition, this would also adhere to government guidance suggesting that family intervention be offered to all people experiencing schizophrenia (DOH, 1999), including those in forensic environments (DOH, 2002; 2007).

Although this study presents an interesting insight into the needs of relatives of forensic patients with schizophrenia, there are some limitations to note. First, this study included a small sample of relatives, as it was difficult to meet the inclusion criteria. Some patients had no contact with family members, some were too unwell to consent to their relatives being contacted, and the majority of patients refused to consent to their relatives being involved. Second, relatives recruited to the study may have created some bias, as it may be argued that relatives who had received consent from the service user to participate in the study already have good relationships compared to relatives who were not consented by service users to take part. This may highlight differences in how relatives perceive the frequency, concern and coping of schizophrenia compared to other non-involved relatives. Third, bias in responses may also materialise from the use of the Family Questionnaire (Quinn et al., 2003) and the RCNS (Barrowclough et al., 1999), as the RCNS requires the completion of the Family Questionnaire first. Therefore relatives may find the two measures time consuming or more importantly too emotionally demanding, given the topic of the questions, which could create exasperated and bias responses. A similar point may be made from the structure of the Family Questionnaire in that relatives are asked to choose from set responses to each question and not all participants would suit this pre-determined method of assessment. Relatives may not answer with their true opinion, as they feel they need to fit into one of the pre-determined categories. Fourth, this study focussed only on medium secure units. It would have been favourable to extend this investigation to low and high secure environments, if more resource was available. Fifth, data compared with the results of existing studies is limited. Future studies would benefit from a design which actively compared relatives of individuals with a diagnosis of schizophrenia in forensic units, in
inpatient and outpatient settings and in the community. In the absence of direct forensic comparisons of the family questionnaire measure a suitable non-forensic comparison was identified in the Fernández et al., (1999) study. Fernández and colleagues (1999) i) utilised the same family questionnaire measure with ii) a similar sample size and iii) had a Westernised sample, plus iv) importantly focused on the symptoms of schizophrenia as rated by relatives, similarly to the current study.

As a final limitation, no raw data was presented by the Fernández et al., (1999) study. Without access to the raw data there may be some error, bias or selective reporting taking place. If data points were presented along side the mean scores, the results would have accounted for possible extreme scores (i.e. high or low), which may have been interesting to discuss in relation to the relatives’ perception of the frequency, concern and coping with schizophrenia. The median score would have been a better descriptive statistic to have used.

5.6 Conclusion

Overall the study has been insightful in assessing the needs of relatives associated with forensic services. During this study relatives were keen to discuss their situation and commented on how useful it had been for them to be given the opportunity to speak about their experiences. This is positive for the future of forensic research, as relatives appear to be motivated to be involved and to take up psychological support if it were offered. More research is needed to further improve the provision that forensic services offer.

Acknowledgement

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Chapter 6
Implementing family intervention within forensic services: the attributions of clinical staff

6.1 Abstract
Few studies have investigated the attributions or perspectives of staff on the implementation of family intervention in forensic services. This may be crucial to overcome the barriers to successful implementation of this therapy. This study investigates the attributions and experiences of forensic staff in implementing family interventions in forensic settings. Staff responded to two open ended questions about the i) barriers and ii) solutions to poor implementation of family intervention. Responses were subject to thematic analysis. Twenty-five forensic staff responded. The analysis showed that five themes represented the barriers of family intervention: insufficient time, poor support, lack of training, deficient information sharing, and geographic limitations. In response to these barriers staff provided practical solutions for a family intervention service: a clear pathway, protected staff time, revised policy and structure specific to family intervention, improved supervision, increased managerial support, shared education, and modernisation. By including staff with a wealth of experience of working within forensic services and delivering family interventions, this study generated rich information on the implementation of family interventions. Staff themes highlighted key barriers, together with solutions to those barriers, in order to successfully implement a family intervention service within forensic services.

Keywords: forensic, family intervention, staff, implementation, thematic analysis

6.2 Introduction

Family interventions for schizophrenia are a psychological treatment aimed to reduce the risk of relapse for the service user by improving the family’s knowledge, reaction to, and ability to cope with, the mental illness (Barrowclough & Tarrier, 1992). The theory behind family interventions can relate to attribution theory (Heider, 1958), as attributions describe the beliefs or meaning that people hold about a topic. The meaning that people hold about schizophrenia is important to understand, as often the illness can be negatively viewed. Without the correct information and knowledge about schizophrenia people can view the service user as responsible for their behaviour, consequently attributing the symptoms of schizophrenia to the individual rather than the illness. Such attributions can be detrimental to successful family treatment. Therefore family interventions start by sharing information about the diagnosis of schizophrenia, the typical symptoms, and potential aetiology with the family. It is hoped that with improved knowledge in addition to the other elements of family intervention, that relatives can better understand schizophrenia and react differently to the service user; with an aim to reduce the risk of relapse (Barrowclough & Tarrier, 1992; Kavanagh, 1992, Kuipers et al., 2002).

There is a growing evidence base in support of the intervention (Pharaoh et al., 2006; 2010; Pilling et al., 2002), with Government guidelines suggesting that all families experiencing schizophrenia should be offered family intervention (National Institute for Clinical Excellence, 2009). Family interventions should be accessible to families for a minimum of three months to one year and include ten planned sessions for the family and the service user (NICE, 2009). Despite such guidelines, family interventions are seldom used in forensic services. The aim of this study was to determine potential barriers to implementing family interventions as well as potential solutions to these barriers using the perspectives of clinical staff in forensic services.

In light of this growing evidence for family interventions there are various areas in which the intervention has been evaluated. For instance, leading work has been conducted in
general mental health settings, such as community mental health care, with promising outcomes for families experiencing schizophrenia (Barrowclough et al., 1999; 2001; Sellwood et al., 2001; 2007). This efficacy appears to extend across cultures and in different clinical settings (e.g., Dyck et al., 2000; Kulhara et al., 2008; Montero et al., 2001; Shimodera et al., 2000; Tomaras, 2000; Xiong et al., 1994). However, despite a promising evidence base in the treatment of schizophrenia (Pharaoh et al., 2006; 2010; Pilling et al., 2002), family intervention has not been implemented as widely as could be expected. For example, one area of mental health that treats a large number of service users with schizophrenia is the forensic service. Forensic mental health services treat service users who have a mental illness diagnosis and a criminal history, who therefore present a potential risk to the community. Forensic services aim to treat such mentally disordered offenders within a secure environment, with a focus on treatment rather than punishment (Rutherford & Duggan, 2007). Up to 70% of forensic service users are diagnosed with schizophrenia (American Psychological Association, 2004; Flyger, 2007; McKeown, 2007; Royal College of Psychiatry, 2008) and around 50% of service users have families (Kuipers, 2010), with whom they have high (72%) contact with (Absalom et al., 2010). In spite of these high figures forensic services continue to provide little, or no, family intervention services (Absalom et al., 2010).

Previous studies have documented the barriers to the successful implementation of family intervention in general mental health settings. These include inadequate knowledge concerning family intervention (McCann et al., 1996), lack of psychosocial training (Michie et al., 2007), a lack of designated time for family work (Smith & Velleman, 2002), a lack of support from management (Baguley et al., 2000), poor motivation from service users (Willshire & Brodsky, 2001), a difficulty in recruiting families into therapy (Mairs & Bradshaw, 2005) and negative staff attitudes (MacFarlane et al., 2001).

The attitudes of staff are important in family treatment and implementation. Attitudes, perceptions and views may be explained by attribution theory (Heider, 1958), as both
relatives and staff can attribute negatively towards the service user (Tatton & Tarrier, 2000). If staff have negative, hostile or blaming attitudes toward the service user, this could impact on the treatment for the family (VanHumbeeck et al., 2001). Similarly, staff perceptions of the barriers to family intervention may be influenced by their attitudes about schizophrenia, service users and service interventions which may impact on implementation of family work. As described by attribution theory, staff may hold negative ‘cause and effect’ thinking (Weiner, 1985) as to why family interventions are not implemented, based on their experience in working within forensic services. Poor implementation may also relate to the limited skills of health professionals delivering family interventions in forensic settings. This may be due to funding issues and time limitations associated with training (MacInnes, 2000; Michie et al., 2007; Tarrier et al., 1999).

However, despite the number of barriers mitigating against the delivery of family intervention, some services have been successful in implementing family interventions within general mental health services, including the community services supporting those experiencing psychosis (Burbach & Stanbridge, 2006; Fadden, 1997; Kelly & Newstead, 2004; Smith & Velleman, 2002; Stanbridge & Burbach, 2007).

Few studies examining barriers to family interventions have been based in forensic settings (Atchison et al., 2009; Baker et al., 2002; Peddie, 2009). That said, those which have focused on these settings have identified additional issues, such as, families living long distances from the forensic units (Geelan & Nickford, 1999), poor clinical supervision for trained staff (Absalom et al., 2010), and poor knowledge of family treatments (MacInnes, 2000). McCann and colleagues added to the forensic literature by highlighting the needs of relatives who demonstrated increased anxiety and stress related with the illness, offence and forensic services due to the lack of understanding of schizophrenia and its treatment (McCann et al., 1995; McCann et al., 1996).

As some of the barriers to implementing family intervention are centred on staff attitudes and knowledge of the area, it is important to examine the training that has been
provided for staff working with families (Brooker et al., 2003; 2005; Gourney, 2000). Various training programmes have been set up across the UK to train a multi-disciplinary team of professionals in the delivery of psychosocial approaches including family intervention (Bradshaw et al., 2003; Gamble, 1995). However, many staff trained in psychosocial interventions do not apply their skills in practice (Couldwell & Stickley, 2007; Gamble, 1997; Lancashire et al., 1997). This appears to be the case in both general mental health services (Fadden, 2006) and forensic services (Absalom et al., 2010).

In order to facilitate change such that staff do feel able to practice their therapeutic skills, it is necessary and important to involve health professionals in assessing areas that are problematic and suggesting practical workable solutions to those problems. It has often been shown that it is advantageous if health professionals feel involved with, and in control of, new or changing procedures (Beal et al., 2007; Michie et al., 2007). This has been further emphasised by Fadden’s directive to involve management levels in the process of change and service implementation from the initial stages (Fadden, 1997).

The problems in implementing family intervention have been well documented in the literature. However there is little research covering forensic settings and even less on the attributions of staff in these settings. Such perspectives are important as forensic staff are experts within forensic settings. The current study aimed to use a qualitative approach to elucidate the barriers and the solutions to implementing family intervention successfully in a forensic unit by eliciting the views of forensic service staff.

6.3 Methods

Participants

Clinical staff members were recruited from a convenience sample of staff members from two medium secure units, as part of a larger research project. The two units were part of NHS Trusts, based in the North West of England. Twenty-nine clinical staff were invited to take part in the study. All staff who took part were clinically trained in psychosocial
interventions (PSI). Staff had either a psychosocial interventions for psychosis (COPE: Bradshaw et al., 2000) qualification, a cognitive behaviour therapy qualification or had completed a PSI module within their core training. It was important to focus on the PSI trained staff group, as these staff members had the skills to provide family intervention but remained limited in applying these skills (Absalom et al., 2010).

Procedure

Staff were asked to respond to two open ended questions: 1. Are there any barriers to practicing family intervention in your workplace? 2. Can you offer any solutions for family interventions to be successfully implemented? Staff responded to the questions by writing their responses on paper. These written responses were then transcribed and subjected to thematic analysis (see Appendix 6.1 for all transcribed responses).

Thematic analysis

Thematic analysis (Boyatzis, 1998) was chosen as a suitable method to analyse the written responses of staff to the two open ended questions. Thematic analysis offers a flexible approach; it is time efficient and useful in involving participants within research. Furthermore, it can summarise large data sets and can highlight similarities and differences in data specific to research questions (Braun & Clarke, 2006). This method allows exploration of explicit data on the i) possible barriers and the ii) possible solutions to successful implementation of family intervention within forensic services. This realist and semantic thematic analysis aimed to simply organise data to show any patterns in the responses that staff generated to the questions posed (Braun & Clarke, 2006). The study aimed to develop an understanding of currently unknown staff perspectives regarding implementation of family intervention in forensic services.

The data were collated by gathering the written responses of staff to the two questions. The researcher (VA-H) followed the method of thematic analysis to code the data (Braun & Clarke, 2006). If data did not match a code, a new code was generated to include the data in the results. Once the data had been categorised, the themes were then cross
checked with coded extracts and then with the entire data set to ensure that themes were coherent, consistent and distinctive. These procedures were carried out until saturation, that is, until the responses did not necessitate any new codes. Each theme was then labelled to represent the data within that theme (Boyatzis, 1998; Braun & Clarke, 2006).

6.4 Results

Participant characteristics

From the 29 clinical staff invited to take part, 25 (86%) gave written feedback on the implementation of family interventions. Four staff members chose not to give written feedback. The staff group represented 55% females and 45% males aged from 24-60 years old (Mean = 41.7, SD = 8.8). The staff group consisted of 10% (n=3) advanced practitioners, 34% (n=11) community psychiatric nurses, 7% (n=2) deputy ward managers, 10% (n=3) family therapists, 7% (n=2) forensic social worker, 7% (n=2) nurse consultants, 3% (n=1) psychologist, and 17% (n=5) staff nurses. To demonstrate the wealth of experience 23/25 staff provided the number of years they had been working on the forensic unit: 0-2 years = 9% (n=2), 3-5 years = 52% (n=12), 6-10 years = 21% (n=5), 11-15 years = 9% (n=2), 16-20 years = 9% (n=2).

i) Staff barriers to family interventions:

In response to the first question ‘Are there any barriers to practicing family intervention in your workplace?’ five factors were identified as follows.

1. Time constraints

Overwhelmingly, staff felt (96%, n=24) that they did not have the time to conduct family interventions within their workplace; ‘not enough time to practice as much family work as I would like (P3)’; ‘other aspects of the job always end up coming before working with families (P18)’; ‘no allocated designated time for working with families, cannot fit it in (P20)’; ‘the travel to and from the family homes can take more than half a day up and this leaves me with less time to offer to other families on the waiting list (P21)’.
2. Poor service support

Staff described a lack of support from management on the secure units, with 80% \((n=20)\) of staff writing statements about service support: ‘the service is not supported from top down (P4)’; ‘without management support, the family service lacks structure (P5)’; ‘we receive minimal supervision, if better support was in place I am sure the service would be more fluent (P20)’, ‘people (staff) are getting really tired of failed attempts to get the (family) service up and running…. this is why staff move on (P10)’.

3. Lack of staff training

The absence of specific family intervention skills of staff were highlighted, with staff commenting on the lack of skills to provide family intervention as a service. Forty percent \((n=10)\) of staff made these types of statements: ‘few staff are trained in family intervention (P12)’; ‘the skills are there, but they are not used …. probably due to no supervision and lack of time (P16)’; ‘the staff trained in family interventions rarely use their skills as they have no support (P20)’.

4. Information sharing

Interestingly, staff reported a number of occasions when the family service was misunderstood by non-family service staff members or lacked the education from the rest of the service. 32% \((n=8)\) of staff wrote such comments as: ‘the (family) service would run much better if the rest of the unit knew exactly what its (family service) objectives were (P21)’; ‘poor attitudes from management are one barrier for family intervention (P5)’; ‘family intervention is not regarded as part of treatment by most of the service (P15)’; ‘the family service has not developed and very few of the outer [non-clinical mental health workers] team know it even exists for patients and families to be referred to (P17)’.

5. Geographic limitations

Staff were aware of the proximity issues between the family homes and the forensic unit with 20% \((n=5)\) of staff making these sorts of statement: ‘it can take a whole day in some circumstances to do one family visit, as the family homes can be a fair distance away
(P22), ‘it would be ideal to have a solution to be able to fit more family visits into a week’s work, but travel to and from family homes reduces our availability (P24)’.

**ii) Staff solutions to overcome poor implementation of family intervention:**

In response to the question ‘Can you offer any solutions for family interventions to be successfully implemented?’ seven factors were identified.

1. **Clear pathway for family intervention training**

   Staff gave their opinion on how to make a success of family interventions in forensic settings by suggesting a training pathway. Seventy-six percent (*n*=19) of staff raised this issue with the following statements: ‘a clear training pathway is needed for the service to be successful (P1)’, ‘the family service needs some kind of training package for staff (P3)’, ‘if the service is to be a success staff must be trained and supported within the workplace using a pathway (P8)’, ‘other family services have clear pathways for family therapists, so they have adequate training, continued professional development and support to provide family intervention in forensic services, this is what is needed here! (P11)’, ‘if management could provide a training framework, the family service would flourish with the interest that staff do have to provide a family service (P23)’.

2. **Protected staff time for family work**

   A major concern for staff was that they did not have enough designated time to conduct family work. In light of this, staff offered the solution to have protected family intervention time built into their contracts. This was highlighted by 72% (*n*=18) of staff. The following statements are illustrative of those shared by staff: ‘for the service to work as it should, family therapists are going to need protected time for family intervention work (P13)’, ‘staff need time built into their contracts specifically for family work (P17)’, ‘if managers supported designated time for family intervention work, the problem would be solved (P22)’, ‘every staff member who is qualified in psychosocial interventions (including
family intervention) should have contracted time for clinical work with families - that is not
taken over by admin and other (non-family) tasks (P25)’.

3. **Family service policy & structure**

Almost half of the staff group (48%, n=12) provided solutions regarding a revision of
the family service policy and structure. A sample of these comments are detailed: ‘it would
be helpful to have a clear service policy for family work within the service. This would
include designated family service offices and consultation rooms. The forensic wards are not
conjunctive with therapeutic/family work (P4)’, ‘family service structure- if the policy for the
service was structured with a lead therapist for example, the service would be more fluent
(P6)’, ‘the service requires structure with a family intervention manager and key therapists
providing the service, this should be clear in a service policy (P7)’, ‘the service needs some
kind of rationale, aims and objectives so the therapists have the same work ethic (P14)’.

4. **Supervision contracts**

Nearly half the staff sample needed a solution to the problems around supervision
(48%, n=12). A sample of the statements are as follows: ‘I would like to be offered regular
supervision for my family work in both one-to-one and group options (P2)’, ‘if we had clear
supervision contracts, the team would feel supported (P9)’, ‘when employed by the service,
each therapist should have a supervision contract and be clear on the amount, frequency and
whom they have supervision with (P14)’, ‘supervision contracts should be re-worked and
honoured (P15)’.

5. **Managerial support**

Staff raised the need to find a solution for increased support from management, with
44% (n=11) of staff making statements on this topic: ‘the service can only be successful with
support from management (P5)’, ‘the whole forensic unit needs to support the family service,
for the service to be a success (P10)’, ‘it is a top down approach that’s needed from
management to give the family service the fresh start it needs. With a new policy, supervisors
assigned to all staff and for all this to be adhered to! (P12)’, ‘if the whole unit is on board
with the family service, everything should run smoothly, as the service will be managed well, understood by the unit and developed as needed (P21)’.

6. Education & service promotion

A third of staff (32%, n=9) felt that the family intervention service deserved some promotion and awareness raising within and between the service. A sample of these comments are detailed: ‘joint understanding is required (P1)’, ‘the family service requires information sharing sessions firstly within the service, so all staff understand the family services aims. This should then be rolled out to the wider unit, so referrers know about the service and who may be appropriate to refer onto the service. This information sharing should then be distributed to outer services such as community and rehabilitation teams, so they are aware that the unit offers family intervention treatment. This would increase contact with families and improved education of the family service (P16)’, ‘some families do not trust the forensic unit, as they have not been educated about what the service offers, this could be improved by a basic leaflet about the unit when a patient is admitted (P17)’, ‘the service is currently not educated about any family service or intervention that can be offered at the unit, this needs to be addressed (P20)’.

7. Modernising the family service-new technology

Staff reflected on the barriers raised in their solution responses, with 28% (n=7) of staff raising solutions to issues around stigma and proximity with modernising solutions. For example, ‘the forensic service is stuck in old ways and needs some modernisation to provide evidence based services to this population (P18)’, ‘…. as families feel stigmatised and live long distances from the forensic unit, the service should maybe look at technology to provide the service to hard to reach families (P21)’.

To complete the study and add to the validity of the data, the staff group who took part in the study were invited to a feedback session. One month after the initial data collection, a sample of twelve staff gathered to listen to the results of the study. A presentation was given to share the findings concerning the barriers and the solutions to
family intervention that staff had generated during the study. Staff were asked to contribute any further points that may have been missed and to show their dis/agreement with the final results. The staff group were interactive with their feedback of the results. No further points were added by the staff group but the gathering did evoke agreement and, therefore, further discussion on a way forward to successfully implementing family intervention within forensic services.

6.5 Discussion

The aim of this study was to investigate the attributions and perceptions of staff toward the barriers and the solutions to implementing family intervention within forensic services. The perspectives of staff were successfully investigated during the study generating rich information.

Staff who took part in the study were enthusiastic and each staff member provided comprehensive feedback on the barriers and the solutions to forensic family intervention. Overall staff were willing to be part of family work, but over time multiple barriers have created exasperated attitudes for these staff members. There were some feelings of frustration towards failed family services, and staff seemed relieved to be involved in new research that was attempting to solve the problems of implementing family intervention in forensic environments. Most staff were interested in pursuing their family work interests.

Staff highlighted multiple barriers to successful implementation of family intervention within medium secure, forensic environments. The barriers towards family work reflected previous literature in the area of implementation (McCann et al., 1995; McCann et al., 1996). Staff described problems associated with limited time (Brooker et al., 2003; Smith & Velleman, 2002), lack of support (Baguley et al., 2000), lack of training (Michie et al., 2007), poor information sharing (MacInnes, 2000), and geographic limitations (Geelan & Nickford, 1999). These issues resonate with other work centred on family intervention services in non-forensic settings (Smith & Velleman, 2002; Stanbridge & Burbach, 2007).
The barrier of geographic limitations must be explained in two ways, as it represents a barrier in its own right with families living long distances from the unit, which could impact on the ease of delivering a family intervention due to the increased separation between service user and relatives. For example families may not be able to visit as regularly as families who live closer to the forensic unit, resulting in mostly telephone contact, which could be viewed as less quality contact adding further pressure to the family relationship. In addition geographical limitations may affect practical issues such as staff and family time. For example staff travelling to deliver family intervention at a family home will have an increased demand on time. This may negatively effect the feasibility to offer and maintain a family intervention over a number of weeks.

The present study contributed to the field by providing original data into the problems associated with the implementation of family interventions uniquely within forensic settings. From the data generated directly by staff, who are experts with respect to delivering psychological interventions in forensic environments, solutions have been established as part of a problem solving strategy to successfully implement family interventions within forensic services.

A heavily weighted topic from staff was the need for a clear pathway and training program for family intervention. Family services were described as lacking structure and being misunderstood by the rest of the unit. Staff noted that they would benefit from group supervision in addition to their individual supervision. This supports previous research that highlighted a need for improved clinical supervision within forensic services, as forensic staff received limited clinical supervision for their family intervention skills (Absalom et al., 2010). As Fadden (1997) commented, the problems associated with family intervention should be solved before further training in family intervention commences. Our study has highlighted the barriers that need to be addressed along with recommendations for how this should be achieved.
Recommendations

Summarising the attributional comments of staff working with families on the forensic unit along with the literature on implementation, it seems that the ideal solution would be to have a designated family team at each forensic unit. This would help endorse family intervention as a formal treatment option. This team would have specific areas for conducting family work with patients and relatives, along with consultation rooms for supervising staff. The family team would have a clear pathway for staff trained in psychosocial interventions, with clearly defined roles. This would allow staff the protected time for family work and provide robust training for the designated family team. A clear strategy would be developed so all ward staff were informed of what could be expected from the family service. This would facilitate the joint knowledge for referrals and a feeling of support for the service as a whole.

A lead therapist would run the service, producing and implementing information and awareness events for patients and staff at the unit (Smith & Velleman, 2002). In the community, families would be educated to understand what family intervention is, what the family service provides (Stanbridge & Burbach, 2007) and that it is part of the package provided for patients and their relatives whilst at the forensic unit. This would include needs analyses of families. The service lead would monitor and advocate training for the team based on the needs of the targeted population (Schweitzer et al., 2007). The service would be expanded and modernised over time to provide a family service to all forensic patients, possibly involving new technology. This would involve evaluation of the service, receiving feedback from the multidisciplinary team and service user panels (NICE, 2009; Stanbridge & Burbach, 2007).

Limitations & future research

Despite the novelty of this study which had a core aim of empowering of staff, there are some limitations to discuss. For pragmatic reasons the study only focused on medium secure, forensic environments. It would have been helpful to assess the barriers and the
solutions of staff opinion in low and high secure environments, to encompass the whole of
the forensic services. By including the varying securities of forensic services the sample size
of staff would have also been increased, to improve generalisability of the results.

An understanding of the term ‘family intervention’ was not established with staff in
this study. As family intervention can vary in its definition and application, it would be
beneficial for future research to establish that staff are referring to the same intervention
when describing potential barriers and solutions. This may have been corrected by providing
a brief statement describing the relevant family intervention referred to in this study.

As a family intervention can include staff, service users and relatives, it would be
useful to understand the whole group’s attributions or perceptions of the barriers and possible
solutions to implementing family intervention within forensic services. This presents an
objective for future research where service users and relatives would respond to the two
questions regarding the barriers and solutions to implementing family intervention.

The thematic analysis method is open to criticism as despite its flexibility in approach
the method can create difficulties in being succinct in data selection (Braun & Clarke, 2006).
The findings may be criticised as the researcher was also the lead author which may create
bias, as ultimately the hypothesis is known. However this potential bias was counteracted by
attempting to be as objective as possible when gathering the data and liaising with the
participants. Acknowledging the potential to bias results was the first step to reducing
researcher bias. In addition the researcher is a trained cognitive behaviour therapist and
therefore has the practised skills in being objective when working clinically. This skill of
neutrality was utilised throughout the research study. The co-authors of the study reviewed
the data and analysis as a measure to eliminate any skewed reporting by the lead author.

Unfortunately thematic analysis struggles to hold kudos in psychology research. Yet
if future studies could be rigorous in the method and incorporate psychological theory an
appreciation for thematic analysis may increase. This study incorporated the theory of
attribution (Heider, 1958) which adds to the strength and flexibility of thematic analysis in incorporating psychological theory.

Future research could aim to include staff who are not PSI trained to gain a further understanding and possible alternative perspectives on the barriers to forensic family intervention services.

6.6 Conclusion

Staff found it empowering to be involved in potential changes based on their opinions for the implementation of family interventions. The staff provided excellent insight into the barriers that existed within the service and this was reflected in the number of achievable solutions they were able to generate as a team. Interestingly, these barriers and solutions agree with those identified by others (Brooker et al., 2003; Fadden, 1997; Michie et al., 2007; Smith & Velleman, 2002; Stanbridge & Burbach, 2007) in implementing family intervention services and suggest that similar strategies can be put into place to improve family intervention services for the forensic population (Geelan & Nickford, 1999; Richards et al., 2009).

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Chapter 7

Attitudes of relatives and staff towards family intervention in forensic services using Q methodology

7.1 Abstract

Attitudes about family interventions have been identified as a possible reason for the poor implementation of such treatments. The current study used Q methodology to investigate the attitudes of relatives of forensic service users and clinical staff towards family interventions in medium secure forensic units, particularly when facilitated by a web camera. Eighteen relatives and twenty-nine staff completed a sixty-one item Q-sort to obtain their idiosyncratic views about family intervention. The results indicated that relatives and staff mostly held positive attitudes towards family intervention. Relatives showed some uncertainty toward family intervention that may reflect the lack of involvement they receive from the forensic service. Staff highlighted key barriers to successful implementation such as lack of dedicated staff time for family work and few staff adequately trained in family intervention. Despite agreement with the web based forensic family intervention (e-FFI) technique and its benefits, both staff and relatives predicted problems in the technique. The study provides information on how the future of family intervention services within forensic care could be developed and modernised.

Key words: forensic, family intervention, attitudes, Q method, web technology

7.2 Introduction

Family interventions have a promising evidence base (Pharoah et al., 2006; 2010; Pilling et al., 2002) and the potential to be used within forensic settings (MacInness, 2000; Peddie, 2009; Richards et al., 2009), yet very few family interventions have actually been delivered in forensic settings (Fadden, 2006; Geelan & Nickford, 1999). Studies that have implemented family interventions within forensic services have failed to publish in peer reviewed journals (e.g. Atchinson et al., 2009; Peddie et al., 2009), therefore limiting the availability and further development of the research. Poor implementation has been acknowledged as being problematic across clinical services (Berry & Haddock, 2008; Brennan & Gamble, 1997; Brooker et al., 2002; Fadden, 1997; Fadden & Birchwood, 2002), including forensic services (Absalom et al., 2010). A number of barriers to implementation of family interventions have been identified in general mental health settings, including issues relating to attitudes towards family interventions (Brooker et al., 2003; MacInnes, 2000; Michie et al., 2007; Tarrier et al., 1999). However, research investigating such barriers to implementation in forensic settings is sparse (Sirdifield et al., 2009). Therefore, the overarching aim of the current paper was to redress this by investigating the extent to which family interventions are acceptable to staff working in forensic settings and to relatives of those who are incarcerated in such units, with a focus on attitudes held by these individuals towards family interventions.

Attribution theory (Heider, 1958) explains the psychological underpinning associated with attitudes, family intervention and schizophrenia. Attribution theory describes the way in which people generate meaning about a situation or topic, often using ‘cause and effect’ thinking (Weiner, 1985). The theory of attribution is important to this study in three ways as first, often service users with schizophrenia are considered responsible for their actions. Such negative attributions can affect successful treatment. For example, families may blame the service user or the forensic unit for the negative behaviour and be reluctant to be involved in a family intervention. It is important to understand the attitudes that people hold about family
intervention before offering it as a treatment option. Second, attribution theory may help to understand the experiences of staff whilst working on forensic units in delivering family intervention, along with their attitudes and possible attributions to why family intervention services are not successful. Staff may hold attributional ‘cause and effect’ thinking about the implementation of family interventions. Attribution theory allows this study to investigate the cause and effect of poor implementation of family interventions based on relatives and staff attitudes. Third, the key point of attribution theory in understanding people’s meaning of a topic area is maximised using this study’s choice of methodology, namely, the Q method, as Q method focuses on investigating attitudes. The use of Q method-factor analysis specifically focuses on the responses of participants rather than the statements or items (as in standard factor analysis), therefore giving a larger emphasis to the meaning of participant’s responses regarding family intervention.

The barriers associated with poor implementation of family intervention in general mental health settings include, negative attitudes of staff (McFarlane et al., 2001; Tarrier et al., 1991), a lack of adequately trained staff (Fadden, 1997), staff not being given the requisite time to conduct family work (Smith & Velleman, 2002), little support from the service (Baguley et al., 2000), poor supervision (Rask & Aberg, 2002) and families living far away from the unit (Geelan & Nickford, 1999). In order to address these barriers, there has been a modest drive to revise family services in broad-spectrum mental health services (Smith & Velleman, 2002; Stanbridge & Burbach, 2007, Stanbridge et al., 2009). For example, staff training programmes built around understanding the needs of families in dealing with relatives with mental health issues were positive in that they changed the confidence levels of staff and altered attitudes and knowledge towards the needs of families (Stanbridge et al., 2009). Although limited in studies, this initiative has recently been demonstrated with forensic staff (Doyle et al., 2007; Gudjonsson et al., 2010; Redhead et al., 2011; Lammie et al., 2010). Yet such attitudinal work has not been conducted with families in forensic services.
The prevalence of mental illnesses are substantially higher in prisoners compared to those who are living in the community. For instance, rates of schizophrenia in prisoners have been reported to be as high as 70% (American Psychological Association, 2004; Flyger, 2007; McKeown, 2007; Royal College of Psychiatry, 2008). In the UK, all services treating service users with schizophrenia are required to offer family intervention (NICE, 2009). The NICE (2009) guidelines do include intensive care units and forensic services, yet the meta-analyses research that supports the guidelines did not include any forensic studies (e.g. Pilling et al., 2002; Phaorah et al., 2006; 2010). Indeed, family interventions appear to be particularly appropriate in the prison population because they have the potential to target issues relating to severe mental illness in addition to issues concerning incarceration, criminal history, the potential for current or future violent behaviour, and the stigma of being both incarcerated and having a mental illness (Pearson & Tsang, 2004; Tsang 2000). A basic requisite for implementing family interventions in a forensic setting is that families are motivated to work with, and learn about, severe mental illnesses which include understanding the possible relationships between a serious mental illness, such as schizophrenia, and crime (Barrowclough & Tarrier, 1992; Kuipers et al., 2002; Absalom-Hornby et al., 2011). Although some work has found that relatives may not trust forensic services, feel disempowered, and blame staff for detaining their relative (Fadden, 2006; MacInness, 2000), other researchers have noted that families appeared keen to be involved in patient care (Absalom, 2010; Addington et al., 2007). A factor which is central to determining whether relatives will engage with family interventions in forensic settings is their attitude towards this form of therapy, this has not been researched. The attitudes of staff are equally as important as those of the relatives because it is the clinical staff who conduct the family interventions. Attitudes can affect staff morale, productivity and the care provided to service users (Baguley et al., 2000; Fadden, 2006; Smith & Velleman, 2002; Stanbridge & Burbach, 2007), as well as determining whether an intervention is ‘championed’ by staff (Smith & Velleman, 2002; Stanbridge & Burbach, 2007).
Even if the attitudes of service users, relatives and staff towards family interventions are positive, a practical challenge which is unique to forensic settings is that forensic units are often geographically located at some distance from the homes of relatives (Geelan & Nickford, 1999). Geographical limitations hinder regular visits from relatives to forensic service users and also limit the potential to take part in regular psychological interventions. One way of circumventing this problem is by delivering psychological interventions through the use of internet technologies such as teleconferencing or webcams, known as telepsychology or telepsychiatry. (Baer et al., 2007; Lattimer et al., 2000; Wiederhold & Wiederhold, 2006). To date, such approaches have been found to be promising in contexts such as community mental health and paediatric medicine (Simpson, 2003; Wade et al., 2006). Reduced need for travel (Bose et al., 2001; Hayler et al., 2003; Jones et al., 2001; O’Reilly et al., 2007) and increased acceptability of telepsychology have been reported (Brodey et al., 2000; Elford et al., 2001; Leonard et al., 2004; McLaren et al., 1996; Monnier et al., 2003). However these studies were not conducted within a forensic setting. One study examined the use of telepsychology within a forensic setting and found that videoconferencing assessments led to service users being more expressive and feeling more in control of treatment (Onor & Misan, 2005). However, the use of telepsychology in forensic settings has been limited to conducting initial psychiatric assessments and facilitating interactions between clinicians and service users via videoconferencing (Stankard, 2007; Zaylor, 2000), rather than implementing actual psychological interventions. However there is optimism for the approach within forensic services (Antonacci et al., 2008).

The present study is part of a larger investigation addressing the barriers to successful implementation of family intervention for the forensic population, with the aim being to conduct family intervention using an internet link and web camera (e-FFI). Such a novel approach requires preliminary assessment work. Consequently, the present study investigated the attitudes of relatives and staff working with forensic service users, towards taking part in e-FFI.
In order to systematically explore the attitudes of both staff and relatives towards e-FFI in a manner that was time efficient and with minimal bias on the part of the researchers, Q methodology (Brown, 1980; Stephenson, 1953) was utilised. Q method was chosen as opposed to alternative research methods (e.g. Likert Scales: Likert, 1932), which examine attitudes, as it was appropriate for this study in enabling the diversity of subjective beliefs to be systematically and empirically investigated without recourse to pre-determined structures. Q method may provide a greater description of attitudes as it is able to present levels of attitude across a scale (i.e. using a five point response scale) unlike an alternative method of attitude assessment such as Thurstone scaling (Thurstone & Chave, 1929), which only allows scores of agreement or disagreement. In a Q study, individual attitudes are elicited through sorting a set of statements selected from a wide range of relevant literature and resources. Participants are encouraged to reflect on the degree to which statements concur with their beliefs on the subject in question. However Q method can be criticised for being unreliable as results may not be replicable in the same group of participants (Cross, 2005), despite the founder of Q method assuring up to 85% consistency in producing the same results a year after initial data collection (Brown, 1980). Social psychologists argue that it is normal to expect differences in response from social beings, as our views and attitudes can constantly alter about the same topic (Stainton Rogers, 1991). Also Q method is vulnerable to bias as, first, researcher bias may be present due to the researcher being responsible for deciding on the final set of Q statements and then labelling the themes that emerge from participants responses. Second, participant bias may function as participants can respond with socially desirable answers rather than their true bold opinions. This point is true of many research methods.

Despite the potential difficulties, Q methodology is being increasingly used to investigate attitudes in the field of mental health (Cross, 2005; Flitcroft et al., 2007; Gregg et al., 2009; Watts & Stenner, 2005). In the present study, a two stage design was utilised,
following usual practice for Q methodology, with an initial stage of identifying the Q set of statements and second stage in which relatives and staff undertook a Q sort using the Q set.

7.3 Method

Design

This study used a cross sectional design to investigate the attitudes of relatives and staff working with forensic service users.

Participants

 Relatives of service users across two medium secure forensic units in the UK were invited to take part. In total eighteen relatives took part in the Q-sort exercise from a possible 37 who were invited to the study. They were selected using inclusion criteria of (a) at least monthly contact with the service user, (b) the service user had given their consent for their relative to be contacted (all service users were well enough to give informed consent, as reported by their consultant psychiatrist) and (c) the service user had a diagnosis of schizophrenia. The sample of relatives consisted of 72% females (n=18) and comprised mothers (n= 8, 44%), siblings (n= 5, 28%), fathers (n=4, 22%) and an aunt (n= 1, 6%). All the relatives were of UK nationals and were aged between 33-72 years old (M= 54.5, SD 12.6).

 Twenty-nine clinical staff were recruited from two medium secure units in the UK. This representative sample included those who practiced family interventions on a weekly or fortnightly basis and were trained in a psychosocial intervention. The staff group comprised 55% females (n=16) and were aged from 24-60 years old (M= 41.7, SD 8.8). The staff group consisted of advanced practitioners (n=3, 10%), community psychiatric nurses (n=11, 34%), deputy ward managers (n=2, 7%), family therapists (n=3, 10%), forensic social workers (n=2, 7%), nurse consultants (n=2, 7%), psychologists (n=1, 3%) and staff nurses (n=5, 17%).
Q methodology:

Phase 1 – Development of the Q-set

A panel of local experts within the family intervention field, comprising three clinical psychologists, a nurse consultant and two family therapists, was assembled to select the initial set of statements (Watts & Stenner, 2005). The literature on family intervention was reviewed to develop the initial Q concourse (Brown, 1980), together with discussions between professionals in the field to gain a perspective on family work within forensic services.

These discussions into attitudes about family intervention in forensic services were aimed at a practical level to supplement the meagre published work from a forensic service perspective (Jones et al., 2003; Stenner et al., 2008). An initial list of statements was generated from the literature search and discussions to represent the diversity of views on the practice and implementation of family intervention and clinical use of a web camera. These statements were put to the expert panel to assess their relevance, accuracy, and content. The panel of experts used a set criteria for statement selection to ensure that i) statements were similar in written style, ii) extreme statements were avoided, iii) statements had plausible competitors and iv) that double negatives were avoided (Donner, 2001). This resulted in a final Q-set of 61 statements investigating the implementation of family intervention and web-based therapy. The Q set can be viewed in Appendix 7.1.

Phase 2 – The Q sort

Eighteen relatives and twenty-nine forensic staff members completed the Q-set. Relatives were asked to complete the Q-sort task at home. Participants were provided with a written description of family intervention on the Q sort instructions. The Q-set was posted along with instructions to read each statement in turn and then allocate it to one of five categories (+2= strongly agree, +1= agree, 0= neutral, -1= disagree, -2= strongly disagree), that best met their view on the topic area. Relatives were asked to reflect on their decisions to
ensure that their responses represented their true subjective opinions. On average, the Q sort task took between 15-20 minutes to complete.

The same procedure was followed by the staff who were given time in working hours to complete the Q sort.

Q sort analysis strategy

The Q analysis followed the method used by Brown (1980), Stephenson (1953) and McKeown & Thomas (1988). Q sorts are obtained from participants and can be correlated and factor-analysed by participant rather than the conventional method by variables or statements. The Q-sort provided data for the factor analysis. The resulting factors showed clusters of participants who ranked statements in the most similar way indicating similar attitudinal preferences toward family intervention. Factors were explained and interpreted in terms of commonly shared attitudes. The use of factor analysis by the Q method in this way focuses on the participant’s responses rather than the statements themselves (Brown, 1980). The resultant number of data points is large. Responses to 61 statements from 29 staff produced 1769 data points, and 1098 data points from 18 relatives.

Each participant’s Q-set was entered into SPSS Version 16.0 programme (SPSS, 2008) and subjected to a factor analysis using principle components analysis, with a varimax rotation. The rotation was used to maximise the amount of variance within each factor to produce a matrix. With the factors identified, the analysis went on to describe which statements loaded onto each factor for i) relatives and for ii) staff. Therefore, a rotated component matrix was computed showing how the sixty-one statements loaded into the factors. Next, the average loadings for each statement were computed separately. Each factor was listed in a factor array table alongside each of the sixty-one statements. The modal scores were entered under each factor to show how each statement was associated with the factor. This process produced the factor array or exemplar Q sorts (McKeown & Thomas, 1988). Exemplar Q sorts represent the weighted average response from i) relatives and ii) staff.
toward family intervention. This resulted in two exemplar Q sorts representing attitudes toward family intervention and the use of a web camera.

Ethical approval

The proposal was approved by Manchester Eight NHS research ethics committee and research and development departments of both NHS Trusts involved. Service user panels were also consulted in the design and procedure of the study. Feedback from the panel was positive in the use of Q methodology to investigate attitudes regarding family intervention. Service users were happy that they would be consulted and required to give informed consent before their relatives were contacted to participate.

7.4 Results

i) Q-sort – relatives

The Q-factor analysis extracted four factors (eigen value greater than or equal to 1) from the relatives’ Q sorts, which represented 78% of the variance (see Table 7.1). Other factors were excluded as they accounted for little variance, had overlapping items or were not supported by the scree plot method of inclusion (Flitcroft et al., 2007; Oswald & Harvey, 2003). Following analysis, factors were fed back to a sample of the relatives with an aim to review how their attitudes fitted with the emerging factors. A final four factors are described below with the typical statements associated with each attitudinal theme.

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1 Exemplar Q sorts can be obtained on request by emailing the author
Table 7.1 - Rotated factor matrix with mean factor loadings (in bold) from the principal components analysis of the Q sort data for the relatives (N=18).

<table>
<thead>
<tr>
<th>Relatives</th>
<th>Factor 1: uncertain/ambivalent</th>
<th>Factor 2: against e-FFI</th>
<th>Factor 3: dedicated</th>
<th>Factor 4: cynics</th>
</tr>
</thead>
<tbody>
<tr>
<td>.923</td>
<td>.197</td>
<td>.129</td>
<td>.019</td>
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<td>.884</td>
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<td>-.022</td>
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<td>-.034</td>
<td>.008</td>
<td>-.054</td>
<td>.935</td>
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</table>

Factor 1: Uncertain / ambivalent

This factor accounted for 51% of the variance with an eigen value of 9.2. Factor 1 comprised of those relatives holding mixed attitudes about family intervention, with contradicting attitudes within one factor. Within the factor, there was strong agreement (+2) that ‘family interventions help relatives cope’ (S11) and ‘family interventions are cost effective’ (S12) but strong disagreement (-2) with ‘family interventions are an opportunity to help patients get better’ (S18) and ‘I would like to be involved in family intervention’ (S24). Similarly, there was strong agreement that ‘psychological treatments should be used with psychological problems’ (S22) and that ‘the benefits of family intervention are appealing to
me’ (S25) and also that ‘family interventions are not useful to relatives with forensic patient relatives’ (S23), ‘families live too far away to be involved in family work’ (S45) and that ‘family interventions using a web camera will generate too many problems / be complicated’ (S56 & S59). The majority of the relatives (N=11, 61%) loaded onto Factor 1. This included six mothers, two sisters, one aunt, one brother and one father. Three of the six mothers loaded highly onto this factor with mean loadings of .89.

Factor 2: ‘Against e-FFI’

This factor accounted for 12% of the variance with an eigen value of 2.0 and comprised of relatives who regarded family interventions as being cost effective (S12), helping relatives cope (S11) and worth the time taken (S14), whilst strongly disagreeing that ‘family interventions are too complex for staff’ (S4). However, the same group of relatives strongly disagreed that ‘family interventions are an opportunity to help patients get better’ (S18) and strongly agreed that ‘family interventions using a web camera will generate too many problems’ (S56). This group strongly agreed that ‘family interventions using a web camera would reduce stigma of visiting a forensic unit for relatives’ (S58) but strongly disagreed that ‘family’s experience stigma in visiting the forensic wards’ (S61). The four relatives loading onto Factor 2 were two fathers, one sister and one brother.

Factor 3: ‘Dedicated’

This factor accounted for 8% of the variance with an eigen value of 2.0. Overall, this factor had the fewest strong loadings of either agreement or disagreement and appeared to represent mild attitudes toward family intervention. However, there was strong agreement that ‘family interventions are time consuming for relatives’ (S3), ‘family therapists receive support for their skills’ (S16), ‘family interventions are hardly used in secure services’ (S20), ‘family interventions are useful to forensic patients and their families’ (S21), ‘I would dedicate time to take part in a family intervention’ (S28) and ‘relatives will dedicate time to family interventions’ (S32). Factor 3 comprised of one mother and one father of different inpatients.
Factor 4: ‘Cynics’

This factor accounted for 7% of the variance with an eigen value of 1. Relatives loading onto Factor 4 strongly agreed that ‘family interventions are effective in treating schizophrenia’ (S1), ‘they are worth the time’ (S14), ‘they help relatives cope’ (S11), ‘relatives will dedicate time to family interventions’ (S32) and are an opportunity to help get patients better (S18). However, they also agreed that ‘family interventions are too complex for staff’ (S4), ‘bringing relatives and patients together is too risky for patients’ (S7), ‘families live too far away to be involved in family work’ (S54) and that ‘staff have little time for family intervention work’ (S46). They also agreed that although ‘family interventions using a web camera are positive’ (S57) and that ‘families experience stigma in visiting the forensic wards’ (S61), they anticipate that e-FFI would be problematic and complicated (S56 & 59) and put them off being involved in a family intervention (S60). The relatives who loaded onto Factor 4 were two mothers.

ii) Q sort – staff

The Q-factor analysis of the staff Q sorts extracted four factors with an eigen value of 1 or above, which accounted for 73% of the variance in the data (see Table 2). Other factors with lower eigen values were again excluded. Following analysis, factors were fed back to a sample of the staff members with an aim to review how their attitudes fitted with the emerging factors. There was a cluster of statements which were strongly endorsed across the four factors, these being S10 ‘family interventions encourage understanding’ (+2), S14 ‘family interventions are worth the time taken’ (+2), S18 ‘family interventions are an opportunity to help patients get better’ (+2), S22 ‘psychological treatments should be used for psychological problems’ (+2), S26 ‘I don’t believe in psychology treatments like family intervention’ (-2), S27 ‘family intervention should be offered to families at the secure unit’ (+2), S28 ‘I would dedicate time to take part in family intervention’ (+2) and S53 ‘family intervention has a good evidence base’ (+2). Overall, the attitudes of staff were positive
toward family intervention, but with differences depending on the factor on which they loaded.

Table 7.2 - Rotated factor matrix with mean factor loadings (in bold) from the principal components analysis of the Q sort data for the staff (N=29).

<table>
<thead>
<tr>
<th>Staff</th>
<th>Factor 1: realist/enthusiast</th>
<th>Factor 2: optimists</th>
<th>Factor 3: ambivalent of need</th>
<th>Factor 4: pessimists</th>
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</table>
Factor 1: ‘Realist enthusiasts’

This factor accounted for 57% of the variance with an eigen value of 16.6 and encompassed attitudes strongly endorsing (+2) family interventions and the use of a web camera. Thus, staff who loaded onto Factor 1 strongly agreed with ‘family interventions are effective in treating schizophrenia’ (S1), ‘family interventions encourage understanding’ (S10), ‘I would dedicate time to take part in a family intervention’ (S28) and ‘I would like to be involved in a new intervention using a web camera’ (S54). Similarly, these staff strongly disagreed (-2) with statements such as ‘forensic wards have more important issues to deal with such as security’ (S49), rather than focussing on family intervention, ‘families do not want to be involved in family intervention’ (S42) and ‘family interventions cannot work for forensic patients and relatives’ (S35). These staff seemed to demonstrate an understanding of family interventions along with service provision and service need, as illustrated by their strong endorsement of ‘family interventions are hardly used in secure services’ (S20) and ‘there are not enough staff trained in family intervention’ (S36). Staff loading onto Factor 1 represented a clinical and management skill mix and therefore were more likely to carry out family interventions, being three advanced practitioners, a clinical psychologist, three nurse therapists, a deputy ward manager and two staff nurses.

Factor 2: ‘Optimists’

Factor 2 accounted for 6.4% of the variance with an eigen value of 1.9 and encompassed an optimistic attitude toward family intervention and web camera use. Staff loading onto this factor demonstrated optimism toward family intervention by strongly disagreeing (-2) with ‘staff do not receive clinical supervision for family intervention’ (S52), along with statements appertaining to the service, NHS and families having more important issues to deal with than family intervention (S49, 50, 51) and with the idea that family interventions are too risky for those involved (S7, 8, 9). These were predominantly community psychiatric nurses (N= 2), along with a social worker, a nurse therapist and a staff nurse.
Factor 3: ‘Ambivalent of need’

This factor accounted for 4.6% of the total variance with an eigen value of 1.4. Staff loading onto this factor tended to agree that family intervention is positive and worth the time, but there was also ambivalence toward need, with the staff giving neutral responses to statements about staff such as ‘family interventions are too complex for staff’ (S4) and ‘staff can apply all their family intervention skills’ (S13), ‘staff have positive attitudes toward family intervention’ (S47), as well as family needs ‘relatives will dedicate time to family intervention’ (S2), ‘families do not want to be involved in treatment’ (S42), ‘families live too far away to be involved in family work’ (S45) and service need ‘the need for family intervention has been assessed on this ward’ (S37) ‘the forensic wards have more important issues such as security, rather than focussing on family intervention’ (S49) and web technology ‘I would like to be involved in a new intervention using a web camera’ (S54) and ‘family interventions using a web camera would reduce stigma of visiting a forensic unit for relatives’ (S58). Despite a general ambivalence toward the possible needs involved in family intervention, the staff loading onto Factor 3 strongly disagreed (-2) with ‘the thought of using a web camera would put me off being involved in a family intervention’ (S60). Nine staff members loaded onto this factor, these included an advanced practitioner (N=1), community psychiatric nurses (N=5) and staff nurses (N=3).

Factor 4: ‘Pessimists’

This factor accounted for 5% of the variance with an eigen value of 1.2 and appeared to represents a cluster of pessimistic opinion towards family intervention and web technology, with agreement (+1) that ‘family interventions are risky for relatives and staff’ (S7 & 8), ‘NHS have more important issues to deal with than family intervention’ (S51) and disagreement with ‘family interventions are cost effective’ (S12). There was agreement that ‘families experience stigma in visiting the forensic wards’ (S61) and that they ‘would like to be involved in a new technology using a web camera’ (S54), although this technique could be problematic (S56) and be off putting to take part in (S60). These statements received mild
agreement (+1) or mild disagreement (-1), so attitudes were not as strong as with the other factors. The staff in this instance comprised of two social workers and a community psychiatric nurse and a staff nurse.

The use of Q methodology permitted a direct comparison of the views of staff and relatives towards e-FFI. As with the family intervention statements, the web camera statements were also selected from saturating the literature available on telepsychology and the use of web technology in the treatment of schizophrenia and family interventions. These statements were then reviewed with the panel of specialists for final approval.

Table 7.3: The barriers to family intervention highlighted by relatives and staff

<table>
<thead>
<tr>
<th>Barriers highlighted by staff &amp; relatives</th>
<th>Modal rating</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Relatives</td>
<td>Staff</td>
</tr>
<tr>
<td>S2&amp;3. Time consuming</td>
<td>+1</td>
<td>+1</td>
</tr>
<tr>
<td>S15. Lack of support from the service</td>
<td>+1</td>
<td>-1</td>
</tr>
<tr>
<td>S30. Staff disputes hinder implementation</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>S31. Little staff time</td>
<td>+2</td>
<td>+2</td>
</tr>
<tr>
<td>S36. Not enough staff trained</td>
<td>+1</td>
<td>+2</td>
</tr>
<tr>
<td>S38. Need is not assessed</td>
<td>+1</td>
<td>-1</td>
</tr>
<tr>
<td>S41. Not seen as a treatment option</td>
<td>+1</td>
<td>+1</td>
</tr>
<tr>
<td>S45. Families live too far away</td>
<td>+1</td>
<td>-1</td>
</tr>
<tr>
<td>S52. Lack of supervision</td>
<td>0</td>
<td>+1</td>
</tr>
<tr>
<td>S61. Stigma experienced by families</td>
<td>+1</td>
<td>+1</td>
</tr>
</tbody>
</table>

(Note: +2 = strongly agree, +1 = agree, 0 = neutral, -1 = disagree, -2 = strongly disagree)

Table 7.3 compares the attitudes of relative and staff, highlighting the key barriers to family intervention in forensic services. The data shows agreement in attitudes on the main barriers to successful implementation of family intervention. These were a lack of trained staff and insufficient time dedicated to family work. Family interventions were also regarded as time consuming and not promoted as a treatment option. There was agreement amongst staff and relatives in how families experience stigma when visiting forensic units and that
this can deter visiting detained relatives and taking part in treatments. Staff highlighted the lack of supervision for their family skills, but disagreed that needs went un-assessed and there was a lack of service support. In contrast, relatives agreed that the service did not support family interventions or assess family needs and that distance was an issue in implementing family interventions.

As one of the main aims of the study was to assess the attitudes of relatives and staff towards web camera facilitation for family intervention (e-FFI), attitudes towards the e-FFI statements were directly compared for relatives and staff. Seven statements were generated with direct reference to the use of a web camera for family interventions. Table 7.4 summarises the responses to these seven statements by comparing relative and staff attitudes.

Table 7.4: Relative’s and staff attitudes toward e-FFI

<table>
<thead>
<tr>
<th>e-FFI statements</th>
<th>Modal rating</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Relatives</td>
</tr>
<tr>
<td>54. I would like to be involved in a new intervention using a web camera</td>
<td>+1</td>
</tr>
<tr>
<td>55. Family interventions using a web camera would reduce relatives travelling to the unit</td>
<td>+2</td>
</tr>
<tr>
<td>56. Family interventions using a web camera will generate too many problems</td>
<td>+1</td>
</tr>
<tr>
<td>57. New technology in family interventions, like the web camera are positive</td>
<td>+1</td>
</tr>
<tr>
<td>58. Family interventions using the web camera would reduce stigma in visiting a forensic unit for relatives</td>
<td>+2</td>
</tr>
<tr>
<td>59. Family intervention using a web camera would be too complicated</td>
<td>+1</td>
</tr>
<tr>
<td>60. The thought of using a web camera would put me off being involved in a family intervention</td>
<td>-1</td>
</tr>
</tbody>
</table>

(Note: +2 = strongly agree, +1 = agree, 0 = neutral, -1 = disagree, -2 = strongly disagree)

Table 7.4 shows that the staff were much more reserved in their attitudes toward e-FFI than the relatives. Most of their responses were neutral compared to relative responses.
Agreement was shared by relatives and staff when responding to S55, as the use of a web camera would reduce travelling to the unit for relatives. Relatives were enthusiastic about the possibility of using a web camera to facilitate family intervention, as they agreed with the potential benefits, such as, reduced stigma. Relatives were not put off by the idea of using a web camera. Relatives did express the attitude that the web camera could be problematic or complicated. Staff did not respond negatively to the problematic or complicated statements.

7.5 Discussion

The main aim of this study was to investigate the attitudes of staff working in forensic units and relatives of forensic service users towards the implementation of family interventions. Given the potential advantages of using telepsychology to deliver interventions an additional aim was to examine attitudes towards family interventions delivered by the use of a web cam (e-FFI). This study contributes to the field by providing the first piece of research investigating the attitudes of relatives and staff within medium secure forensic services, specifically examining family intervention and the use of a web camera using Q methodology. The study aimed to provide findings that could offer insight into attitudes associated with family intervention in forensic services and the use of a web camera, to inform future web based family intervention services in forensic care.

The core factor that emerged from the relatives Q sort data was termed ‘uncertain - ambivalent’. This is in line with previous research possibly indicating that relatives do not have the information they need about family interventions in the context of severe mental illnesses in those who are incarcerated to make an informed opinion (Rijcken et al., 2003; Stambridge & Burbach, 2007). Many relatives appear to be unaware of family intervention and its benefits (Drapalski et al., 2009). This seems to link with the relative’s responses suggesting that family intervention is not known to them as a treatment option and that they are hardly used in forensic services. Both of these examples were strongly endorsed by relatives in the current study. Of course, such perspectives should be tempered with the
consideration that relatives may not wish to take part in family intervention. This may be due to factors such as their own mental well-being (Barrowclough & Tarrier, 1992), being a victim of the service users offence (Ferriter & Huband, 2003) and stigma related issues (Pearson & Tsang, 2004). The ‘uncertain-ambivalent’ factor highlights the need for family intervention to provide the knowledge families require about schizophrenia and the treatment options.

The main factor generated from staff attitudinal responses was termed ‘realist-enthusiast’. With over half of the staff sample loading onto this factor, it portrays an overall positive attitude from the forensic staff toward family intervention. Staff showed commitment and an understanding for the evidence base that family intervention holds. There is the possibility that some bias may be present as the staff sample were all qualified in family work to either doctorate, masters or degree level. Therefore their attitudes toward family intervention may be biased to promote family intervention to justify their skills in family work or to promote family services to utilise their skill-base. However some frustrations were highlighted within this category, for example; limited staff training and a lack of service provision for family intervention. Such practical and experiential responses may describe staff attributions as to why family interventions are not as successful as initially anticipated. This fits with previous work which has shown that staff do not receive the support to work with individuals with complex problems in providing family interventions (Absalom et al., 2010; Geelan & Nickford, 1999). This is also echoed in general mental health settings (Cohen et al., 2010; Michie et al., 2007; Sin & Scully, 2008). That said, the staff who loaded onto this factor are likely to have been practicing more family intervention, which may have affected the results.

The key factor arising from the ‘barrier’ statements indicated that staff time is a concern in the success of family interventions. This reflects previous literature in the area stating that time pressures for staff are a problem with family interventions (Brooker et al.,
Differences between relative and staff attitudes within the barrier statements seemed to indicate that relatives felt unsupported by the service and felt stigmatised when visiting the unit. Relatives felt that family intervention was not a treatment option, that their need was not assessed, that not enough staff were trained in family intervention and that they live too far away from the unit to take part in family intervention. Overall, these attitudes reflect the attributions of relatives; describing the cause of poorly implemented or attended family intervention services. Such points present a major barrier to successful family intervention in forensic services as relatives feel un-involved and un-supported. This point is echoed by the lack of published research into the needs and attitudes of relatives of people experiencing schizophrenia in forensic services and the apparent lack of impetus in services for developing activities which address the issue (Fadden, 2006).

Attribution theory’s (Heider, 1958) ‘cause and effect’ meaning (Weiner, 1985) has been useful in the problem-solving nature of this study. Relatives and staff attributions about the problems associated with family intervention have provided causal information for the effect of poor family intervention services. The attitudes presented have reflected the meaning of the problems from both relatives and staff perspectives, who are ultimately the key facilitators of family intervention. Future attempts to implement family interventions within forensic services must address these attitudes and concerns that relatives have shared within this study. In addressing staff concerns the need for designated time for family intervention work must be an explicit part of the contract for a range of mental health professionals working within forensic settings, with regular and structured clinical supervision. Information sharing is required within the service as a whole to show how family intervention can be a useful treatment option for service users and their relatives. The information should be shared with all members of staff, families, service users and outer service providers to create a fresh approach to family intervention within forensic services.
Such implications should be integrated into government policy basing the recommendations on successful studies and research (Smith & Velleman, 2002; Stanbridge & Burbach, 2007).

As this study aimed to assess attitudes toward using a web camera to facilitate forensic family intervention (e-FFI), it is important to state how the findings should be used in the future. Overall relatives showed a range of attitudes toward the e-FFI statements, agreeing with the benefits of the technique but also highlighting possible problems and complications. Staff were neutral toward the idea of e-FFI and this may be due to common concerns associated with being viewed and heard on camera and audio equipment. Staff may also see this advance as a potential test of their skills which may be off-putting. Buist (2000) discussed such issues in an evaluation of a telepsychology service relating the use of telepsychology equipment to staff concerns. Mixed attitudes have been reflected in other areas of telepsychology with parents of children with brain injury finding the use of telepsychology helpful in reducing their distress, depression and anxiety associated with their child’s injury (Wade et al., 2006). Forensic service users found the use of telepsychology to provide more control and understanding of their treatment (Onor & Misan, 2005). However, in some instances clinicians have found telepsychology to be threatening as it may deplete their roles within mental health care (Marks et al., 2007).

As e-FFI provides a potential advance in family intervention work and forensic mental health care, there is a need for specific information to be shared with the forensic population to educate and disperse pre-conceived attitudes about change and a new technique. This may involve information leaflets about e-FFI and service presentations to reach all areas of the service. There is also a need for guidelines in the use of telepsychology within forensic settings for the UK. There is still considerable research required in the area of forensic services to help progress mental health care and modernise services with the use of technology such as the web camera (Antonacci et al., 2008; Sirdifield et al., 2009).
Despite this study’s novelty in providing insight into family intervention attitudes using a web camera within forensic services, there are some limitations to note. Ideally the sample size would have been larger; to include a wider sample of relatives and staff at the forensic units. Due to the challenges faced in conducting research within forensic services and the requirement to obtain consent from service users to involve each relative, the sample was minimised to 18 relatives and 29 staff in total.

It is important to note that the opinions of relatives who have at least monthly contact with the service user (as stated in the inclusion criteria) may differ from relatives who are in contact less frequently. However it may also be the case that relatives who have very limited contact with forensic service users may have no interest in family intervention at all. In addition and given more resource, it would have been interesting to include the attitudes of service users in the study; to understand their attitudes towards family intervention and the use of web technology. This study did not include the attitudes of service users for a number of reasons. First, based on the expressed emotion literature that supports family intervention (Leff & Vaughan, 1986), it is the emotion of relatives that can alter the presentation of symptoms in service users (e.g. Barrowclough & Tarrier, 1992). Therefore working with the relatives may be beneficial in improving knowledge of schizophrenia and service users may experience a reduction in symptoms in addition to improving relationships between the service user and the relative, and building rapport between families and the forensic service. Second, a number of service users within the forensic services were deemed too unwell by their consultant psychiatrist to take part in the research. Further, the level of staff education and IT skills of the participants would have been helpful to include in the results. These points are ideas for future research.

The use of the Q methodology creates some potential researcher bias as the interpretation of themes is primarily decided by the researcher. However, this study attempted to counteract this bias by including more than one researcher in identifying the themes and then followed this up by discussing the themes with the participating group. This
was thought to be helpful in gaining reliability in the data to best represent the group’s attitudes towards family intervention. The Q method may be criticised for participant bias, as participants may respond to the statements to produce socially desirable attitudes. This was addressed by stressing the anonymity of responses so as to encourage the generation of true attitudes regarding family intervention. The personal interpretation of how a participant may read a statement may be a weakness in the Q method. Participants may incorrectly process or understand a statement resulting in varying outcomes, which is difficult to control for. However, the method provided participants with the researchers contacts details to ask questions and seek clarification should it be required. Feedback was also sought from participants following completion of the Q-sort to highlight any issues, concerns or difficulty (Jones et al., 2003).

Despite these limitations, a number of strengths of the Q method have been identified. For example, when the Q method was compared to other exploratory methods of attitude it was found to be robust (Cross, 2005). The Q method has also been found to produce reliable results in areas of forensic risk assessment (McKeown et al., 1999), schizophrenia and voice hearing (Jones et al., 2003), schizophrenia and substance misuse (Gregg et al., 2009), and youth mental health (Buljac-Samardzic et al., 2011). Further, the method is thought to be helpful in monitoring change in attitudes over time and useful in identifying similarities and differences within a population (Kreuger et al., 2007).

Aside from the main aims, this study has been successful in using Q methodology to explore attitudes about family intervention. As a qualitative approach Q method is seldom used in psychology research. Therefore this study adds to the literature in demonstrating the use of Q method as a methodology to explore attitudes, and incorporating the psychological theory of attribution (Heider, 1958).

To conclude, this study has been important in understanding the attitudes presented by relatives of forensic service users and clinical staff, towards family intervention in a forensic context. Furthermore, it allowed attitudes towards the use of web technology in such
settings to be investigated. As services modernise and develop through time such studies are essential to keep forensic services up to date by meeting the needs of the population. With relatives and staff presenting open-minded attitudes towards family interventions and the use of web technology, the idea of e-FFI should be utilised throughout forensic services. With the correct infrastructure to support a new forensic service, and information for families and staff, e-FFI would be a success. E-FFI would help services to provide the evidence based services for service users and families experiencing schizophrenia.

Acknowledgement

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Chapter 8

Family intervention using a web camera (e-FFI)
within forensic services: A case and feasibility study

8.1 Abstract

This feasibility study utilised a web based family intervention with a mother and a sister of a forensic service user, diagnosed with schizophrenia. The premise for the study was i) a sound evidence base for family intervention in the treatment of schizophrenia, ii) the prevalence of schizophrenia diagnoses within forensic services, iii) the unmet needs of forensic service users and families, iv) the geographical limitations of visiting forensic service users by families, and v) the open-mindedness of relatives and staff in accepting a new technique. This article describes the successful implementation of a family intervention within forensic services, facilitated by a web camera and Internet link. Family outcome variables were assessed throughout treatment, resulting in both the sister and, particularly, the mother experiencing reduced expressed emotion, reduced stress, improved knowledge of schizophrenia, reduced stigma and improved personal health. There was also an improved acceptability of forensic services and adjustment to the index offence of the service user evidenced by both family members. This research presents a new technique for family intervention and demonstrates the ease and acceptability of family intervention delivered using a web camera (e-FFI), in overcoming multiple barriers to implementing family intervention in the treatment of schizophrenia.

Keywords: Family intervention, forensic, web based intervention, schizophrenia, implementation.

8.2 Background

Theoretical and Research Basis

Family intervention is a type of psychological treatment which has been used in a number of mental health settings (Brabban & Kelly, 2008; NICE, 2009). It has been successfully delivered to families with relatives experiencing psychotic symptoms with the principal aim of reducing relapse risk in those with elevated psychosocial risk factors (Pharaoh et al., 2006; Pilling et al., 2002). The use of a family intervention helps a family to understand the nature of schizophrenia and the impact it can have on an individual and family life (Kuipers et al., 2002). Along with providing education about the mental illness, the intervention aims to help the family develop coping skills, problem solving skills, and planning for the future (Barrowclough & Tarrier, 1992; Kuipers et al, 2002). A factor strongly associated with elevated relapse rates is expressed emotion (EE: Berry et al, 2010; Brown, 1985; Butzlaff & Hooley, 1998; Docherty et al, 2009). EE is described as a family’s emotional style of communication between family members and, importantly, towards the service user with schizophrenia. Attribution theory (Heider, 1958) describes the development and maintenance of expressed emotion (EE), as relatives generate causal meaning or attributions for the behaviours demonstrated by the service user. These attributions are usually negative toward to service user, as relatives explain the behaviour as controlled by the user, rather than symptoms of schizophrenia. This can result in high expressed emotion. One aim of family intervention is to reduce EE within a family, rather than a family demonstrate over-involved and critical appraisals of the service user (i.e. high EE). Low expressed emotion can be helpful to a family as it changes the emotional dynamics within a family unit. Once low expressed emotion is achieved the family may start to communicate more effectively, with a greater understanding of the mental illness. Therefore, the relationships within the family are improved. Such changes within a family then create further improvements such as reduced relapse, symptoms, stress and feelings of guilt for example. Low expressed emotion is, therefore, favourable (Leff & Vaughn, 1985).
Family interventions have a good evidence base in treating schizophrenia (Pharaoh *et al.*, 2006; Pftammer *et al.*, 2006). Family intervention can reduce relapse and psychotic symptoms (Dyck *et al.*, 2000), improve social functioning (Chien & Chan, 2004), improve communication and relationships within a family (Bellack *et al.*, 2000), and help manage grief and loss (Patterson *et al.*, 2005). With improved family dynamics and a greater understanding of the illness, families can have a better chance of reducing relapse episodes in the future (Garety *et al.*, 2008).

The advantages of family intervention may be extended to forensic services (Richards *et al.*, 2009), as i) over 70% of the forensic population have diagnoses on the schizophrenia spectrum (Flyer, 2007), ii) there is a need for family work within forensic services (Absalom *et al.*, 2010; Pearson & Tsang, 2004), and iii) forensic service users tend to have regular contact with their families, even if this is via the telephone (Absalom *et al.*, 2010; Cohen *et al.*, 2010). Government guidelines suggest that all individuals and their families experiencing schizophrenia should be offered formal family interventions (Dixon *et al.*, 2009; NICE, 2009). However such guidelines may be criticised as none of the studies that inform the guidance involved a forensic sample (e.g. Pharaoh *et al.*, 2006; Pftammer *et al.*, 2006), yet the guidelines refer to all families experiencing schizophrenia. This assumes that all people experiencing schizophrenia have the same needs that can be treated using family intervention. Some researchers would argue that forensic service users have different or heightened needs to other populations (Brady, 2005; Pearson & Tsang, 2004; Rose, 2007; Tsang, 2000). Only two examples of successful implementation of family intervention in forensic settings have been documented; one within a child forensic service (Atchinson *et al.*, 2009) and another in a medium secure, male forensic unit (Peddie, 2009). Unfortunately, these two rare studies have not been published in peer reviewed journals which limits their availability for distribution within the field, and for the development of forensic research.

Despite the sound evidence base for family interventions, both forensic and general mental health services struggle to successfully implement family interventions widely
(Fadden, 2006; Geelan & Nickford, 1999). Drawing on attribution theory (Heider, 1958), there have been many causal attributions explaining the deficiency of family intervention services, from poor understanding of the intervention to negative attitudes toward family intervention (Brennan & Gamble, 1997; Brooker et al, 2003; McKeown, 2007). This can culminate in inappropriate referrals from other professionals (Smith & Velleman, 2002). Furthermore, it has been indicated that staff may not be given the support from management (Baguley et al, 2000) to have dedicated time for family work (Fadden, 1997). The supervision for staff to provide family intervention has also been reported as insufficient (Mairs & Bradshaw, 2005) and in some cases found to be non-existent (Absalom et al, 2010). As forensic units tend to be in rural areas it can be difficult for families to visit regularly, making geographic limitations another barrier to the poor implementation of family interventions (Geelan & Nickford, 1999). This barrier impacts on staff and family time in travelling to take part in the intervention, along with service and family expense (Caqueo-Urízar et al, 2009).

A solution to geographic limitations for forensic services is to use a web camera and Internet link to facilitate the communication between the forensic unit and the family home. The evidence base for web technology within psychology, also known as telepsychology, is growing with examples of web technology producing benefits for those taking part (Amstadter et al., 2009; Baer et al, 2007; Lattimer et al, 2000; Ruwaard et al., 2009; Wiederhold and Wiederhold, 2006). Such approaches are promising (Hilty et al, 2003; Simpson, 2003; Wade et al, 2006), showing reduced travel time to take part in the therapy (Bose et al, 2001; Hayler et al, 2003; Jones et al, 2001; O’Reilly et al, 2007) and increased acceptability of using new technology (Brodey et al, 2000; Elford et al, 2000; Leonard et al, 2004; McLaren et al, 1996; Monnier et al, 2003). Despite the growing and positive outcomes that telepsychology can produce, there have been no studies conducted within forensic services which utilise Internet based family approaches. As of now, the feasibility of delivering telepsychological services in a forensic unit remains unknown.
A comprehensive needs assessment relating to family intervention, and to web based delivery of such interventions, showed that service users and their relatives would benefit from family intervention services (Absalom et al, 2010; Absalom-Hornby et al, 2011). Few of the forensic wards involved offered family intervention (Absalom et al, 2010), despite government recommendations for family intervention to be offered to all those experiencing schizophrenia (NICE, 2009). The experiences of clinical forensic staff indicated that new technology may have the potential to address some of the barriers to implementing forensic family intervention (Absalom-Hornby et al, 2011). With both relatives and staff within forensic services presenting open-minded attitudes toward family work facilitated by the use of web technology, the idea of family intervention using a web camera (e-FFI) appeared promising.

Using the manualised CBT model of family intervention (Barrowclough & Tarrier, 1992) along with data from the comprehensive needs analysis (Absalom et al, 2010; Absalom-Hornby et al, 2011), a novel protocol for web based forensic family intervention (e-FFI) was developed. The study piloted the use of a web based forensic family intervention with a single family. The aim of this case study was to evaluate the benefits and feasibility of e-FFI family intervention with the family members taking part.

8.3 Case history

The two individuals participating in this pilot study, namely the mother (Tina) and sister (Sam) of an incarcerated relative (Tim) were interviewed using the Relative’s Assessment Interview (RAI: Barrowclough and Tarrier, 1992). Relevant details procured from this interview are presented below. Identifying information was altered to adhere to confidentiality regulations.

Tim is a 31 year old male who has contact with his mother (Tina) and father (Joe). They have one other child, a daughter aged 28 (Sam).
As a baby, Tim’s mother described him as a ‘clingy’ child. At around the age of four Tim’s family moved abroad, where his paternal family live. The family set up a business, running a shop. When Tim was seven years old his mother wished that the children were back in English education and moved back to the UK for Tim to start primary school. Tim’s father stayed abroad and this led to the breakdown of the marriage of Tim’s parents. His parents separated amicably and they continue to have a good relationship.

Tina described Tim as a normal child, but did recall him having a fascination with fire, and has memories of Tim lighting objects in the fire. Once, he burned his school uniform in the living room.

As Tim progressed through school he became very resistant to school rules and authority shown by teachers. He would constantly get into trouble at school, and with the Police for petty crimes, such as stealing food from the local newsagents. He also had regular physical fights both in and out of school. Tim was expelled from school at the age of 15 for non-compliance and, therefore, has no qualifications. He was unable to hold down a job, with his longest job lasting around three months. His brief employment involved factory work and being a restaurant waiter. At around the age of 15 Tim started smoking cannabis and selling it to others in the local area.

It was at the age of 16 that Tim started to take food from the kitchen and leave it in his bedroom. At first his mother put this behaviour down to teenage ‘slobbish’ behaviour, as his bedroom was always untidy. At one point Tim was having his bedroom refurbished and his mother remembers finding a stash of food under the floorboards that Tim had hidden. When his mother asked for an explanation, he said he was planning for the future and was annoyed that his mother had questioned him, as if she should have known his purpose of hoarding. The family noticed that Tim would not eat all day but would then binge in the middle of the night. He also preferred to sleep all day and stay awake all night. The family started to feel awkward around him and felt unsure of how to respond to his odd behaviour.
Tim went to live with his father, around the age of 16. As his father worked nights, Tim had a ‘free rein’ in the evenings. Tim continued to smoke cannabis and, with little parental supervision, his usage grew.

Tim maintained some contact with his school friends. He presented with strange symptoms at this time where he would talk to himself in riddles, in the corner of rooms. His family noticed a major change in him, as his appearance had also deteriorated. There was a serious situation at age 23 when Tim’s friends took him to the local psychiatric hospital because he attempted to stab a friend. During psychiatric care Tim demonstrated aggressive behaviour towards staff and was referred to a local unit for intensive care. Tim then had his first psychiatric assessment and was prescribed antipsychotic medication at age 24. However nothing conclusive came of this admission and the family became frustrated with the lack of support that Tim was receiving from psychiatric services.

Following self discharge, Tim went to live in hostel accommodation where he smashed up his television and windows. Later the family learned that this was due to Tim hearing voices telling him that the “TV was trying to get into his head”. During his time at the hostel Tim assaulted a policeman and was arrested a further time.

8.4 Case Presentation

A forensic consultant psychiatrist referred the family to the research project because the service user ‘Tim’ had recently been admitted to the medium secure, forensic service with a diagnosis of paranoid schizophrenia and for an index offence of attempted rape [Section 1 of the Sexual Offences Act 1956 (Archbold, 2004)]. As attempted rape was committed, Tim was sectioned under a hospital order: Section 37 and restriction order: Section 41 by the Ministry of Justice, under Part 3 of the Mental Health Act (Department of Health, 1983). The Brief Psychiatric Rating Scale (BPRS: Overall & Gorham, 1962; Ventura et al, 1993), completed by Tim’s consultant psychiatrist, identified negative symptoms of
emotional withdrawal, blunted affect and self neglect. Tim also showed moderate symptoms of unusual thought content and conceptual disorganisation. He exhibited the following symptoms to a mild degree: suspicious behaviour, hallucinations, bizarre behaviour, tension and distractibility.

The family had a close relationship and regular (weekly) contact with Tim, but knew little about the services, the mental illness and what the future holds for Tim, given his diagnosis of schizophrenia and criminal offence. As the family were new to forensic services, and were motivated to be involved in treatment they were thought to be most suitable for this pilot case study. The family were keen to be involved in e-FFI and consented to take part. The service user consented for his mother and his sister to be involved in the research.

**Technical assessment**

The family had a private laptop that they wished to use for the web camera sessions. The research project provided the family with a web camera and the clinician (VA-H) assisted in the setup. The broadband connection was trialled with the family to become familiar with the functions involved for the use of the web camera equipment. The broadband connection was password protected at each end of the connection.

**8.5 Course of Treatment and Assessment of Progress**

Based on the assessment and conceptualisation of the family’s problems, the intervention was planned to run over a minimum period of 14 weeks. Each session was provided weekly and lasted between 60-90 minutes in duration. To build therapeutic rapport with both of the family members, the initial assessment sessions were conducted face-to-face within the family’s home. As part of the assessment stage, visual analogue measures were introduced to measure mood (Goldstein & Willner, 2002; Johnson et al, 2008). They were administered simply, where the family member was asked to mark where they rate their
emotional mood to be for each item, on a ten-point scale. This study investigated eleven items of emotion, which the relatives had identified as relevant to their goals for family intervention. Their aim was to reduce the following emotions in response to the situation: fear, anger towards services, anger towards the illness, anger towards the service user, guilt, stigma, resentment, sorrow, loss, worry and feeling afraid for the future. This measure was administered pre, mid and post treatment. Once pre-assessments were concluded, the web camera sessions commenced.

_Early treatment (sessions 1-10)_

Sessions one and two were used as assessment and rapport building sessions. The family were given the information on schizophrenia from the Barrowclough and Tarrier (1992) manual to read as an out of session task.

The third session was a web camera session to practice using the technology from two separate locations. General feedback from the assessment sessions was discussed with the family and queries answered.

Session four was the first of the web camera sessions working within a structured family intervention framework. The session was initiated with a brief phone call to the family home to check that the family were confident in using the equipment. Once online and using the web camera, the family set an agenda of issues they wished to discuss during the 90 minute web session. The family were encouraged to set goals for therapy. Both the mother and the sister set personal goals. The family were introduced to the concept of stress management, where stressful events were discussed together with ways in which they could start to use their skills to manage such situations. The family completed individual stress records out of session.

Session five involved a discussion about medication and the symptoms of schizophrenia. This included education on the stress-vulnerability model for schizophrenia.
The idea of thoughts, feelings and behavioural reactions were introduced with regard to the stress records of the family.

Session six was held within the family home (without the web camera) and was focused on case formulation. Given the nature of the problem and the importance of keeping good rapport, the clinician shared the formulation face-to-face with the mother and the sister. In addition to the formulation, the family were struggling to communicate with Tim during their weekly visits. In order to address this problem, the clinician engaged the family in a discussion of possible ‘motivators’ for Tim. Motivators related directly to Tim’s interests such as his family, his childhood and football.

Session seven involved the mother alone with the clinician over the web camera, as during the assessment stage and discussion with the family, it was agreed that Tina required some sessions on a one-to-one basis. As a mother, Tina found the incarceration of Tim difficult to cope with initially and requested individual sessions to work on her goals independently of her daughter, Sam, and not to burden Sam with her more personal thoughts regarding the situation.

Therefore, web-sessions eight and nine were dedicated to the mother’s individual goals, using the family intervention framework. During these sessions the mother, Tina, was able to master problem solving through her stress management techniques. She started to put her plans into practice with successful outcomes. For example, she was able to set some ‘me time’ aside for herself, to distract her from her worries about Tim and better manage her stress. Tina also discussed her support networks, stigma, burden and coping. Tina completed the visual analogue measures (mid-treatment) of her emotions in respect of the situation (see Figure 8.2).

Session ten (using the web camera) involved both Tina and Sam together. There was a notable difference in their communication style. It seemed that with the past months of sharing information, sharing their feelings, and learning together, that they were able to demonstrate less stress in their reactions to each other. This linked into the start of an
understanding about expressed emotion and the aim to display low expressed emotion towards Tim and as a family. Sam completed the visual analogue assessment on her feelings and emotions associated with the situation (see Figure 8.1).

**Later treatment (sessions 11-14)**

Session eleven involved both Tina and Sam in a web camera intervention. This session focused on how the family had started to cope with Tim’s change in symptoms and medication. The family were able to draw on previous ‘tools’ and strategies that they had learned in order to feel more confident with symptom presentation, time scales for treatment, and medication options.

Session twelve reviewed the family’s implementation of strategies based on week eleven. The family successfully used strategies with positive outcomes when visiting Tim. This was reflected in their reduced personal stress levels and improved sense of coping. Tim also showed signs of improved symptoms which was reinforcing for the family. With a sense of increased confidence from the family intervention, the session developed to discuss self help and family support services available to the family.

Session thirteen extended the previous week’s work to include communication resources and specialist services available to the family.

Session fourteen provided a final web camera session for the family. The family’s goals were reviewed and the achievement of each goal was discussed in detail, drawing on both Tina and Sam’s separate ‘tool box’ of skills, knowledge and strategies.

Session fifteen and sixteen were dedicated to completing the measures associated with the family intervention. These sessions were conducted at the family’s home.

After each session with the family, the clinician (VA-H) sought clinical supervision from one of the co-authors (NT). The clinical team based at the secure unit were updated weekly by the clinician and feedback was provided by the unit’s consultant psychiatrist on how he felt the intervention was progressing from a unit perspective. The final report about this pilot case study was fed back to the service at a team meeting at the forensic unit once
the treatment was complete. The following results were discussed with the clinical team and the family.

8.6 Family outcomes

**Assessment of the service user**

The pre-treatment assessment covered multiple factors. The British Psychiatric Rating Scale (Overall & Gorham, 1962) is a measure of psychiatric symptomology. It has been widely used in mental health settings, including forensic services. Tim’s consultant psychiatrist used this measure to rate his symptoms. Tim scored 60 on the BPRS (Leucht et al., 2005) at pre-treatment which is regarded as moderately to severely ill. Post-treatment assessment of Tim’s symptoms, using the BPRS, revealed reduced symptoms, however some symptoms remained within the moderate to extremely severe range resulting in a raw score of 58. These were symptoms of blunted affect, emotional withdrawal, suspiciousness, self-neglect, tension, conceptual disorganisation, unusual thought content and anxiety. During the professional review meeting it was apparent that Tim had only recently entered the optimum level of medication for his body and illness. Therefore the clinical team were hopeful for increased progress in reducing symptoms within the next few weeks.

**Assessment of the relatives**

The family’s expressed emotion (EE, Brown, 1985) was assessed using a five minute speech sample (Magana et al., 1986) prior to treatment by an experienced rater (NT). The mother was rated as high in EE and the sister as low EE. The mother’s high EE was classified by over-involved and critical comments toward the service user. These negative causal attributions toward the service user highlighted examples of blame with their behaviour (symptoms) viewed as internal and controlled (Weiner, 1985).

To understand the mother’s and sister’s personal health, the general health questionnaire, version 28 (GHQ-28: Goldberg, 1988) was utilised prior to treatment, indicating that both were experiencing health impacts such as worry and stress (see Table
8.1). In addition, a baseline needed to be established concerning the family’s knowledge of schizophrenia. Therefore the knowledge about schizophrenia interview (KASI: Barrowclough et al, 1987) was administered with both mother and sister, showing that they had limited information regarding Tim’s mental illness (see Table 8.1).

The aim with the selected questionnaire measures was to establish pre-treatment, mid-treatment and post-treatment data monitoring the progress of the family’s outcomes. These data are described in detail below.

Both the mother and the sister achieved their goals for family intervention by the end of week fourteen, as measured by the increase in knowledge of schizophrenia and the improvement in personal health (see Table 8.1). Linked to their personal goals, the mother and sister made progress with additional factors such as reduced guilt, anger, stigma, worry, loss and feeling afraid for the future, as shown in Figures 8.1 and 8.2.

Table 8.1 - The pre and post outcomes scores of the mother and sister for the GHQ and the KASI questionnaires.

<table>
<thead>
<tr>
<th></th>
<th>GHQ-28 Pre</th>
<th>GHQ-28 Post</th>
<th>KASI pre</th>
<th>KASI Post</th>
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<tbody>
<tr>
<td><strong>Sister</strong></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Score</td>
<td>11/28</td>
<td>1/28</td>
<td>13/24</td>
<td>20/24</td>
</tr>
<tr>
<td><strong>Mother</strong></td>
<td>20/28</td>
<td>1/28</td>
<td>11/24</td>
<td>20/24</td>
</tr>
</tbody>
</table>

GHQ-28: general health questionnaire / KASI: knowledge about schizophrenia interview
Figure 8.1: The scores of the sister on visual analogue variables for pre, mid and post treatment stages during e-FFI

Key: anger-ill = anger towards the illness, anger-ind = anger towards the service user, anger-serv = anger towards the services
Figure 8.2: The scores of the mother on visual analogue variables for pre, mid and post treatment stages during e-FFI

![Bar Chart](chart.png)

Key: anger-ill = anger towards the illness, anger-ind = anger towards the service user, anger-serv = anger towards the services

In addition to the visual analogue variables shown in Figures 8.1 and 8.2, the general health questionnaire (GHQ-28) and the knowledge about schizophrenia interview (KASI) also demonstrate the positive changes experienced by the mother and the sister. The general health of both mother and sister reflected high stress levels and a clear impact, particularly on the mother’s health. However as Table 8.1 shows from the pre and post scores, the family’s health did improve. This echoes the pattern shown in Figures 8.1 and 8.2 with the mother and the sister reporting reduced worry, anger, stigma, guilt and loss. To add to this, the KASI
reflected improved knowledge and understanding of the mental illness. This also seemed to apply to specific information on forensic services. At the end of therapy, the family felt that they had improved knowledge about the problem and the forensic service. This improved knowledge along with reduced expressed emotion appeared to facilitate the family in thinking differently about the problem, therefore reducing stress. The data reflect such positive progress and changes in attribution about schizophrenia.

Three of the visual analogue items show the opposite of what might be expected (see Figures 8.1 & 8.2). For the mother, Tina, her general fear level was raised at post-treatment. This was also true for the sister’s (Sam) feelings of sorrow and being afraid for the future. This may be explained by their increased knowledge and more realistic expectations for Tim. As a result of the improved knowledge of schizophrenia and forensic services, the family learned that Tim’s treatment would be long term and dependant on his own motivation to improve.

8.7 Limitations

Despite the positive outcomes from this investigatory study, there are some limitations to note. First, the research presented a single case study involving only the mother and the sister of a forensic service user. Ideally multiple families would have been included in the study and future research should aim to evaluate e-FFI by means of a randomised control trial. Second, the study did not control for potential influences of other factors such as medication. Future e-FFI research could aim to include such variables to investigate if the positive effects of e-FFI are maintained despite the differences in service user medication. Third, the lead author of the study was also the sole clinician delivering the family intervention. This acts a potential bias to the study as the author could have manipulated the outcomes, either during the intervention sessions or as part of the analysis process to favourably answer the study’s research question. However, the researcher aimed to avoid any
bias by seeking both research and clinical supervision from experienced supervisors throughout the study.

Finally, the measures utilised in this study may act as a limitation. The five minute speech sample (Magana et al., 1986) may be criticised for being too brief in exploring expressed emotion. Social psychologists would argue that humans expression toward a topic can change constantly (Stainton Rogers, 1991) and therefore a five minute snippet may not adequately represent an individual’s expressed emotion. Attributions that people hold about family intervention may also be difficult to assess, as attitudes can change constantly. The BPRS (Overall & Gorham, 1962) may be helpful in providing a baseline of psychopathology, but it may not be as transparent to clinicians as other measures of symptomology (e.g. Clinical Global Impression scale: CGI; Guy, 1976).

8.8 Treatment Implications of the case

The use of a web camera within forensic services was found to be a success from both a clinical and a practical perspective. The study has contributed to the field as it has demonstrated a number of points that may be helpful to future research associated with schizophrenia, family intervention, forensic mental health and telepsychology. The study has shown that the use of telepsychology in the form of a web camera (e-FFI) is useful in implementing family intervention in the treatment of schizophrenia. Furthermore, this study has overcome the barriers documented by previous literature (Brooker et al, 2003; Cohen et al., 2010; Fadden, 1997; Geelan & Nickford, 1999; Mairs & Bradshaw, 2005) to present a successful family intervention that produced desirable outcomes for the family and the service. Web camera facilitated family intervention (e-FFI) has been shown to be easily implemented from a practical perspective. If e-FFI can be implemented within a complex setting such as a forensic mental health service, then e-FFI should be easily applied to other levels of mental health care, such as in-patient and community mental health services treating schizophrenia.
The technique was risk managed by meeting the requirements of the ethics committee and the Trusts research and development department and research committee. No risk issues were raised during the treatment. The success of this study has minimised the concerns of heightened risk in implementing telepsychology clinically within forensic services, suggesting an optimistic future for further research and forensic-telepsychology interventions. Further, e-FFI was accepted by the family involved and the clinical professional team, showing support and enthusiasm for the new technique.

The findings from this study may be useful to government and private health care providers for a number of reasons. First, e-FFI may prove cost effective for providers compared to alternative treatment options, as e-FFI requires fewer therapists to administer the intervention and less cost in travel expenses, as the web technology limits the need to travel. Second, e-FFI offers a modern solution to providing family intervention services and solves the longstanding barriers to implementing the evidence based and government guidance of family intervention in the treatment of schizophrenia.

8.9 Recommendations & further research

Recommendations may be generated from this study given the positive outcomes for the family and the encouraging feedback from the forensic, clinical team regarding the utilisation of e-FFI within a forensic service. Further research studies should be commissioned to implement e-FFI within forensic mental health services. Future research studies should aim to replicate the present study and compare the outcome variables to start to build an evidence base for e-FFI. Studies should investigate the cost of e-FFI compared to alternative treatment options such as medication and traditional (face-to-face) family intervention. Future research could develop a model for successfully implementing e-FFI from forensic to lower level mental health settings in an attempt to demonstrate the flexibility of e-FFI across settings. This study has highlighted some of the characteristics that families
involved in forensic mental health services may present and this presents an important information for future research.

The needs and additional factors of families associated with a forensic service must be explored in an empathic manner. For example a family may need support and education about the crime, Sections, and risk given the index offence, with an understanding of processes and best and worse case progression through forensic services for their family member. As with many families associated with forensic care, they report often experiencing ‘slipping through the net’ within the community and general psychiatry services, causing anger. Such causal attributions can create negative attitudes towards forensic services. These types of emotions require time and reattribution in order for individuals to realise that their family member is now in the correct service, receiving optimum treatment.

From a service perspective, future research could investigate training, supervision and evaluation of e-FFI services. Clinical staff should be trained in the technique of e-FFI to provide a service for forensic service users and their families. These staff ought to be regularly supervised in their family intervention skills. The use of web cameras could be further utilised to facilitate clinical supervision, which presents an idea for future research. Forensic services could benefit from developing a clearly structured e-FFI service to meet the needs of families, as this study has concluded that relatives have regular contact with service users, that schizophrenia is a common diagnosis in forensic services, and that this preliminary study indicates that e-FFI is accepted and feasible. Finally, the e-FFI service should be regularly evaluated and based on frequent needs assessments.

Acknowledgments

The authors would like to acknowledge the family involved and the support from professionals at the medium secure unit involved in this case. This paper was presented as part of V Absalom-Hornby’s PhD thesis. As the information in this paper was made
anonymous, the family proof read the paper and gave their permission for the information to be published.

All reference to web based family intervention named ‘e-FFI’ or ‘e-FI’ should be reference to this paper.
Chapter 9

9. GENERAL DISCUSSION

9.1 Overview

The central aim of this research was to develop an understanding of family intervention within the forensic mental health services using a series of investigations. The investigations presented in Chapters 3-8 contribute to the field of forensic psychiatry by updating the evidence base and investigating the feasibility of family interventions in the treatment of schizophrenia. A comprehensive analysis of the needs of service users, families and forensic staff with respect to family interventions delivered in the context of forensic services was carried out in addition to a trial of a novel form of e-based family intervention targeting the relatives of a forensic service user with a diagnosis of schizophrenia.

The programme of research began with a review of the literature for the treatment of schizophrenia, including family intervention, and forensic services. From this, it became clear that there were issues which had not been addressed in previous research. First, it was suggested that family intervention was the most suitable psychosocial treatment for schizophrenia (NICE, 2009; Pharaoh et al., 2010; Pilling et al., 2002). Having said this, the evidence base was focused primarily on reduced relapse rates in schizophrenia indicating a clear limitation in the evidence for other important outcome variables such as social and psychological factors (Bellack et al., 2000; Pickett-Schenk et al., 2008). Second, the systematic reviews of family intervention were based on general mental health populations and made no reference to forensic services (e.g., Pharaoh et al., 2010; Pilling et al., 2002), in spite of schizophrenia presenting a major problem within forensic services (Rutherford & Duggan, 2007). Third, despite the prevalence of schizophrenia in forensic services, little is known about the application of family intervention as a treatment option to the complex forensic population. Further, the literature review highlighted that the studies included in systematic reviews, those providing the evidence base for family interventions, had not been assessed for methodological quality. Therefore it may be that, regardless of successful
outcomes of individual family intervention studies, the results are generated from poor methodological studies. Even with support from government guidelines regarding the implementation of family interventions in the treatment of schizophrenia in general mental health services and forensic services, the acceptability of applying this method in forensic services remained unclear. Finally, there were clear problems in the implementation of family interventions: the barriers of negative staff attitudes, lack of training, limited staff time and geographic limitations remained unsolved.

Before tackling the implementation problems of family intervention services, the programme of research aimed to assess the need for family intervention in forensic services. This began with a meta-analysis assessing the effectiveness of family intervention whilst investigating other important variables highlighted in the literature: the social and psychological outcome variables; different models of family intervention and the quality of the studies included in the evidence base. The meta-analysis showed that family interventions are considered an effective treatment for schizophrenia. Other social and psychological benefits can be seen from family intervention but CBT based family intervention was no more effective than other methods of family intervention. More recently published family intervention studies presented stronger methodological rigour than older studies, proving that the quality of family intervention studies is improving.

Given the evidence in support of family interventions over time in the treatment of schizophrenia (Chapter 3), the project went on to demonstrate that forensic service users show a need for family work in their presentation of problems associated with of social, behavioural and psychological symptoms. Chapter 4 also draws on the family intervention skills of clinical staff within forensic services, revealing how few staff were trained in family intervention. In addition to this, many forensic staff reported receiving little to no supervision for their family intervention skills. Finally, the forensic units were found to provide limited family intervention services to service users and their families.
It was important to extend the assessment to include the needs of relatives since service users had identified a clear requirement for family intervention in their assessment. Chapter 5 showed that relatives felt that they would benefit from family intervention services given their concern and their ability to cope with the frequency of schizophrenia symptoms. The needs analysis identified the needs of service users and relatives, and showed an apparent need for family intervention in forensic services. Therefore the programme of research progressed to assess the perspectives of staff in relation to the poor implementation of family intervention services within forensic services. In Chapter 6, forensic staff identified relevant barriers within services before coming up with a number of possible solutions. One suggestion was to use modern technology in order to facilitate family intervention. This, it was thought, would overcome the problems caused by geographic limitations and lack of staff time. Chapter 7 assessed the attitudes that relatives and staff held about family intervention within forensic services, as well as the use of a web camera to facilitate treatment between the forensic unit and the family home. This investigation found that both relatives and staff held mostly positive attitudes towards family intervention services, with open-minded attitudes towards using web technology. However if web technology were to be used effectively in forensic settings, it was clear that extensive informative and supported training would be needed to reassure initial fears in using new technology. As summarised in Chapter 8, the assessment studies in Chapters 4-7 indicated a clear need for family intervention, with solutions proposed towards the barriers within forensic services. The final stage of this research, presented in Chapter 8, was to investigate and pilot a novel strategy for family intervention using a web camera: this was the first time that a web camera had been utilised within forensic services to conduct a complete psychological intervention in the treatment of schizophrenia. Chapter 8 described how one fourteen week web camera facilitated family intervention (e-FFI) was conducted with ease by a family associated with the medium secure unit. The family, a mother and a sister of an individual diagnosed with paranoid schizophrenia and an index offence of rape, experienced improved outcome
variables of reduced stress, reduced expressed emotion, improved knowledge of schizophrenia and acceptability of forensic services. The family appeared to express an overall appreciation of being offered the opportunity to take part in an intervention of this type: “we have gained so much from taking part in e-FFI”. The forensic service praised the work of e-FFI: “E-FFI provided a vital bridge between the family and the members of the patient’s clinical team”, with the lead consultant commenting on the positive results observed by the clinical team regarding the service user and the family relationship following the intervention. Further, the consultant commented on the applicability of e-FFI to forensic services, as he had witnessed the ease and suitability of e-FFI with positive outcomes: “it became very clear that this is an excellent way to work with forensic families, using technology, as an immense amount of time and resources can be saved using this intervention (e-FFI)”. The project has pushed research boundaries within a high risk setting and resulted in positive outcomes. The specialist commissioning team who funded the research is now looking into ways to implement the e-FFI technique across low, medium and high forensic services in the North West of England.

9.2 Summary of main findings

With literature in the field of schizophrenia and family intervention spanning nearly 40 years, it was apparent that a review was needed to organise the findings and present the current situation for family intervention in the treatment of schizophrenia. Within the literature, attribution theory (Heider, 1958) offers a description of the psychological underpinning of schizophrenia and family intervention, explaining how people make sense of the symptoms of schizophrenia. Such attributions can impact on family relationships and family treatment. The aim of the literature review was to collate information on family intervention and to merge the limited forensic and secure services research with the vast general and community (non-forensic) mental health research, to draw on the common conflicts and contradictions. Commentators such as Hodgins (2009) propose that there are
key differences between forensic and non-forensic health services, crime and heightened stigma being just two of these. However, what was made clear from reviewing the literature was that many of the issues associated with implementing family intervention in a non-forensic setting are also relevant to forensic services. This finding may provide a rationale for the generalisation of the National Institute of Clinical Excellence guidelines for the treatment of schizophrenia (NICE, 2009). As family intervention is suggested as an evidence based treatment for schizophrenia across services (including forensic services), despite no inclusion of forensic samples in the meta-analyses that support the guidance (Pharaoh et al., 2010; Pilling et al., 2002). However there needs to be extensive research conducted to establish strong evidence regarding the similarities and the differences between general and forensic mental health needs to justify the generalised NICE guidance, as many researchers would argue that there are clear differences between general and forensic mental health that alter treatment plans (Brady, 2005; Pearson & Tsang, 2004; Rose, 2007; Tsang, 2000).

Many of the characteristics associated with schizophrenia and family intervention were common to both forensic and non-forensic services (as discussed in Chapter 5). Specifically three similarities between forensic and non-forensic services were identified: 1) the prevalence of schizophrenia is high within both forensic and non-forensic mental health services (APA, 2004; Flyger, 2007; McKeown, 2007), with service users experiencing positive and negative symptoms (DSM-IV, 2004); 2) the effects of schizophrenia – the impact on the family, the sense of burden and feelings of guilt, for example - were comparable between forensic and non-forensic mental health services; 3) the two services suffer similar implementation barriers regarding family intervention. These barriers spanned topics such as: poor attitude (Brooker et al., 2003); un-assessed need (Fadden, 1997); little knowledge of schizophrenia (Farhell & Cotton, 2002); lack of time (Cohen et al., 2010); insufficient training (Michie et al., 2007); lack of support (Smith & Velleman, 2002) and deficient supervision (Mairs & Bradshaw, 2005). With forensic research limited in volume
there was a need for further investigation to inform an implementation plan for family intervention based on clinical research.

The literature review enabled a summary of a number of examples of successful implementation of family services (Atchison et al., 2009; Burbach & Stanbridge, 2006; Haley, 2010; Kelly & Newstead, 2004; Peddie, 2009; Smith & Velleman, 2002) as well as an insight into the application of new services. The literature review concluded with the development of an implementation model (Figure 1.A) that may be successfully utilised within forensic family intervention services. However, this model did not present an assessment of attribution. Attribution theory was important to this programme of research in explaining how people make sense of schizophrenia and generate expressed emotion. Expressed emotion is one of the key aims to reduce in a family intervention for successful outcomes (Barrowclough & Tarrier 1992). Therefore further investigation was required to assess the needs and unknown attitudes and attributions of service users, relatives and staff surrounding family intervention in the treatment of schizophrenia, specifically in forensic services.

Suitable methodologies were selected in order to investigate the aims and objectives of each chapter. The addition of studies using needs analysis, questionnaires, interviews, meta-analysis, thematic analysis and Q methodology are valuable to the forensic field, especially in light of the limited forensic literature. Each chapter explained the rationale for the use of the chosen methodologies. Using such a range of qualitative and quantitative methodologies in the programme of research was insightful with many of the results supporting the findings of previous chapters. For example, the needs of relatives regarding antisocial behaviours associated with schizophrenia, (highlighted in Chapter 5) were reflected by the two assessment measures (FQ: Quinn et al., 2003; RCNS: Barrowclough et al., 1998). Similarly, the use of thematic analysis in Chapter 6 allowed staff to highlight barriers to implementing family intervention in forensic services; these in turn were supported by the data on attitudes in Chapter 7, illustrated by the Q method. Staff raised
implementation barriers about time, training, information, support about schizophrenia and geographic limitations in both chapters, showing validity and reliability in the data. The methodologies used in the programme of research further show that a range of research methods may be applied to forensic service research. This contributes to the literature and adds to the earlier point that the differences between forensic and non-forensic mental health services are not as vast as once thought and that techniques and findings may be transferrable between services.

Despite the similarities between forensic and non-forensic mental health services there are differences that must be assessed when working with any service user or family member. Detailed assessments are thus important when working clinically in order to understand the specific needs of the service user or the family. For example, it is reported that families in both forensic and non-forensic mental health services share experiences of stigma. This may refer to difficulties in discussing the illness of schizophrenia with others and feeling nervous about living in an area where people know about the illness or the crime. The family in Chapter 8 had experience of this, as they felt that the community’s negative causal attributions toward their family and the service user created stigma and shame. Similarly, families experienced anxiety when visiting the forensic units, along with stress associated with liaising with staff, not to mention understanding unit protocol and the bureaucracy of mental health services and treatment. Although these examples are likely within both forensic and non-forensic mental health services, research informs us that the degree of each problem may be heightened for forensic service users and families, given the association of crime (Nordström et al., 2004; Tsang et al., 2002). Staff may also make causal attributions about the service user, their family and the illness, that can affect the professional relationship between service and family. This may be displayed as high expressed emotion by staff (Tatton & Tarrier, 2000; VanHumbeeck et al., 2001), which could make visiting relatives feel uncomfortable. Such problems must be adequately assessed to be sensitive to potential heightened needs of forensic families.
9.21 Are family interventions useful in the treatment of schizophrenia?

Family intervention literature provides a wealth of information regarding treatment of schizophrenia; it was helpful to conduct a review that summarised the effectiveness of family interventions given the publication of recent family intervention studies (e.g., Chien, 2008; Garety et al., 2008; Giron et al., 2010; Kulhara et al., 2008; Pickett-Schenk et al., 2008; Sellwood et al., 2007). Not only was it useful to investigate the efficacy of recent family intervention studies in the treatment of schizophrenia, it became important to investigate the quality of the studies that constitute the evidence base for family interventions, by means of meta-analytic procedures (NICE, 2009; Pharaoh et al., 2006). This was important as studies and interventions become outdated, new studies of family intervention may present novel methods and outcome variables that are important to the future of family interventions.

In addition to investigating reduced relapse in family intervention, Chapter 3 included a larger focus on additional outcome measures reported from successful family intervention studies, such as reduced psychotic symptoms, improved knowledge of schizophrenia and improved relationships. The meta-analytic review concluded that family intervention remains a treatment option supported by robust evidence. Family interventions can produce positive effects in reducing relapse, reducing psychotic symptoms, improving relationships and improving knowledge of schizophrenia. These outcomes may be seen up to eight years after treatment cessation. The meta-analysis study was the first to use the Clinical Trials Assessment Measure (CTAM: Wykes & Tarrier, 2004) for assessing the quality of family interventions studies. The CTAM revealed that the previously observed inverse relationship between effect sizes and methodological rigor (Goolding & Tarrier, 2009; Tarrier et al., 2008; Wykes et al., 2008) was not evidenced in the current meta-analysis. The CTAM results therefore indicated a ‘real effect’, suggesting that the variables of family intervention are not a product of the adopted methodology. Interestingly, the CTAM results positively correlate with publication dates of the studies, showing that recent studies were of better quality than
dated studies. This highlights the importance of future meta-analyses examining psychological treatment effects analysing the i) effect of the quality of studies and the ii) effect of publication date on effect sizes.

In addition, despite predicting that CBT family intervention would be superior to other techniques, the meta-analysis concluded that CBT family intervention outcomes did not differ significantly from other methods such as behavioural, educational or eclectic family interventions. CBT family intervention produced good effect sizes in generating positive outcomes for those taking part, but these were comparable to the other types of family intervention used. This result may be explained by a lack of power. For example the number of studies that used a CBT family intervention method was \( N=16 \), which may not present ample power to generate a ‘real effect’ result. Additional CBT focused family intervention studies would be required to investigate a real effect in favour of CBT family intervention. Without statistical support to champion CBT focused family intervention, it can only be speculated that CBT family intervention may present the most suitable model to educate, support and guide families through the occurrence of schizophrenia within the family.

Family interventions within forensic services can produce many benefits for those experiencing schizophrenia (as summarised in Chapters 1 and 3), yet the literature suggests that family interventions are seldom practised.

**9.22 Is family intervention needed in forensic services?**

According to studies from both NICE (2009) and Patterson and Leeuwenkamp (2008), family interventions remain the lead psychological choice in the treatment of schizophrenia. Chapter 4 explored the needs of service users within low, medium and high secure services. It was important to understand whether family interventions are applicable to the forensic population, as currently family interventions are often poorly implemented and forensic research is limited. The needs of the population may be described by attribution theory (Heider, 1958), as peoples expression of need may directly relate to their attributions
or meaning of a topic or situation. Also some of the potential barriers to the implementation of family intervention may relate to attribution theory, which explains how the relationship between relative and service user can become negative given the presence of schizophrenia. Attribution theory describes how relatives may make opinions about the service user’s behaviour; believing that the behaviours are chosen by the service user, rather than symptoms of schizophrenia, referring to internalised attributions (Weiner, 1985). This can result in negative emotions being directed towards the service user such as hostility and blame, generating an additional barrier in emotional dynamics for treatment. Given the social relationship that attribution theory highlights in the treatment of schizophrenia, Chapter 4 assessed the social, behavioural and psychological needs of forensic service users. First, service users displayed a clear need for family intervention illustrated firstly by the regular contact with their family. Second, service users displayed frequent symptoms of impulsiveness, poor motivation, recurrent relapse and increased psychotic symptoms which may be treated with family intervention, to include the relatives in effective treatment. The family intervention skills of forensic staff were also assessed. Results showed that few staff were trained in family intervention and those who were trained seldom used their skills. Staff reported low levels of clinical supervision for their family intervention skills. In addition to service user need and staff skill, Chapter 4 examined the provision of the forensic wards in providing family intervention to service users and their families. The results showed that the majority of wards did not offer family intervention as a service. Given the severity of the problem in implementing family intervention within forensic services, further needs analyses were conducted to understand the current situation of family intervention within forensic services. The findings of Chapter 4 add to the field of forensic family intervention research; no other studies have brought together the social, behavioural and psychological needs of forensic service users with the family intervention skills of forensic staff and the provision family intervention services in wards specific to forensic services. The study provides the most recent findings regarding problems associated with poorly implemented family
intervention services, unmet need and poor training and supervision. Chapter 4 describes how the findings are reflective of the problems found in non-forensic services, such as the unmet needs of service users, poor staff training and supervision and poorly implemented services. However, there remained little understanding regarding the needs of relatives toward family intervention.

9.23 Do relatives need family intervention within forensic services?

Although the service user needs assessment (Chapter 4) indicated that service users could benefit from a programme of family intervention, it may be that the relative’s needs are unrelated to those of the service users. Often within forensic services, differences in need might be due to the break-down of relationships given the service user’s illness and their criminal offence(s); relatives could also be the victims of such offences. Chapter 5 used the Family Questionnaire (FQ: Quinn et al., 2003) and the Relatives Cardinal Needs Schedule (RCNS: Barrowclough et al., 1998) to assess the needs of the relatives. Results showed that all relatives involved in the study required information about schizophrenia and that they would accept further support if it were offered. The FQ revealed that all symptoms of schizophrenia were rated as frequent by the relatives. The RCNS supported the data from the FQ since relatives displayed a need for support and information about the mental illness. Antisocial behaviours were rated as the highest cardinal need (83%) with negative symptoms, interpersonal behaviours, psychotic symptoms and affective symptoms also rated as cardinal needs by over half of the relatives. When the data were compared to a non-forensic sample, the relatives concern and coping with schizophrenia symptoms was higher in the forensic sample. This may be explained by the addition of crime, risk, and imprisonment of the forensic service user that could result in relatives feeling increased concern and reduced ability to cope. The theory of causal attribution (Heider, 1958) about mental illness and crime adds to the general literature in describing factors such as stigma.
and burden that may be higher for a relative of a forensic service user compared to relatives of a service user within non-forensic mental health care.

Chapters 4 and 5 provide a novel contribution to the field of forensic psychiatry and specifically family intervention by highlighting a need for family intervention services, as no previous forensic studies had identified a need for family intervention for service users and relatives. The assessment of forensic service users, relatives, staff and services for family intervention presents the first example of bringing the four needs assessments together within one research project. These results may be useful to forensic psychology services for service development.

Previous research discusses the limitations of forensic service research such as poor inclusion of ward based staff and lack of research knowledge (Adams et al., 2009). Few forensic specific references are provided in such reviews indicating a clear lack of forensic relevant research available. Forensic research has thus far relied on contributions from non-forensic studies (e.g., Andrew et al., 2008; Kim et al, 1993). The few forensic studies which assess need have suffered criticism over the methodological quality (Tsang et al., 2002). This current programme of research aimed to improve forensic research toward family intervention by providing a specific assessment of family intervention within forensic services, based on a wide use of credible methodologies. The assessments in Chapters 4 and 5 were indicated a clear need for family intervention within forensic services. However the perspectives of staff working within forensic environments and delivering family intervention had yet to be investigated.

9.24 What are the experiences of clinical staff in forensic services with respect to family intervention?

The needs of staff in forensic services are seldom assessed (Rask & Aberg, 2002) and given their close contact with families in delivering clinical care, the aim of Chapter 6 was to gain an understanding of family intervention from forensic staff. The attributions of staff toward
family intervention implementation was significant to the study given their clinical experience. Staff responded to two questions concerning the barriers or causal attributions and possible solutions for family intervention in forensic services. Written responses were analysed and coded into categories using thematic analysis. The main barriers of family intervention were summarised as insufficient time to deliver the intervention, poor support for staff, lack of training, deficient information sharing, and geographic limitations between family homes and the forensic units.

Given their experience within forensic services, staff were able to generate practical solutions to implementing forensic family interventions. The solutions suggested a clear pathway for family services, protected staff time for staff in family work, revised policy and structure specific to family intervention, improved clinical supervision, increased managerial support, shared education of family intervention, and modern technology in the development of family intervention.

As staff raised the issues of time and geographic limitations as causal barriers to forensic family work, the idea of utilising a basic web camera in family intervention (titled e-FFI) was developed. The idea of e-FFI is that it allows the family therapist to remain at the forensic unit (with or without the service user) and use an internet connection to link two web cameras between the therapist and the family home. This would reduce travel times for both relatives and staff; this novel idea certainly adheres to government guidelines in providing family intervention in the treatment of schizophrenia (NICE, 2009).

In summary, the study (Chapter 6) has contributed to the field of forensic family intervention by involving clinically trained staff in an investigation to inform service change of forensic family intervention. The study identified the value of staff experience in contributing to new research and problem solving, based on attribution theory (Heider, 1958). Staff were keen to take part and contribute to the research, resulting in the generation of a novel method towards family intervention, as staff presented the idea of using modern technology as a solution to implementing family intervention. This largely informed the
method used in Chapter 8 of this programme of research. There are no previous studies in which the perspectives or attributions of forensic staff result in the implementation of specific forensic family intervention services. Yet there remained discrepancies in the literature regarding staff motivation and poor staff attitudes towards family intervention. The research progressed to investigate the attitudes of staff and relatives towards family intervention and the use of a web camera.

9.25 What are the attitudes of relatives and clinical staff towards family intervention and the use of a web camera in forensic services?

Both relatives and staff are the most likely participants in a family intervention, as the forensic service user may not always take part due to severity of illness, lack of insight, poor motivation or increased risk to themselves or others (Putkonen & Vollm, 2007). As with previous chapters, attribution theory (Heider, 1958) may be applied as relatives and staff can hold causal attributions that relate to their attitudes towards the participation of family intervention. The study used Q methodology to generate statements associated with family intervention. The aim was for relatives and staff to best describe their personal attitudes towards i) family intervention and ii) the use of a web camera within forensic services. The results showed that relatives and staff held mostly positive attitudes towards family intervention. Relatives showed some uncertainty toward family intervention that may reflect possible attributions regarding the lack of involvement they receive from forensic services, such as inclusion in, and information about, family intervention services. Staff highlighted key barriers and causal attributions to successful implementation, such as a lack of dedicated staff time for family work and few staff being adequately trained in family intervention. These findings reflected results from previous chapters (Chapter 4-6), showing face validity and reliability in the data. Although in agreement about the benefits of e-FFI, both staff and relatives predicted possible problems with implementing the technique. This perception was attributed to the fact that both relatives and staff have little support and education from
forensic services to best understand a new intervention. Plus the use of new technology is a common fear for people (Jones et al., 2006; May et al., 2001; Myers et al., 2006) as they have not had the chance to become familiar with the use of equipment, such as web cameras. Both relatives and staff may benefit from time and education spent in introducing a new technique such as e-FFI in order for it to be used successfully.

9.26 Do the forensic population share the same needs for family intervention?

The results from Chapters 4-7 demonstrate that there seems to be a clear need within forensic services for family intervention, with key ideas detailing the causal attributions preventing successful implementation. As discussed in Chapter 4, forensic service users present psychological symptoms that may benefit from the work of family intervention. Family intervention would include managing symptoms, learning about the illness and planning for the future, with improved skills development in problem solving and communication. Relatives would benefit from forensic family intervention in that the intervention would aim to work with their concerns about schizophrenia and aim to improve their coping mechanisms through skills training and stress management (Barrowclough & Tarrier, 1992; Kuipers et al., 2002). Forensic specific elements of the family intervention would be sensitive to heightened stress and burden, related to forensic issues such as court hearings and legal procedures (McCann et al., 1993; Tsang, 2000). Along with the evidence base shown in the meta-analysis (Chapter 3), and the need for and the acceptability of family interventions indicated in Chapters 4-7, the research led to a feasibility study of e-FFI.

9.27 Is family intervention with the use of a web camera feasible within a forensic service?

In Chapter 8 the needs assessment data discussed in Chapters 4-7 was used to inform a feasibility study investigating the use of e-FFI with a family of a service user in a medium secure, forensic unit. The feasibility study was based on a fourteen week course of family
intervention with the majority of sessions administered using a web camera. The study used Barrowclough and Tarrier’s (1992) family intervention model to successfully deliver the intervention to the family. Positive results were seen for both the service user and the family. The service user described an improved relationship with his family members, possibly due to the improved knowledge and reduced expressed emotion conveyed by both his mother and his sister. As the relatives learned about the diagnosis of schizophrenia; its symptoms and treatment plan, their feelings of blame, guilt and responsibility were reduced which resulted in reduced expressed emotion, as described by attribution theory (Heider, 1958). The mother and the sister showed reduced expressed emotion, reduced stress, improved knowledge of schizophrenia, improved knowledge of forensic services, acceptability of forensic services and the index offence, improved family relationships, reduced stigma, and improved personal health. The family commented on how useful the fourteen-week intervention had been for them; they had noticed the positive changes in themselves and the family as a whole. They were able to share the information with other family members and help them manage the stress of dealing with schizophrenia and crime. They felt an increased sense of support from the unit in having taken part in the family intervention and considered the experience invaluable: “the use of E-FFI took a lot of pressure and confusion away, plus it’s a great and invaluable support system” and “useful to have someone impartial to talk to and answer questions – otherwise you are in the dark!”.

This research chapter contributes to the field of family intervention and web-treatment by providing clinical implications for future treatment of schizophrenia. E-FFI was successful due to the following practical considerations. One single therapist delivered fourteen sessions of structured family intervention to two relatives of a service user. E-FFI utilised three options of delivery: a face-to-face approach when the therapist visited the family home to carry out assessment and evaluation; individual web camera facilitated sessions with one of the relatives and; group web camera facilitated sessions with both of the relatives. These practical considerations not only generated a new method of family
intervention for ‘hard to reach’ family members, but the delivery of e-FFI encouraged excellent professional rapport between therapist and relatives. This rapport may have reflected the sense of involvement, support and understanding for the family and the clinician to produce a successful therapy and therefore optimal clinical outcomes and feedback.

The family commented on the ease of using the web camera and laptop equipment for e-FFI despite their initial reservations about using a web camera. This relates to earlier results as the relatives and staff in the attitude study (Chapter 7) felt that e-FFI may be problematic. As the family have shown in the feasibility study, such initial fears are probably normal given that there are two potential challenges in this kind of situation, namely, using new technology and discussing emotive situations. However it is encouraging to see that after a short time spent in becoming familiar with the technique and building a rapport with the therapist, the family found e-FFI not only easy to use but valued the experience, with measured positive psychological, social and behavioural outcomes.

9.3 Clinical Implications

This programme of research provides a significant contribution to the field of family intervention and forensic services. The thesis has made a difference in drawing on a much required area of psychiatry, by undertaking a comprehensive needs analysis that has informed and provided a problem solving strategy to implementing modern and effective family intervention within the challenging area of forensic mental health. This thesis incorporates the psychological theory of attribution (Heider, 1958) to explain the causal findings in people’s need, attitude, perspective and feedback regarding family intervention and the problems associated with its implementation. The rich data from this thesis provides solutions and a novel intervention using e-FFI which meets the needs of the population. The data also provide a baseline for future research. Chapter 8 demonstrated the application of e-FFI with ease and acceptability in producing positive outcomes for the family involved. Therefore, this programme of research may be of interest to researchers in the field of
schizophrenia, psychosocial intervention, forensic mental health, and clinical implementation. The findings from this research may be most helpful to clinicians working within forensic services: aiming to implement a family intervention service. Not only can the needs analysis be utilised or reproduced by other services, but the clinical implementation of e-FFI can also be reproduced to set up new services within forensic services, providing novel, accessible and efficient family intervention services for families. As the findings showed similar needs for family intervention when comparing forensic and non-forensic services, the research may be applicable to non-forensic mental health services, therefore having the potential to generalise the results across schizophrenia services. Wider participation and implementation of successful family intervention services has the potential to produce long-term outcomes in reduced relapse and reduced re-offending rates within services. This could positively impact on reducing the cost of schizophrenia to services and the national health system.

This thesis may be useful if presented in a lay termed executive summary to service users and families, as a motivating tool to encourage participation in family interventions. Families can read that another family took part in e-FFI with ease which resulted in positive outcomes for them. Other families may identify with the needs and issues raised in this thesis, which may be useful for future research and involvement in dispelling possible fears associated with participating in research or clinical intervention. The research may inspire new research and has raised many ideas for future research, as discussed below.

9.31 Flexibility of e-FFI to other services

Over ten years of literature has focused on the barriers associated with successfully implementing family interventions in the treatment of schizophrenia. The literature has shown that forensic and non-forensic mental health services share many of the same barriers to successful implementation of family intervention (Chapter 1). Although there are examples of successful services providing family intervention, this research project has been
the first to utilise a web camera within forensic services to provide a psychological intervention (Chapter 8). If this project is able to achieve implementation with positive outcomes within a forensic service, and given the similarities in the barriers and the prevalence of schizophrenia, then in theory, services with reduced security, risk and level of need (e.g., non-forensic mental health services) would also benefit from web based family intervention. A non-forensic version of web camera facilitated family intervention may be referred to as e-FI. E-FI should be suitably assessed to be integrated within non-forensic mental health services to improve the delivery of family intervention services for those experiencing schizophrenia.

9.32 The importance of the basics of family intervention

From the pattern of results generated by this programme of research it seemed that the common theme of treating schizophrenia was the most important factor in family intervention. Reviewing and assessing the fundamental need of a population showed the importance of taking treatment back to the basics, by offering a service to support and educate families experiencing schizophrenia based on assessed need. Aside from the apparent complexities, risk, and barriers within forensic services, many families receive no information or support in extremely difficult situations. The feeling of being supported and knowledgeable in managing the presence of schizophrenia is invaluable to families, as shown in Chapter 8. Services treating schizophrenia may benefit from using implementation models which appear to be successful in providing family intervention in order to offer the support and information that families require.

9.33 The importance of needs assessments

Needs assessments should be utilised as part of regular audit in the future (Milne & Roberts, 2002) within forensic services to best monitor need and attitude changes within the population. This would inform future change in the application of interventions and services. The methodologies used to assess needs relating to service users, relatives, staff and services
in this programme of research project were straightforward and managers were supportive of staff completing such measures within working hours.

Service users and relatives also completed needs assessment measures with ease. Researchers should consider the commitments of the participants when devising methodologies, as the research methods should be achievable and be completed with ease for optimal levels of completion. It is also advisable to liaise with key research representatives (staff, service users and carers) from mental health wards in order to build a rapport with the unit; this is helpful in recruitment of participants and completion of research material.

9.34 Maximising the solutions to family intervention services

As experts in forensic services, clinical staff offered direct solutions to the longstanding barriers of family intervention services (reported in Chapter 6). These solutions should be followed up and maximised for the future of forensic family intervention. First, a clear pathway should be developed for family intervention services to train motivated staff in the e-FFI approach. Chapter 4 offered a guideline to train four or more family therapists per ward. This recommendation would provide an optimum number of staff to be trained in the technique and provide a fluent and comprehensive family intervention service. E-FFI training should be complete in developing effective skills training, with staff having a sense of new skills to apply to family intervention work. Second, staff selected for e-FFI training should be supported by management and be allowed dedicated time for study and clinical work. This designated time should include regular clinical supervision from a family therapist in a senior position (i.e. service champion; Burbach & Stanbridge, 2006; Smith and Velleman, 2002), as highlighted in Chapter 4. The supervision should be frequent and effective in supporting the trainee gain new family intervention skills, as suggested by forensic staff in Chapter 6. Third, in addition to structure, support and training, there must be a shared knowledge of the service. This knowledge should extend beyond the family service team to educate the whole forensic staff team on the basics of family intervention and the objectives of e-FFI. Consequently, appropriate knowledge of family intervention and the service will be dispersed
throughout the unit and beyond (e.g., to families and outreach services), thus creating a positive and innovative service in the treatment of schizophrenia. As a result, families ought to be appropriately referred to the family service and their initial route to the service should be a positive one that follows a systematic approach, full of useful information from informed social workers, ward staff, consultants, managers and secretaries.

The programme of research raised some uncertain attitudes towards the use of e-FFI (Chapter 7) with staff and relatives predicting possible problems in using a web camera with family intervention. Previous studies into telepsychology also found that staff are reluctant to be involved in such techniques (Antonacci et al., 2008; Hu & Chau, 1999). This is an example of how people are unsure of change and may think that a web camera will be an extra test of staff skill or a further assessment of the family’s problems (Jones et al., 2006; May et al., 2001; Myers et al., 2006). Therefore, the basic information about the e-FFI service and potential benefits from taking part in e-FFI ought to be explicitly shared with families and staff. Not only is it important to have the relevant information about a new technique, but it is important to be given the correct training and time in using new equipment in order to build confidence. People are then, perhaps, able to make an informed decision about e-FFI, rather than making a decision based on the unknown, understandable nerves and preconception (Jones et al., 2006; May et al., 2010).

9.35 Modern technology in the development of family intervention services

This programme of research has generated and tested the novel idea of utilising a web camera to facilitate forensic family intervention in the treatment of schizophrenia (e-FFI). Not only does e-FFI push boundaries to improve mental health care, it also solves a number of the problems in implementing family intervention (e.g., geographic and time limitations), with an aim to offer a service to all families experiencing and coping with schizophrenia within forensic services. Specialist teams for forensic services may find this programme of research useful in commissioning future family intervention services within forensic mental health care. An e-FFI service should be guided by a comprehensive needs analysis, as
presented in this programme of research, with a service champion leading the service. Therefore each e-FFI service would meet the specific needs of its population.

As e-FFI is feasible within forensic services (as shown in Chapter 8): future need assessments ought to include an update of modern technology, which techniques may be further helpful to mental health services.

9.4 Limitations

Some overarching limitations require further discussion:

Psychological theory

Attribution theory (Heider, 1958) was relevant to this programme of research in explaining the needs, attitudes and theoretical underpinning of family intervention in the treatment of schizophrenia (Barrowclough & Tarrier, 1992; Wells, 1997). However despite the relevance of attribution theory to this thesis, the theory may be criticised for being vague in its definition. Attribution may be used to describe a person’s behaviour or alternatively it may be used to describe a specific dispositional trait from the behaviour (Malle, 2003). This could be confusing and create some bias in research, as people may be using different meanings of attribution, despite the research aiming to study the same definition. In addition, attribution theory may be criticised for being too cognitive in its description, leaving little room for social explanation. For example negative attributions about drug taking may be regarded as internally driven by a service user and any social (external) influences are ignored or neglected by the relative. Yet, it is highly likely that drug taking for example is associated with social influences (Fuller et al., 2003; Levy & Pierce, 1990).

Sample size

Due to the characteristics of forensic service users (e.g., poor motivation and lack of insight), the research presented small sample sizes in some chapters. Achieving large sample sizes is a common problem in clinical research as service users are seldom enthused to take
part and complete research projects (Rathod, 2005) and staff have limited time to conduct activities outside their core roles (Michie et al., 2007). The limitation of a small sample size may be further explained by the characteristics associated with the forensic sample. For example, forensic service users may not wish to add ‘burden’ to their relatives in asking them to take part in research. This was the case with a number of service users at the research sites as observed by the researcher in the recruitment phase. Following the circumstances of the service user’s index offence - often violence against other people: murder, homicide or other serious violence, (Rutherford & Duggan, 2007) - the families of service users experience traumatic knowledge about their relative. In many cases the family members themselves are victims of the service user’s offence. These examples can lead to relatives having no contact with the service user and therefore limit participation in forensic research: small sample sizes are a common problem within forensic research.

This study itself fell victim of the barrier described above: the final study (Chapter 8) involved only one single family. Single case studies may be criticised as findings are difficult to generalise beyond the sample. The data is subjective as it reports only the outcomes of one particular family. Further bias may have been produced by the researcher’s preconceived notions for the research outcome. The study presented in chapter 8 is viewed as an exploratory piece of research as it is difficult to establish any reliability from a single case study. In the study’s defence, however, it presents a novel idea for solving some of the barriers to family intervention, in implementing an original technique, in a complex setting with successful outcomes for the family and with positive feedback from the clinical team. This shows its potential for positive outcomes and the need for further research using e-FFI. Ideally the e-FFI study could have been trialled with a number of families from various backgrounds and nationalities to compare outcome variables between families. This would have added to the generalisability of the data to inform the diversity of future e-FFI services.

The e-FFI feasibility study included the mother and the sister of the forensic service user and demonstrated that e-FFI may produce positive outcomes when only the relatives are
involved. It was feasible to use e-FFI with no service user involvement, as it is the behaviour and the knowledge of the family in a family intervention (Barrowclough & Tarrier, 1992) that is the focus of change. It is important to understand the service user's presentation and impact on the family, but this can be learned without the presence of the service user in the intervention sessions. Nonetheless, ideally every e-FFI would involve the service user.

Preferably the involvement of the service user would have been useful to demonstrate the applicability of e-FFI to forensic service users. However as the very first study to utilise a web camera in the delivery of family intervention within a forensic environment, this study has contributed to the field and improved outcomes for the family involved, nevertheless the limitations discussed provide future directions for follow up studies into e-FFI.

**Outcome measures specific to forensic services**

The literature review identified that outcome measures which are specific to forensic services are limited (Chapter 1). Therefore the programme of research altered a number of measures slightly that are designed to assess schizophrenia - the Family Questionnaire (Quinn et al., 2003) and the Relatives Cardinal Needs Schedule (Barrowclough et al., 1998) - in order to be sensitive to the needs of relatives of forensic service users. Although the measures are standardised questionnaires they may be criticised for being vulnerable to socially desirable answers from participants. As the questionnaires are delivered via interview; participants could provide answers to meet the needs of the researcher, rather than their true opinions. Also, the RCNS and the FQ were developed based on community mental health samples and may not be as relevant to a forensic population. When working with forensic families it would be ideal to have specific, forensic measures. Such measures ought to be sensitive to the incidence of crime, heightened security and sometimes negative future prospects for service users, while assessing emotions such as guilt, burden, stress, concern and coping (Tsang et al., 2000). In addition to the measures of relatives’ need, the programme of research generated an assessment of psychological need to assess the needs of forensic service users. This measure is presented in Chapter 4 (Appendix 4.1) and
specifically investigates the needs associated with psychological and forensic issues of service users, such as violent behaviour and index offences. To assess the training needs of staff in Chapter 4, a skills survey was produced by the research team (Appendix 4.2). This measure aimed to assess the family intervention skills of staff while investigating their qualifications and supervision in family intervention. Furthermore in the absence of forensic specific assessment measures, Chapter 4 included the adaption of the National Minimum Standards (DoH, 2002) to generate a survey to assess the forensic wards on their provision of family intervention (see Appendix 4.3). This measure aimed to collate evidence from ward managers concerning the extent to which the ward provided family intervention services. However the measure was not tested for reliability or validity, therefore indicating a requirement and an idea for future research using this particular measure.

As a number of measures were adapted or generated to assess need, skill and provision for family intervention within this programme of research, presenting yet another opportunity for future research in forensic measure development.

From a clinical perspective the outcome of expressed emotion in forensic services must be considered as research has suggested that staff can display high expressed emotion toward service users, which may bias the delivery of family intervention and the treatment of a service user (Moore et al., 2002). Heightened expressed emotion could negatively cause increased symptoms and relapse episodes (Vaughan & Leff, 1976b). Therefore expressed emotion should be assessed for all involved in a family intervention.

Analysis of data

As with any programme of research there are various options for analysing data. This programme of research may be criticised for utilising mixed methods (qualitative and quantitative) of research techniques as quantitative methods are more commonly utilised in psychology research. Ideally analysis methods should be chosen based on the hypotheses of the study and to suit the type of data. Chapter 7 of this programme of research does not comply with traditional methods of psychology research, as first, the use of Q method is
limited in psychology research and therefore the understanding of the method is less than that of alternative quantitative options and second, the use of factor analysis with a qualitative method is uncommon to many. However, Q method demonstrates that the adaption of methods to make the participants responses a priority instead of the statements themselves ([see page 172, line 12 as in standard factor analysis) allows the use of mixed methods to provide relevant and interesting results.

The use of thematic analysis in chapter 6 also raises criticism as the analysis of themes generated from participants is established by the researcher and this highlights the possibility of researcher bias, as the researcher knows the aims of the research and may influence the naming of themes to suit the hypotheses of the study. Such criticisms are common therefore the researcher included a counterbalance approach as the co-authors of study reviewed the data and analysis as a measure to eliminate any skewed reporting by the lead author.

*Pressured time due to ethics committees and forensic units*

Conducting research in forensic services was challenging due to the barriers during the ethical approval process. It seems that research in forensic services is not as standard practice compared to other mental health services due to the associated risk that is typical of such high secure services. Therefore the various obstacles that arose were extremely time-forfeiting to this programme of research. Similar problems in forensic ethical matters are echoed in the literature (Adams et al., 2009). If obstacles could have been avoided or less time consuming there would have been time to include additional chapters and address some of the current limitations and future research ideas discussed. Additional chapters could have included the attitudes and involvement of service users to understand their views about family intervention and the use of a web camera for e-FFI. The data from these studies could then have been compared to the studies presented as Chapters 4-8, to identify similarities and differences between relatives, staff and service user results. In addition to family intervention-specific further research, the field of forensic research would benefit from future
research exploring the practicalities of conducting forensic research. Future studies could invite forensic researchers to give their perspective and experience of conducting research in forensic services. If similar barriers were identified these could then be targeted to problem solve in an attempt to facilitate a professional and fluid process to encourage more forensic research. Forensic services often conduct ‘in-house’ research and the need to publish the findings should also be encouraged.

_Generalisability across services for schizophrenia_

A further limitation of the current research relates to the inclusion of the levels of securities (low, medium and high secure) within forensic services. Chapter 4 discussed all three - low, medium and high secure services - whereas other chapters were limited to only medium secure facilities (Chapters 5-8). Although the medium secure population represent a middle point of forensic services, it would have been most favourable to include all levels of security in each chapter, therefore allowing comparison between the assessments within low, medium and high secure facilities. This again highlights an area for future direction within forensic research.

In addition, the research may have benefitted from the inclusion and comparison of various mental health services treating schizophrenia, such as inpatient, community services and specialist services (e.g. personality disorder services). This would have allowed for discussion on the generalisability of need, attitude, experience and skill for family intervention across services treating schizophrenia. This could also be extended to the implementation of e-FFI into non-forensic mental health services (e-FI).

Despite the potential for e-FFI services to grow following this programme of research, the fundamental model in which e-FFI is built may act as a limitation. Barrowclough and Tarrier’s CBT based family intervention model for schizophrenia (1992) may be regarded as dated, however as discussed previously the basic principles of support, education and skills development are what are required for families to best manage the
presence of schizophrenia: Barrowclough and Tarrier’s family intervention model does provide this for families (Tarrier, et al., 1988; 1989; 1994; Barrowclough et al., 1999; 2001; Sellwood et al., 2001; 2007). In addition, as the model holds a strong CBT foundation it remains a favourable option for those using family intervention in the treatment of schizophrenia, given the modern evidence base for CBT in the treatment of schizophrenia (Rathod et al., 2010; Wykes et al., 2008) and mental health (NICE, 2009; Pilling et al., 2002).

**Ethical and information governance considerations for e-FFI**

Despite e-FFI offering a solution to the delivery of family intervention, there are some risk factors to be mindful of from an ethical and an information perspective. The use of a web camera and internet connection within forensic services may be regarded as a high risk factor, as the internet link could be used for unethical activity. E-FFI may be misused due to the separation between the relative and the therapist / service user. Examples of such activity relate to possible un-consented recording of the family intervention sessions or the involvement of additional people without the therapist or service user’s consent. Such usage of the technology would negatively impact on the therapeutic relationship, purpose of the intervention and breach confidentiality for the service user, relative, therapist and service. This is why a clear and structured contract must be signed by all involved prior to the commencement of e-FFI. Therefore all parties are aware of the ‘rules’ of e-FFI throughout the intervention. In addition safety precautions must be implemented from an information governance perspective. The internet connection should be protected by a password system that is activated only during the agreed time for each e-FFI session. This connection should be limited to only facilitate the link between the two web cameras to eliminate the facility for general internet browsing.
9.5 Proposals for the future

Based on the success of the needs assessment (Chapters 3-8) and e-FFI, there are many possibilities for similar research in the future. Given the limitations of the research mainly due to restricted resources and time, future research should firstly aim to reduce the limitations of the current research project. For example, it should aim to conduct similar needs assessments across low, medium and high secure, forensic services. This would add to the current research findings by providing greater generalisability across forensic services for family intervention.

Further research into e-FFI / e-FI should aim to include the service user in web camera facilitated sessions. Such studies ought to include a control group, as with a formal randomised control trial. The need for studies to include larger samples of participants is essential and this would then lead to the start of an evidence base for e-FFI / e-FI.

As the programme of research reviewed the theories on implementation of psychological interventions in Chapter 1, it would be useful to utilise the model that was generated. The implementation solution model presented in Chapter 1 (Figure 1.1a) aims to provide a complete solution to the problems associated with successfully implementing family interventions within forensic services. This model involves the steps of assessment, planning, integration, theory, modelling, trialling, maintenance and support, by drawing on theory and practice (Bartholomew et al., 2001, Grol et al., 2007, May et al., 2006, Medical Research Council, 2000; Smith & Velleman, 2002). The implementation solution model (as detailed in Chapter 1) ought to be tested within a service providing family intervention for schizophrenia to establish whether the model would be useful in solving barriers to implementation in the future. As forensic specific assessment measures are limited, further research could aim to utilise the adapted and new measures generated in this programme of research (see Appendix 4.1- 4.3). First, these measures require psychometric testing to validate the current changes in the use of forensic services. This would add to the suitability and usability of such measures for future forensic research. Second, future research could add
to the forensic field in developing and trialling new measures specific to the forensic population. This could lead to the generation of a battery of forensic specific measures in the assessment of service users, relatives, staff, and services for example.

Wider implementation of family intervention in forensic services would be better achieved if more evidence was available showing the successful outcomes that family intervention can produce for those involved. Very few studies focus on forensic services. Forensic specific research into family intervention should aim to improve on the forensic specific evidence base by carrying out randomised controlled trials that produce multiple beneficial outcomes for the forensic population (i.e. service users, relatives, staff and service). Feedback from the forensic population would be beneficial for future progress in the successful implementation of family intervention in forensic services. Implementation of family intervention may be further achieved in forensic services if future research could demonstrate the cost effectiveness of family intervention compared to alternative interventions in the treatment of schizophrenia and the inclusion of families. If such aims were achieved specific research grants and funding could be applied for to further the work of family intervention within forensic services.

Finally it would be interesting to take the idea of e-FI (non-forensic) to other populations of the World, to investigate the interventions applicability in different cultures. It would also be interesting to investigate whether different cultures would accept the use of the technology in psychological care and to observe the extent to which different cultures receive the same positive outcomes to this programme of research. The idea of e-FI would certainly be applicable to countries such as Australia and China given the countries’ vast geography and need to provide treatment for schizophrenia (McGrath et al., 2008; Xiang et al., 2008). Throughout this research project and given the outcomes of the e-FFI feasibility study, many professionals from around the world have shown an interest in this research project. This has progressed to potential opportunities of clinical research roles in Queensland Australia to
implement the research clinically. This presents an exciting opportunity to put some of the future research directions into action.

9.6 Conclusions

This programme of research has been extremely insightful whilst challenging considering the circumstances under which the research took place. The research has provided a novel yet simple and innovative idea in the development and modern treatment of schizophrenia for families. It has added to the field of forensic psychiatry by providing a comprehensive investigation into family intervention literature, need, skill, supervision, services, attitude and experiences. The success of the research in conducting a comprehensive forensic needs analysis led to the pilot of a new technique, e-FFI. E-FFI pushes the boundaries and modernises forensic mental health care, whilst providing a solution to longstanding implementation barriers. Most importantly e-FFI may be implemented with ease to efficiently treat service users and their families while experiencing schizophrenia.
REFERENCES


Berry, K., Barrowclough, C., & Haddock, G. (2010). The Role of Expressed Emotion in Relationships Between Psychiatric Staff and People With a Diagnosis of Psychosis:


Pearson, K (1900). On the criterion that a given system of deviations from the probable in the case of a correlated system of variables is such that it can be reasonably supposed to have arisen from random sampling. *Philosophical Magazine, Series 5* 50 (302): 157–175. doi:10.1080/1478644009463897.


APPENDIX 1.1 – NREC approval letter

North West 8 Research Ethics Committee - Greater Manchester East
3rd Floor, Barlow House
4 Minshull Street
Manchester
M1 3DZ

Telephone: 0161 625 7820
23 April 2010

Private & Confidential
Mrs V Absalom-Hornby
The University of Manchester
Manchester
M13 9PL

Dear Mrs Absalom-Hornby

Full title of study: Implementing a family intervention using a web camera in a medium secure mental health service: A pilot study.

REC reference number: 10/H1013/14
Protocol: APPROVED

Thank you for your email of 22 April 2010. I can confirm the REC has received the documents listed below as evidence of compliance with the approval conditions detailed in our letter dated 26 March 2010. Please note these documents are for information only and have not been reviewed by the committee.

Documents received
The documents received were as follows:

<table>
<thead>
<tr>
<th>Document</th>
<th>Version</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participant Information Sheet</td>
<td>2</td>
<td>20 April 2010</td>
</tr>
<tr>
<td>Participant Consent Form: Relative consent form</td>
<td>2</td>
<td>20 April 2010</td>
</tr>
<tr>
<td>Participant Information Sheet: Relative information sheet</td>
<td>2</td>
<td>20 April 2010</td>
</tr>
</tbody>
</table>

You should ensure that the sponsor has a copy of the final documentation for the study. It is the sponsor's responsibility to ensure that the documentation is made available to R&D offices at all participating sites.

10/H1013/14 Please quote this number on all correspondence

Yours sincerely

Ms Elaine Hutchings
Committee Co-ordinator
elaine.hutchings@northwest.nhs.uk
APPENDIX 1.2 – SPEAR Research Passport
APPENDIX 3.1 – Clinical Trials Assessment Measure
APPENDIX 4.1 – Psychological Needs Questionnaire

ASSESSMENT OF PSYCHOLOGICAL NEEDS – LOW, MEDIUM & HIGH SECURE SERVICES

For the following items please tick any boxes based on the individual’s / patient’s condition.
*Important – Your response should be based on the individual, who despite having medication continues to experience these problems in the past 3 months.

□ Panic attacks in any situation in or outside the ward.
□ Shows anxiety or fear of groups.
□ Shows anxiety or fear of going outside.
□ Is generally anxious, e.g. sweating, trembling, wringing hands, has constant worries.
□ Has to engage in rituals – e.g. hand washing, saying things over and over in their head, clothes or other belongings lined up in straight lines, excessive slowness getting ready to go out, complete shaving.
□ Talks about feeling numb, unreal, outside their body, ‘head like a football’, floating sensations, blurred vision.
□ Self conscious in public – does not like eating, signing cheques, trying on clothes, avoids eye contact.
□ Appears sad most of the time, poor appetite, sleep disturbance.
□ Very self critical, calls self ‘useless, stupid’, sees others as hostile, sees future as hopeless.
□ Lacks energy or motivation.
□ Easily irritable.
□ Problems with anger – loses temper very quickly.
□ Problems with mania – seems very talkative, stays up all night, elated mood.
□ Delusion beliefs – sees self as ‘bad’, beliefs are bizarre and out of keeping, believes very strongly.
□ Delusional beliefs – sees self as ‘victim’, beliefs are bizarre and out of keeping, believes very strongly.
□ Delusional beliefs – sees self as having ‘special powers’, grandiose beliefs are bizarre and out of keeping, believes very strongly.
□ Auditory hallucinations – reports friendly, positive voices.
□ Auditory hallucinations – reports critical, negative voices.
□ Thought disorder – cannot stick to one topic, subjects are all mixed up, uses made up terms.
□ Concentration difficulties with simple tasks – e.g. reading, following TV programmes.
□ Speaks very little, one word or short phrase answers.
□ Little change in facial expression.
□ Often refuses to take medication or objects strongly to it.
□ Uses drugs or alcohol excessively were they able to access them.
□ Self- injury – e.g. cutting, butting, swallowing dangerous objects, inserting.
□ Acts impulsively – hair trigger control, temper, substance abuse, loses control.

General information
This section has no time scale (i.e. not in the last 3 months, as above). Please answer these items more generally.

□ Has frequent contact with at least one family member e.g. contact once a month, visits, letters, phone calls.
□ Has a family member whom it is expected will be involved in future discharge planning.
□ Has learning difficulties – low IQ.
□ Has adult literacy difficulties.

Historical Information
This section of items relate to the history of the patient, which would be documented in their case notes. It is important that we gain an inclusive needs assessment of each individual, incorporating past and present aspects of their condition.

- Drugs or alcohol were related to need for admission to hospital.
- Drugs or alcohol were related to any criminal offences committed.
- Has difficulty controlling anger and remaining non-violent.
- Has committed assault when well.
- Has committed assault when mentally ill.
- Has committed sexual assault when well.
- Has committed sexual assault when mentally ill.
- Has committed serious theft when well.
- Has committed serious theft when mentally ill.
- Has committed arson when well.
- Has committed arson when mentally ill.
- Has committed manslaughter when well.
- Has committed manslaughter when mentally ill.

- Has committed?………………………….. Please add criminal activity if not mentioned above.
- Has committed?………………………….. Please add criminal activity if not mentioned above.
- Has committed?………………………….. Please add criminal activity if not mentioned above.

- Has been a victim of sexual abuse during childhood.
- Has been a victim of sexual abuse during adulthood.
- Has attempted suicide.
- Has frequent relapses.

Thank you for your time and assistance with filling in this questionnaire.
APPENDIX 4.2 – Training Needs Questionnaire

EXISTING TRAINING OF
STAFF IN HIGH, MEDIUM AND LOW SECURE SERVICES- EDITIED

Section A – You and Your Current Job
In this section we are trying to capture information on the basics about you and your current job. Please add as much detail as you can.

2. Name (optional) .............................................
3. Job title: .......................................................
4. Gender: M / F
5. Ward / Area: .................................................
6. Hours - tick one box: Full time Part time Bank
7. Grade/Band, tick or circle one box:

|   |   |   |   |   |   |   |
|---|---|---|---|---|---|
| 2 | 3 | 4 | 5 | 6 | 7 |
|   |   |   |   |   | 8 |
| A | B | C | D |

8. Years of experience in mental health: ...............yrs

Section B – Clinical Supervision for all staff
In section B we hope to gain an understanding of the clinical supervision you may receive. Below is a definition of clinical supervision, so you can be sure you know what type of supervision we are asking about. This supervision is not to be confused with managerial supervision, such as appraisals, usually delivered by a line manager. Again, please fill in the questions with as much detail as possible.

Clinical Supervision
Definition: Clinical supervision is the regular, protected time for facilitated, in-depth reflection on clinical practice aimed to enable the supervisee to achieve, sustain and creatively develop a high quality of practice through the means of focused support and development (Bond & Holland, 1998).

9. Do you receive clinical supervision for working on the secure unit?
   - Yes □
   - No □

10. On average how often do you receive supervision? (tick one box)

<table>
<thead>
<tr>
<th>weekly</th>
<th>fortnightly</th>
<th>monthly</th>
<th>Less than monthly</th>
</tr>
</thead>
</table>

11. Who provides your supervision? State their job title and band below.

........................................................................................................................................

12. What type of clinical supervision do you receive?

<table>
<thead>
<tr>
<th>Group</th>
<th>Individual</th>
<th>Other (please state)</th>
</tr>
</thead>
</table>

Section C- Professional Qualifications

In section C we are trying to gather information on professional qualifications. This may not apply to all staff filling the form in, but if you are a Nurse, Occupational Therapist, Psychiatrist, Clinical Psychologist, Social Worker etc please complete the table in as much detail below.

13.

<table>
<thead>
<tr>
<th>Qualification (e.g. RMN)</th>
<th>Level</th>
<th>Completion date</th>
<th>Duration (months/years)</th>
</tr>
</thead>
</table>
## Section D - Further Practice Qualifications following professional training or taking up a post in Secure Services

In section D we are trying to gather information on practice qualifications gained following professional training or since you started working in secure services. These are courses which may have been day release over a minimum of 5 days leading to a recognised qualification.

### Qualification Details

<table>
<thead>
<tr>
<th>Qualification</th>
<th>Level</th>
<th>Completion date</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cope, NVQ, DBT (Diploma, NVQ3, MSc)</td>
<td>(months/years)</td>
<td></td>
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</tbody>
</table>

## Section E - Psychological Therapies

### Skills and Year

<table>
<thead>
<tr>
<th>Skill/Topic</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive Behaviour Therapy</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Psychosocial Interventions</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

### Sources

Include all sources e.g. professional qualifications (PQ), practice qualifications (PRA), workshops (W), conferences (C), study sessions (SS).

Use abbreviations if helpful.

### Total Time

Time spent on each skill or topic.

1- up to 5 days
2- 6– 15 days
3- 1 yr day release
4- 2 yr day release
5- more than 2yr day release

### Level of Application

1. Insufficient to understand the topic.
2. Gained a good understanding but insufficient to apply in practice.
3. Apply a few skills learned to my job.
4. Apply most skills learned to my job.
5. Use all skills regularly in my job.

### Supervision

If applying the skill stated, do you receive supervision for it?

Yes / No (circle one)
<table>
<thead>
<tr>
<th>Skill/Topic</th>
<th>Year</th>
<th>Sources</th>
<th>Total time</th>
<th>Level of application</th>
<th>Supervision</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Include all sources e.g. professional qualifications, workshops,</td>
<td>Time spent on each</td>
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<td>conferences, study sessions.</td>
<td>skill or topic.</td>
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<td>1- up to 1 day</td>
<td>1- Insufficient to</td>
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<td>2- 1- 2 days</td>
<td>understand the topic.</td>
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<td>3- 2- 4 days</td>
<td>Insufficient to</td>
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<td>4- 5- 15 days</td>
<td>apply to practice.</td>
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<td>5- 15+ days</td>
<td>apply a few skills</td>
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<td>learned to my job.</td>
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<td>apply most skills</td>
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<td>learned to my job.</td>
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<td>regularly in my job.</td>
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<td>Self injury (e.g.</td>
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<td>cutting &amp; burning)</td>
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Section F – Specific Knowledge and Skill Areas

**Clinical Skills**
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<td>Anger management</td>
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<td>Delusions</td>
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<td>Anxiety</td>
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<td>Violence &amp; aggression</td>
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<td>Educating service users on symptoms</td>
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## Forensic Skills

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<th>Source</th>
<th>Total time</th>
<th>Level of application</th>
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<td>Offence related work</td>
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- Thank you for your assistance with this questionnaire -
### APPENDIX 4.3 – National Minimum Standards questionnaire

#### National Minimum Standards

<table>
<thead>
<tr>
<th>Standard</th>
<th>Areas covered / training</th>
<th>Standard met Y / N</th>
<th>Evidence</th>
</tr>
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<tbody>
<tr>
<td>1 ADMISSION CRITERIA – No unnecessary restrictions on a person’s freedom. Only admitted if show significant behavioural difficulties, aggression, absconding, associated serious risk, suicide or vulnerability. Chronic behavioural disturbance or new episode of the patients condition. MDT managerial strategies exhausted. Mutual therapeutic agreement and clear rationale for assessment and treatment.</td>
<td>· Have an understanding of the sections (4.5/2, 5/4 or 136) of the mental health act. · MDT trained in risk assessment procedures. · Understand basic inclusion and exclusion criteria for the ward.</td>
<td>Y</td>
<td>1. Last two admission notes 2. Admission criteria and protocol 3. Risk assessment measures</td>
</tr>
<tr>
<td>2 CORE INTERVENTIONS – Intensive evidence-based, therapeutic programme, appropriate to patients needs, underpinned by biological,</td>
<td>· Comprehensive (needs) assessment. · Engagement, negotiation skills. User involvement. · Training on recovery &amp; rehab’. · Medication compliance, medication</td>
<td></td>
<td>Biological: 1. Two current patient notes 2. Written information on medication for patients and carers 3. Use of atypical medication (chart)</td>
</tr>
</tbody>
</table>
| Psychological, social, environmental and other interventions. | Administration, side effects, explanatory role to patients.  
- CBT, PSI, DBT, counselling, psych’ treatment for substance misuse.  
- Relapse prevention and stay well plans.  
- Life skills training stigma, anger man’).  
- Health promotion & maintenance of social networks & support. | Psychological:  
1. Case notes and care plan for last two patients admitted  
2. Ward and activity timetable  
3. Evidence of formal family intervention (weekly/fortnightly meetings with P and relative, using standardised measure)  
4. MDT case note evidence of comprehensive needs assessment |
| --- | --- | --- |
| 3 MULTIDISCIPLINARY TEAM WORKING –  
Shared vision and clarity of MDT roles, responsibilities.  
Clear guidelines on who provides treatment/care.  
Regular meetings at different levels with lead clinician.  
Regular team building and training. | Team building in last 6 months, focusing on MDT working and positive practice.  
Joint and specialist training.  
Clear description of job roles. | 1. Operational policy: clear MDT roles & responsibility.  
2. Minutes of ward meetings (attendance / content)  
3. Away day / Team building  
4. Conflict resolution procedure  
5. Training policy & events (past 3 months)  
6. MDT input on case notes  
7. Interview panels- last 2 notes  
8. Two job descriptions (different disciplines) |
| 4 | PHYSICAL ENVIRONMENT – Provide increased safety against aggressive, impulsive and unpredictable behaviour towards self and others. Adequate space and facilities for a homely environment / therapy. | - Be aware of ward requirements (for children visiting, smoking areas, maximum beds, gender areas). - Be aware of safety requirements (window restrictors, air lock designs, lockable doors, observation). - Be aware of recreational requirements (OT, garden, games room). | 1. Board games complete  
2. Physical inspection of unit with staff member  
3. Policy on staff & patient safety (docs on testing)  
4. Two way radio – availability  
5. Keys / alarms – sufficient?  
6. Aim to get safety, dignity and privacy on the unit |
| 5 | SECURE STRUCTURE – Incorporating MDT, leadership and level of experience into a dynamic clinical and learning environment. | - Staff should be aware of continual professional development (CPD). - Aware of student placements and open to students contribution. - Aware of who is involved in the structure of the unit. | 1. Operational policy  
2. Document of establishment (vacancies & lengths)  
3. Job description- consultant  
4. Ring fence time for consultant (sessions)  
5. Students –last 6 months  
6. Visiting therapists –ward activity timetable |
| 6 | USER INVOLVEMENT – Promote a non-judgemental, collaborative approach to care, using feedback processes. Incorporating managerial and monitoring aspects. | - Users should be involved in helping run services, attending meetings / part of focus groups / providing feedback / support for other users. - Should have resources available to them to facilitate involvement (e.g. stationary, office space). - Staff trained in user involvement; engagement and facilitating. | 1. Documented feedback from users  
2. Minutes –user meetings  
3. Interview panel (last two interviews)  
4. Description & model of user involvement |
| 7 | CARER INVOLVEMENT – Value carer involvement allowing contribution in care and treatment. | - Carers should be involved through the care programme approach (CPA).  
- Staff should be aware of the emotional impact carers experience.  
- Confidentiality is a key factor in the CPA and involvement of carers.  
- Staff trained in carer involvement; engagement, family intervention, identifying needs, carer assessments.  
Reduce stigma / max positive exp’ |
| 8 | DOCUMENTATION – Use an information system that is adequate and effective, facilitating communication. I.e. to assess, plan, evaluate care and inform others. | - Staff should be made aware of the units functions, have inductions & security checks.  
- All necessary paperwork should be available to appropriate staff (observation sheets, time sheets, admission/referral forms, risk assessments, care plans, patients notes, CPA, property checks, mental health rights, complains forms).  
- Staff trained in structured, quality report writing, identifying key issues and action points. |
<p>| 9 | ETHNICITY, CULTURE &amp; GENDER | - Staff trained in: |</p>
<table>
<thead>
<tr>
<th>10</th>
<th><strong>SUPERVISION</strong> – Clinical supervision should be a well-defined and robust system providing regular meetings, covering varied issues, in line with clinical governance.</th>
</tr>
</thead>
</table>
|    | - Training for supervisors covering issues of monitoring, development, support, action plans. In addition to time scales, environment, confidentiality and boundaries.  
  - Staff trained in CBT & PSI, to then offer appropriate supervision. |
|    | 1. Operational policy  
  2. Supervision policy  
  3. List of appropriate supervisors  
  4. Job descriptions of supervisors  
  5. Two supervision contracts  
  6. Training events list (two staff attending supervision training) |

<table>
<thead>
<tr>
<th>11</th>
<th><strong>LIAISON WITH OTHER AGENCIES</strong> – Rapid access should be available to agencies and services, to maximise the quality of care package available for patients.</th>
</tr>
</thead>
</table>
|    | - Staff should be aware of agencies and support services locally and ones that are used regularly by the ward.  
  - Staff should both seek to inform and be updated on new services appropriate to the client group.  
  - Patients should be able to access support groups and these should be advertised on the ward to empower patients.  
  - Staff/patients should be made aware of the link person involved for each service.  
  - Staff training on stigma and quality of care. |
|    | 1. CPA link  
  2. Unit information leaflet (for agencies etc)  
  3. Policy on shared involvement  
  4. Outreach worker  
  5. Evidence of links (two case notes) |

- Provide equality of treatment without prejudice.  
  - Gender  
  - Ethnicity & culture  
  - Child protection and child in need  
  - Staff should be aware of measures to assess and meet patient needs.  
  - Staff aware and able to provide culture specific items e.g. Koran, Afro-combs.  
  3. Recruitment –HR  
  4. Induction pack: meeting ethnic, gender needs.  
  5. Information leaflets  
  6. Recording systems –HR & unit on patient / staff ethnicity
| 12 | **POLICIES & PROCEDURES** – A framework and rules of practice must be clearly set out for staff to adhere to, based on Trust philosophy. | - Staff trained on positive risk taking, de-escalation.  
- Training on access & discharge, treatment & interventions, physical environment, staff development, legal issues, equality and anti-discriminatory practices.  
- Training on human rights, code of practice etc. the ward individual policies and Trust policies.  
- Staff training on the procedures of reliable and valid measure of risk assessment. | 1. Operational policy  
2. Care pathway- specific policies |
| 13 | **CLINICAL AUDIT & MONITORING** – In line with clinical governance, audits assess practice, highlight areas of concern and overall improve practice. | - Staff trained on the importance of clinical audit, raising issues of clinical governance and routine practice.  
- Importance of clear incidence reporting and co-operation on staff.  
- Training in methods of dissemination to stakeholders. | 1. Ward documentation on high risk incidents  
2. Clinical audit – (two examples from last yr)  
3. Documentation from clinical audit meetings (minutes) |
| 14 | **STAFF TRAINING** – Regular and appropriate training established through evidence-based practice, providing | - Staff training in both basic skills and more specific education. Training covering: management, administration, assessment, treatment, care | 1. Two days of professional training (not mandatory)  
2. Appraisal docs on two new staff  
3. PDP plan (HR) |
| Knowledge, skills and improved attitudes. | Management, interpersonal skills & collaborative working. | 15 PICU / Low Secure Support Services – A system in place that informs non-regular staff and others of procedures that they need to adhere to on the secure ward, for safety and security. | Staff training on safety and procedures to inform visitors to the ward. Information sharing, correct documentation, making information accessible. | 1. Trust induction 2. Training programme 3. Induction docs for support staff 4. Details on HR department |
Transcribed written responses from clinical staff in relation to the two research questions on the i) barriers and the ii) solutions to implementing family intervention.

**i) Staff barriers to family interventions:**

In response to the first question ‘Are there any barriers to practicing family intervention in your workplace?’ five factors were identified as follows.

‘not enough time to practice as much family work as I would like (P3);’

‘the service is not supported from top down (P4);’

‘without management support, the family service lacks structure (P5);’

‘poor attitudes from management are one barrier for family intervention (P5);’

‘people (staff) are getting really tired of failed attempts to get the (family) service up and running…. this is why staff move on (P10);’

‘few staff are trained in family intervention (P12);’

‘family intervention is not regarded as part of treatment by most of the service (P15);’

‘the skills are there, but they are not used …. probably due to no supervision and lack of time (P16);’

‘the family service has not developed and very few of the outer [non-clinical mental health workers] team know it even exists for patients and families to be referred to (P17).’

‘other aspects of the job always end up coming before working with families (P18); ‘no allocated designated time for working with families, cannot fit it in (P20);’

‘we receive minimal supervision, if better support was in place I am sure the service would be more fluent (P20),’
‘the staff trained in family interventions rarely use their skills as they have no support (P20)’;

‘the (family) service would run much better if the rest of the unit knew exactly what its (family service) objectives were (P21)’;

‘the travel to and from the family homes can take more than half a day up and this leaves me with less time to offer to other families on the waiting list (P21)’.

‘it can take a whole day in some circumstances to do one family visit, as the family homes can be a fair distance away (P22)’;

‘it would be ideal to have a solution to be able to fit more family visits into a weeks work, but travel to and from family homes reduces our availability (P24)’.

**ii) Staff solutions to overcome poor implementation of family intervention:**

In response to the question ‘Can you offer any solutions for family interventions to be successfully implemented?’ seven factors were identified.

‘a clear training pathway is needed for the service to be successful (P1),

‘joint understanding is required (P1),

‘I would like to be offered regular supervision for my family work in both one-to-one and group options (P2),

‘the family service needs some kind of training package for staff (P3),

‘it would be helpful to have a clear service policy for family work within the service. This would include designated family service offices and consultation rooms. The forensic wards are not conjunctive with therapeutic/family work (P4),

‘the service can only be successful with support from management (P5),

‘family service structure- if the policy for the service was structured with a lead therapist for example, the service would be more fluent (P6),
‘the service requires structure with a family intervention manager and key therapists providing the service, this should be clear in a service policy (P7),’

‘if the service is to be a success staff must be trained and supported within the workplace using a pathway (P8),’

‘if we had clear supervision contracts, the team would feel supported (P9),’

‘the whole forensic unit needs to support the family service, for the service to be a success (P10),’

‘other family services have clear pathways for family therapists, so they have adequate training, continued professional development and support to provide family intervention in forensic services, this is what is needed here! (P11),’

‘it is a top down approach that’s needed from management to give the family service the fresh start it needs. With a new policy, supervisors assigned to all staff and for all this to be adhered to! (P12),’

‘for the service to work as it should, family therapists are going to need protected time for family intervention work (P13),’

‘the service needs some kind of rationale, aims and objectives so the therapists have the same work ethic (P14),’

‘when employed by the service, each therapist should have a supervision contract and be clear on the amount, frequency and whom they have supervision with (P14), ‘supervision contracts should be re-worked and honoured (P15),’

‘the family service requires information sharing sessions firstly within the service, so all staff understand the family services aims. This should then be rolled out to the wider unit, so referrers know about the service and who may be appropriate to refer onto the service. This information sharing should then be distributed to outer services such as community and rehabilitation teams, so they are aware that the unit offers family intervention
treatment. This would increase contact with families and improved education of the family service (P16),

‘some families do not trust the forensic unit, as they have not been educated about what the service offers, this could be improved by a basic leaflet about the unit when a patient is admitted (P17),

‘staff need time built into their contracts specifically for family work (P17),

‘the forensic service is stuck in old ways and needs some modernisation to provide evidence based services to this population (P18),

‘the service is currently not educated about any family service or intervention that can be offered at the unit, this needs to be addressed (P20).’

‘…. as families feel stigmatised and live long distances from the forensic unit, the service should maybe look at technology to provide the service to hard to reach families (P21).’

‘if the whole unit is on board with the family service, everything should run smoothly, as the service will be managed well, understood by the unit and developed as needed (P21).’

‘if managers supported designated time for family intervention work, the problem would be solved (P22),

‘if management could provide a training framework, the family service would flourish with the interest that staff do have to provide a family service (P23).’

‘every staff member who is qualified in psychosocial interventions (including family intervention) should have contracted time for clinical work with families - that is not taken over by admin and other (non-family) tasks (P25).’
APPENDIX 7.1 – 61 statement Q set

Q sorts- Family Intervention in forensic services
61 statements

1= I agree with totally
2= I agree with a little
3= I'm neutral about
4= I disagree with a little
5= I disagree with totally

A- What do you think of Family interventions?

<table>
<thead>
<tr>
<th>Statement</th>
<th>Your response from 1-5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Family interventions are effective in treating schizophrenia</td>
<td></td>
</tr>
<tr>
<td>2. Family interventions are time consuming for staff</td>
<td></td>
</tr>
<tr>
<td>3. Family interventions are time consuming for relatives</td>
<td></td>
</tr>
<tr>
<td>4. Family interventions are too complex for staff</td>
<td></td>
</tr>
<tr>
<td>5. Family interventions are too complex for relatives</td>
<td></td>
</tr>
<tr>
<td>6. Working with families is hard work</td>
<td></td>
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<tr>
<td>7. Bringing relatives and patients together is too risky for patients</td>
<td></td>
</tr>
<tr>
<td>8. Bringing relatives and patients together is too risky for relatives</td>
<td></td>
</tr>
<tr>
<td>9. Bringing relatives and patients together is too risky for staff</td>
<td></td>
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<tr>
<td>10. Family interventions encourage understanding</td>
<td></td>
</tr>
<tr>
<td>11. Family interventions help relatives cope</td>
<td></td>
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<tr>
<td>12. Family interventions are cost effective</td>
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<tr>
<td>13. Staff can apply all their family intervention skills</td>
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<tr>
<td>14. Family interventions are worth the time taken</td>
<td></td>
</tr>
<tr>
<td>15. Family interventions are not supported by the service</td>
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<tr>
<td>16. Family therapists receive support for their skills</td>
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<tr>
<td>17. Family interventions are not something I wish to be part of</td>
<td></td>
</tr>
<tr>
<td>18. Family interventions are an opportunity to help patient’s get better</td>
<td></td>
</tr>
<tr>
<td>19. Family interventions are an opportunity to be part of patient care</td>
<td></td>
</tr>
<tr>
<td>20. Family interventions are hardly used in secure services</td>
<td></td>
</tr>
<tr>
<td>21. Family interventions are useful to forensic patients and their families</td>
<td></td>
</tr>
<tr>
<td>22. Psychological (‘talking’) treatments should be used for psychological problems</td>
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</tr>
<tr>
<td>23. Family interventions are not useful to relatives with forensic patient relatives</td>
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<tr>
<td>24. I would like to be involved in a family intervention</td>
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<tr>
<td>25. The benefits of family intervention are appealing to me</td>
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<tr>
<td>26. I do not believe in psychology treatments like family intervention</td>
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<tr>
<td>27. Family interventions should be offered to relatives at the secure unit</td>
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<tr>
<td>28. I would dedicate time to take part in a family intervention</td>
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<tr>
<td>29. Family interventions offer a route away from medication</td>
<td></td>
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<tr>
<td>30. Staff (interdisciplinary) disputes hinder family interventions</td>
<td></td>
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<tr>
<td>31. Family interventions are useless if staff do not have the time</td>
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</tbody>
</table>
32. Relatives will dedicate time to family interventions
33. The ward / unit has the facilities to offer family interventions
34. Family interventions are a non threatening approach
35. Family interventions cannot work for forensic patients and relatives
36. There are not enough staff trained to offer family interventions
37. The need for family interventions has been assessed on this ward
38. The need for family interventions are never assessed
39. Family interventions are not seen as beneficial
40. The patients are not at the unit long enough to benefit from a family intervention
41. Family intervention is not even considered as a treatment option
42. Families do not want to be involved in treatment
43. Staff want to be involved in family intervention
44. There is a strong need for family intervention in forensic services
45. Families live too far away to be involved in family work
46. Staff have little time for family intervention work
47. Staff have positive attitudes toward family intervention
48. Families have positive attitudes toward family intervention
49. Forensic wards have more important issues such as security, rather than focusing on family intervention
50. Families have more important issues to deal with than family intervention
51. The NHS has more important issues to deal with than family intervention
52. Staff do not receive clinical supervision for family intervention
53. Family Intervention has a good evidence base

**B- What do you think about using a webcam to facilitate a family intervention?**

<table>
<thead>
<tr>
<th>Statement</th>
<th>Your response from 1-5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. I would like to be involved in a new intervention using a webcam</td>
<td></td>
</tr>
<tr>
<td>2. Family interventions using a webcam would reduce relatives travelling to the unit</td>
<td></td>
</tr>
<tr>
<td>3. Family interventions using a webcam will generate too many problems</td>
<td></td>
</tr>
<tr>
<td>4. New technology in family interventions, like the webcam are positive</td>
<td></td>
</tr>
<tr>
<td>5. Family interventions using the webcam would reduce stigma of visiting a forensic unit for relatives</td>
<td></td>
</tr>
<tr>
<td>6. Family Intervention using a webcam would be too complicated</td>
<td></td>
</tr>
<tr>
<td>7. The thought of using a webcam would put me off being involved in a family intervention</td>
<td></td>
</tr>
<tr>
<td>8. Families experience stigma in visiting the forensic wards</td>
<td></td>
</tr>
</tbody>
</table>

- Thank you for your time -
APPENDIX 8.1 – Visual Analogue Scales

Visual analogue scales: e-FFI

Fear: How fearful are you?
0__________________________________________________ ________________10

Guilt: How guilty do you feel?
0__________________________________________________ ________________10

Anger: How angry are you with the services?
0__________________________________________________ ________________10

Anger: How angry are you with A’s illness?
0__________________________________________________ ________________10

Anger: How angry do you feel towards A’s behaviour / past actions?
0__________________________________________________ ________________10

Stigma: How stigmatised do you feel having A as a son / brother?
0__________________________________________________ ________________10

Resentment: Do you ever feel resentment towards A?
0__________________________________________________ ________________10

Sorrow: Do you feel sorrow for A?
0__________________________________________________ ________________10

Loss: Do you feel loss for A?
0__________________________________________________ ________________10

Worry: Do you feel worried for A?
0__________________________________________________ ________________10

Afraid: Do you feel afraid for the future?
0__________________________________________________ ________________10