Multisystemic Therapy: Therapist experience of programme delivery, processes and outcomes

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Abstract

Antisocial behaviour by adolescents continues to present a considerable challenge to society. One intervention which has shown promise in reducing serious antisocial behaviour is Multisystemic Therapy (Henggeler & Borduin, 1990). This approach is ecologically driven and considers those social systems within which adolescents are embedded. Treatment is delivered in a highly individualised, intensive manner by addressing the key predictors of antisocial behaviour across family, peer, school and community domains. This thesis used diverse and broad methods including a systematic review and a primary phenomenological investigation to explore issues in the MST literature.

Following a general introduction in Chapter 1, the second chapter consists of a systemic review of the most recent research since a review over 10 year ago by Littell, Campbell, Green and Toews (2005) exploring the effectiveness of MST. Consistent with the rapid global spread; this review found several randomised control trials conducted in and outside of America. The findings indicate the need for a clear understanding of usual services within local systems prior to adopting new approaches and highlight a number of methodological limitations of the eleven included studies. The findings are considered within the context of the previous literature and recommendations for future practice and research are presented. Chapter 3 explores the personal lived experience of delivering MST in a sample of seven therapists in London teams using the principles of Interpretive Phenomenological Analysis. Four themes were identified 1) Persisting despite challenges 2) MST and us 3) Relationships matter and 4) How do we know we are getting anywhere? The results have implications for clinical practice and are discussed in the context of directions for future investigations. Chapter 4 presents a critique of one of the few widely used risk assessment tools for adolescent general recidivism; the Youth Level of Service / Case Management Inventory 2.0 (Hoge & Andrews, 2011). A critical review of the validity and reliability of this tool as well clinical utility, strength and limitations are provided. Finally, Chapter 6 provides a discussion and close to the thesis drawing together the implications of the research.

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Finally, none of this would have been achievable without the love and support of those closest to me. I wish to thank my partner Duncan, daughter Charlotte and mother, Jana for all of their practical and emotional support. I have been very fortunate to have you alongside for the journey and thanks for reminding me to look at the bigger picture.

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Chapter 1

Introduction to the thesis

Recent crime statistics in England and Wales reveal that adolescents aged 10 to 17 years are responsible for approximately 12% of police arrests for notifiable offences equivalent to approximately 127,000 crimes (latest available arrests data 2012/13, Youth Justice Board (YJB) / Ministry of Justice, 2015). This is by no means a direct expression of the underlying level of adolescent antisocial behaviour given the inherent difficulties with official measures (McGuire, 2012). Furthermore, an unknown number of adolescents coming into contact with police will not formally enter the justice system. There are increasing schemes aimed at reducing the criminalisation of adolescents and diverting them to other services (for example, NHS England Youth Justice Liaison and Diversion and Restorative Justice) (Bateman, 2015).

Despite this, adolescents are over-represented in the criminal justice system and their offending continues to be a complex and persistent societal problem with significant consequences for individuals, families and communities (Blackburn, 2003). The aim of this introduction is to present the key ideas which will be explored in greater detail throughout the thesis. These include the development of adolescent offending, an intervention which has been indicated as promising in reducing serious antisocial behaviour called Multisystemic Therapy (MST) (Henggeler & Borduin, 1990) and the assessment of risk for adolescent general recidivism.

Considerable research has been conducted over the past twenty years to understand the causes and correlates of adolescent offending, including several longitudinal studies following children well into adulthood (Koops & Orobio de Castro, 2004). Longitudinal studies have allowed for a detailed and invaluable insight into associations between factors across several domains including individual, family, peer, school and community factors with general offending (see reviews by Lipsey, 1995; Loeber & Farrington, 1998; Shader 2002). These are illustrated in Table 1. Risk factors can be broadly defined as anything that increases the probability that an adolescent will engage in offending behaviour (Shader, 2002). It is generally accepted that it is the cumulative combination of these risk factors that maintain antisocial behaviour during adolescence and young adulthood (Holmes, Slaughter & Kashani, 2001; Frick, 2004).

Table 1

Risk and protective factors by domain for adolescent offending (as cited in Shader, 2002)

Domain	**Risk factors**		
	Early onset (6-11 years)	**Late onset (12- 14 years)**	**Protective Factor***
Individual	• *Being male* • *Low IQ* • *General offenses* • *Medical, physical problems* • Substance use • Aggression** • Hyperactivity • Problem (antisocial) behavior • Exposure to television violence • Antisocial attitudes, beliefs • Dishonesty**	• *Being male* • *Low IQ* • *General offenses* • Restlessness • Difficulty concentrating** • Risk taking • Aggression** • Physical violence • Antisocial attitudes, beliefs • Crimes against persons • Problem (antisocial) behavior • Substance use	• *Being female* • *High IQ* • Intolerant attitude toward deviance • Positive social orientation • Perceived sanctions for transgressions
Family	• *Antisocial parents* • Separation from parents • Abusive parents • Broken home • Neglect • Low socioeconomic status/poverty • Poor parent-child relationship • Harsh, lax, or inconsistent discipline	• *Antisocial parents* • Poor parent-child relationship • Harsh or lax discipline • Poor monitoring, supervision • Low parental involvement • Broken home • Low socioeconomic status/poverty • Abusive parents • Family conflict**	• Warm, supportive relationships with parents or other adults • Parents' positive evaluation of peers • Parental monitoring
Peers	• Weak social ties • Antisocial peers	• Weak social ties • Antisocial delinquent peers • Gang membership	• Friends who engage in conventional behaviour
School	• Poor attitude, performance	• Poor attitude, performance • Academic failure	• Commitment to school • Recognition for involvement in conventional activities
Wider community		• Neighbourhood crime, drugs • Neighbourhood disorganization	

* Age of onset not known. ** Males only.

Note: Static items are in italics

Research findings agree that the prevalence of offending increases from late childhood into adolescence, and that 40 to 60 percent of adolescent offenders desist from offending by early adulthood (Tremblay & Nagin. 2005; Loeber & Farrington, 2014). This is generally known as the age crime curve. The timing of attaining those adult milestones typically associated with desistance (e.g. marriage, employment) can also affect the shape of an individual's age crime curve. Increased attention is being given to those factors which stop adolescents becoming involved in offending behaviour or from escalating and continuing their criminal careers into adulthood (Rennie & Dolan, 2010).

Whilst the term protective factor has been used inconsistently across the literature (Stouthamer-Loeber, Wei, Loeber, & Masten, 2004), these can be thought of as influences that reduce the probability of offending behaviour when exposed to risk factors. Protective factors can help explain why some children who are exposed to clusters of risk factors described in Table 1 do not become involved in antisocial behaviour. There continues to be some debate as to whether risk and protective factors are at the opposite ends of a continuum, (Losel & Bender, 2003) or whether they are distinct from one another (Farrington, 1994). Protective factors may act as a buffer between the presence of risk factors and the onset of delinquency, however, how risk and protective factors interact together to influence an adolescent in relation to offending behaviour remains unclear.

Lastly, risk and protective factors broadly fall into two categories: dynamic or changeable factors (such as antisocial peers), and which could be potential targets for intervention; and static factors (such being male), information about which is equally as important in providing an indication of where to focus preventative efforts (Herrenkohl, Huang, Kosterman, Hawkins, Catalano & Smith, 2001).

Research has consistently found that a subgroup of offenders, are responsible for over half of crimes committed. Wolfgang, Figlio and Sellin (1972) reported that 6% of the participants from the Philadelphia Birth Cohort were responsible for 52% of the juvenile arrests. Other longitudinal studies have further confirmed the proportion to be around this figure (Farrington, 1997 (6%); Stattin & Magnusson, 1991 (5.4%)); variations in the estimates between studies most likely differ due to variety in operational definitions of persistence. Nonetheless, the implications are obvious; focusing interventions on the minority of individuals who are responsible for a large proportion of both violent and non-violent

offences should theoretically lead to a reduction in crime. Identifying those adolescents who may be at greater risk of (re)offending as early as possible is essential for a range of forensic decisions including public protection, curbing potential escalation, allocating resources effectively and guiding interventions (Olver, Stockdale, Wormith, 2009; Hoge & Andrews, 2009).

Crime prevention policy is based on the assumption that the life course trajectories of adolescents can be changed by actively reducing those risk factors associated with antisocial behaviour and building on the strengths and protective factors that support desistance. Within youth justice and social care agencies; there is a commitment to empirically supported interventions that reduce persistent patterns of adolescent antisocial behaviour. Some promising results have been obtained with cognitive or behavioural approaches, parent management training, pharmacological approaches and multimodal therapies (Walton, 2012).

Whilst research indicates that adolescent offending is multidetermined with risk factors across a range of systems; very few interventions have adopted a structured multimodal approach. One such programme is MST which is an ecologically driven and intensively delivered family and community based intervention (Henggeler & Borduin, 1990) (see Appendix 1 for a brief description). One of the key features is the consideration of all of the relevant risk and protective factors present across the 'systems' around the adolescent which impede or support their involvement in antisocial behaviour. MST is both comprehensive and individualised to the strengths and needs of each adolescent, their family, peers, school and wider community (Ashmore & Fox, 2014). It is delivered by a small team of therapists primarily in the family home; but also alongside schools, other community agencies and extended family as needed.

MST is currently delivered in 15 countries worldwide and there is substantial cross government support for MST from the Department for Education, Department of Health and YJB. Given the widespread implementation; it might be supposed that the effectiveness of MST has been consistently empirically demonstrated. However, the most recent independent systematic review undertaken by Littell, Campbell, Green and Toews (2005) concluded that MST is not consistently more effective than alternatives for adolescents with serious conduct problems and that gaps in knowledge about international transportation remain. Furthermore, the majority of randomised control trials (RCTs) had been undertaken by the MST developers

themselves under optimal conditions involving closely supervised graduate students. The only independent RCT was not found to reduce antisocial behaviour anymore than usual services (Canada, Leschied & Cunningham, 2002). Given the mixed findings; continued efforts are needed to determine the effectiveness of MST for reducing antisocial behaviour by adolescents. The construction of this thesis is particularly timely with additional funding being provided by the Department of Education for establishing MST teams and the awaited publication of the UK RCT trial.

The previous Cochrane/ Campbell systematic review (Littell et al., 2005) was restricted to research literature up until January 2003 and could be considered outdated. This is particularly relevant given the increased body of international research and independent evaluations of MST. RCTs have been argued by many to be the most credible and appropriate scientific design for determining treatment effectiveness and it is quite possible that the sufficient number of new primary studies may alter previous conclusions.

MST is unique in its approach and requires a different way of working compared with more traditional models of intervention delivered by youth justice services in England (Ashmore & Fox, 2011). MST involves the whole family, school, peers and local community primarily viewing the caregiver as the key agent for facilitating change. The expectation is on the MST team to engage families and have flexibility in scheduling appointments which are home/ community based rather than in office settings. MST therapists carry small caseloads (four to six families) and are expected to be the main treatment providers, including a 24/7 on call system. The considerable emphasis on treatment fidelity to increase positive outcomes is facilitated through staff participation in a number of quality assurance processes.

The majority of MST research literature has focused on the demonstration of effectiveness with the use of quantitative studies; to the unfortunate neglect of qualitative inquiry. Qualitative research can add depth, detail and meaning to quantitative analyses (McLeod, 2001). It allows for the exploration of programme situations, participants and interactions and can help with understanding the different factors contributing to success or failure to achieve outcomes than those typically assessed.

In particular, little is known about the personal lived experience of therapists delivering MST; their perspectives about what may contribute to success and possible challenges. Information

from clients, clinicians, and other stakeholders are key in the design and further development of intervention programmes (Greenhalgh, Robert, Macfarlane, Bate & Kyriakidou, 2004; UK Medical Research Council, 2008). Staff turnover has been reported to be around 39% (Schoenwald, Sheidow, Letourneau & Liao, 2003) which has substantial implications not only for resources (recruitment, training costs and team workload); but possible disruption to treatment. Experience would seem a worthy place to focus investigations to ascertain better information about therapist needs and difficulties.

Thesis Structure

This research aims to provide a broad investigation into different aspects of multimodal approaches to adolescent antisocial behaviour. It aims to address relevant issues in the MST literature while also fulfilling the breadth of experience with diverse research methods needed for a professional doctorate. The thesis comprises three main chapters including a systematic review, a qualitative research study and a critical review of an adolescent risk assessment tool. Each chapter examines a different focus of a multimodal approach to adolescent offending behaviour and follow in sequence; however, they are sufficiently varied in research design and focus to be considered independent studies.

Chapter 2 provides a systematic literature review which evaluates outcome research in order to answer the question of whether MST reduces antisocial behaviour in adolescent offenders or those with serious conduct problems compared to any control groups. Specifically, the review builds on a previous systematic review by providing an update of those more recent RCTs which have been undertaken since 2003 in line with the rapid international transportation of MST. The review provides detailed information about population characteristics, comparison conditions and measurement of outcomes across studies. This highlights the potential challenges to professionals working in this area of comparing findings across studies where such significant differences in study characteristics exist. Recommendations for making progress in evaluating the effectiveness of MST treatment for reducing serious antisocial behaviour in adolescents are provided.

Chapter 3 examines a relatively under-researched area in the MST literature and branches out to investigate the lived experience of therapists delivering this intensive and quite different approach. Therapists are in a unique position to provide an understanding of MST and a

qualitative study was chosen to allow for an explorative examination of this area and assist with future research. Such research has the potential to inform the MST literature of something useful about adaptations to intervention strategies; unanticipated outcomes or factors contributing to success and challenges faced in the real world implementation. The lived experience was explored using the principles of Interpretive Phenomenological Analysis (IPA). IPA was selected on account of its hermeneutic and idiographic foundations which lead researchers to undertake detailed exploration of personal meaning making and experience of a particular phenomena (Smith & Osborn, 2008). The study reported on seven therapists delivering MST in the London region. The results have implications for MST implementation and are discussed in the context of directions for further research.

Chapter 4 critically evaluates the Youth Level of Service / Case Management Inventory 2.0 (hereafter YLS/CMI) (Hoge & Andrews, 2011) which is one of the few validated measures designed to support professionals in assessing risk of general recidivism. It is based upon the general personality and social psychological models which postulate that offending behaviour results from a complex interaction of multiple variables within domains representing the individual and their family, school, and peer factors (Andrews & Bonta, 2006). The tool is being used extensively in Canada, America, Australia and Scotland. This chapter aims to explore the psychometric properties and consider how the tool compares with alternative tools for assessing risk for adolescents.

This thesis concludes with Chapter five which draws together the preceding chapters with a brief overview of the findings, implications for forensic practice and future areas for research.

To summarise, the aims of this thesis were as follows:

- To evaluate the effectiveness of MST for adolescents considered at high risk of requiring out of home care or engaging in serious antisocial behaviour based on the most recent international research.
- To explore the lived experience of therapists delivering MST.
- To critically evaluate the YLS/CMI and compare its standing with alternative risk assessment tools in the field.

Chapter 2

A review following systematic principles of Multisystemic Therapy for antisocial behaviour in adolescents aged 10-17 years

Abstract

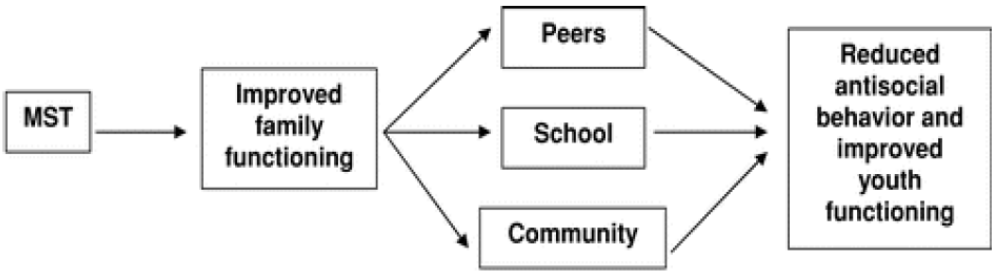
Adolescent antisocial behaviour results in considerable costs to society. The aims of this systematic review were firstly to investigate whether Multisystemic Therapy (MST) for adolescents aged 10 to17 years reduces antisocial behaviour and out-of-home placement and, secondly whether improvements in other domains, such as, substance use, adolescent emotional and behavioural difficulties, family functioning, peer relations and school are observed. An initial 'scoping exercise' undertaken to explore the available literature found a systematic review undertaken over 10 years ago by Littell, Campbell, Green and Toews (2005). Since then, MST has been the subject of a number of randomised control trials across the world. Subsequently an updated review following systematic principles was undertaken utilising inclusion and exclusion criteria and quality control measures. This resulted in eleven studies, published from 2006 to 2014, assessed in quality as ranging from weak to strong. Results indicated that the outcomes for MST continue to be mixed across studies. Comparisons between studies were challenging and the review highlighted the need for increased consistency in reporting about 'usual services'; deeper consideration about cultural differences in the international transportation of MST, adequate sample sizes and documenting care services after MST. The strengths and limitations of the review are discussed and directions for future research and practice.

Background

This review focuses on Multisystemic Therapy (MST, Henggeler & Borduin, 1990). There have been a number of promising research trials conducted in America indicating that MST is effective in reducing antisocial behaviour and out of home placement (Henggeler, Schoenwald, Borduin, Rowland, & Cunningham, 2009a). MST has been transported to several countries and randomised control trials (RCTs) have been undertaken in Canada (Leschied & Cunningham, 2002) and some European countries (e.g. Norway: Ogden & Halliday-Boykins, 2004). A number of adaptations of MST have also been developed including problematic sexual behaviour (MST-PSB), substance misuse (MST-CM), child abuse and neglect (MST-CAN), psychiatric emergencies, eating disorders and physical health conditions (Type 1 diabetes, obesity and HIV).

MST is embedded within the social ecological approach (Bronfenbrenner, 1979), which postulates that the triggers for and maintenance of adolescents' problematic behaviours are associated with their characteristics and interactions between family, peers, schools and community. MST is a family preservation approach regarding caregivers as the facilitators of sustainable change (Henggeler et al., 2009a). The goals of preventing out-of-home placement and reducing antisocial behaviour are attained through empowering and enhancing caregiver skills, improving family relationships and building more adaptive informal support (Ashmore & Fox, 2011) (illustrated in Figure 1).

Figure 1
MST Theory of Change (Henggeler, et al., 2009a, p.4)



The approach underpinning MST supports clinical thinking that does not focus on the adolescent or within family processes as the main causes of problematic behaviours

(Henggeler et al., 2009a). Research supports the involvement of several risk and protective factors across domains (individual, family, peer, school, and neighbourhood) in serious and violent juvenile offending as presented in Table 1 of Chapter 1 (page 2) (Shader, 2002).

This approach is, however, not without its limitations. The social ecological approach may be better described as a perspective rather than a coherent theoretical model and can result in a focus on broad commonalities which can be misleading (Wakefield, 1996a&b). The focus in MST is on the interrelated systems and how they affect each other. However, the specific nature, strength or changeability of the hypothesised connections between systems is unclear and reliable claims cannot be made about these or how the person and environment respond to one another (Hudson, 2000). As a result there is little direction on where to focus clinical efforts and therapists use the treatment strategies which they believe best fit the situation.

The reported effectiveness of MST is largely based on the collection of outcome data from teams worldwide exclusively related to offence reduction, out-of-home placement and school attendance by MST Services Inc. (Charleston, USA). There are limited measures specifically examining family functioning or parenting skills or indeed any changes within these despite the emphasis within MST on caregivers as the main conduits of change.

MST focuses on strengthening caregivers' capacity to parent effectively and can be implemented without the referred adolescent's consent (Fox & Ashmore, 2014). This raises some ethical dilemmas about making treatment decisions and the benefits of involving adolescents have been indicated (Paradisopoulos, Pote, Fox & Kaur, 2015). In a recent qualitative study, adolescents who had participated in MST and experienced positive outcomes highlighted that their direct engagement with the therapist had contributed to sustained changes across domains of peer friendships, family relations and emotional regulation (Paradisopoulos et al., 2015). The changes adolescents identified included having a better understanding of the impact of their behaviour and seeing a different future. One recommendation was that the MST theory of change would benefit from considering stages of development; positive peer groups and adolescents' repertoire of strategies for emotion regulation and coping.

A general criticism of family preservation approaches is the possible safeguarding risks associated with leaving children at home where there are likely to be serious and multiple needs (Lindsey, Martin & Doh, 2002). MST referrals are typically supervised by Youth

Offending Services (YOS) and / or under the care of Social Care and at imminent risk of placement (Fox & Ashmore, 2014). As such, it is important to consider the threshold for risk and how safely adolescents can be kept within the family alongside the emphasis within MST on keeping adolescents in their natural ecology.

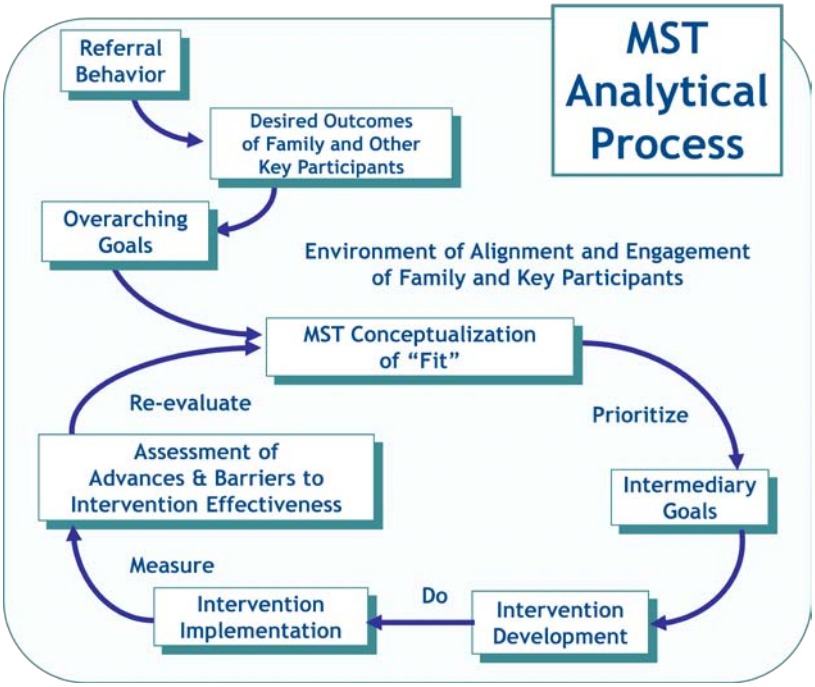
The implementation of MST is guided by nine principles which are considered to be the mechanisms for affecting change within families (see table 2). How these principles reflect the MST theory of change and their actual operationalisation in clinical delivery remains unclear from the available literature and training materials.

Table 2
Nine Principles of MST (Henggeler et al., 2009a p.15-16)

1	Finding the fit: assessing problems within the context of the young people's environment
2	Focusing on positives and strengths within therapeutic contact as levers for change
3	Interventions promote increasing responsible behaviour among family members
4	Interventions are present focused, action oriented and well defined
5	Targeting sequences within and between multiple systems that sustain problematic behaviours
6	Interventions are developmentally appropriate and fit developmental needs of the youth
7	Interventions require continuous effort by family members
8	Continuous evaluation of intervention effectiveness and accountability by the therapy team for overcoming barriers to successful outcomes
9	Generalization to support long term sustainability of change

At MST start, overarching goals are developed collaboratively with family members and other community agencies. These are well defined and measurable changes such as "David will demonstrate school success as evidenced by attending school and complying with rules as reported by teachers and parent." The MST analytic process (depicted in figure 2) supports therapists and families in understanding referral behaviours including both the contributing and maintaining factors. This is referred to as the "fit" and is developed through thinking sessions with key participants. Those factors deemed to provide the maximum leverage to achieving the goals are then addressed through the design and implementation of interventions. Any barriers to success are reduced through smaller weekly intermediary goals. This process is known as the "do loop" and "fits" are continuously reviewed and modified as treatment progresses (Henggeler et al., 2009a).

Figure 2
MST Analytical Process (Schoenwald, Brown & Henggeler, 2000)



It is worth noting that within the MST manual, there is limited direction about how clinicians choose those factors which they consider most directly linked to the problematic behaviours. This inevitably impacts on clinical decision making about which treatments to use.

Furthermore, an underlying assumption is that change can occur quickly (Henggeler et al, 2009a). However, MST was developed for those most serious young offenders and many of the difficulties experienced by families have typically persisted over many years (Bernazzani, Côté & Tremblay, 2001; Martens, 2003). What is realistically achievable in the 3-5 month time frame is questionable. Despite the assertion that most cases should need "minimal 'formal' after-care services" (MST Services, 2008, p.1), the families ongoing needs and the level of support required after MST is not routinely reported upon in the literature.

MST is a relatively new clinical intervention in the UK, introduced in Cambridge, London and Belfast in 2001. There are now over 35 teams with the plan to establish more teams under the Department for Education's (DoE) funding for "Intensive intervention programmes for children in care and on the edge of care and custody" (www.mstuk.org). MST is also one of the recommended interventions within the recently published National Institute of Clinical Excellence guidelines for the treatment of conduct disorder in adolescents (Clinical guidelines, CG158, 2013). Furthermore since 2008, the Department of Health in partnership

with the DoE and Youth Justice Board have been funding a wide scale RCT to investigate the effectiveness of MST compared with multiagency services offered to adolescents at high risk of requiring out-of-home care or engaging in serious antisocial behaviour (Systemic Therapy for At Risk Teens (START) trial, Fonagy, Butler, Goodyear, Cottrell, Scott, Pilling, Eisler, Fuggle, Kraam, Byford, Wason & Haley, 2013).

Not all of the outcome trials investigating MST have been as promising as those undertaken in America, for example, in Canada, MST was not found to reduce antisocial behaviour anymore than usual services. Conflicting findings may be accounted for by a range of factors including methodological limitations, biases, misinterpretations and different contexts. Systematic reviews can be used to identify relevant research, assess their quality and synthesize large bodies of information using scientific methodology (Petticrew & Roberts, 2006). This can help with understanding the reasons for conflicting findings of existing studies and identifying biases and variations in study design or quality.

A short preliminary search of the following databases was undertaken in December 2013 to assess the need for the current review: Cochrane Library, Campbell Collaboration and Google Scholar. This yielded a systematic review of the effectiveness of MST undertaken by Littell, Campbell, Green and Toews (2005); a meta analysis (Curtis, Ronan and Borduin, 2004) and several narrative literature reviews (e.g. LaFavor & Randall, 2013). Whilst narrative reviews can provide an informative overview; they are often vulnerable to sources of error and bias and little attempt is made to sample all of the available literature and critically consider study design and quality (Petticrew & Roberts, 2006). By contrast, systematic reviews adopt a more rigorous, comprehensive and transparent process including the use of predetermined criteria for the inclusion of studies as well as checklists for quality assessment.

The systematic review undertaken by Littell et al., (2005) examined 21 RCT studies from 8 independent samples (total participants = 1230) including non-published studies (see Appendix 2 for studies). A range of different outcome measures from official records of antisocial behaviour to caregiver report of child problem behaviour and self report involvement in delinquency were identified across included studies. The authors concluded that whilst there was no evidence suggesting that MST had harmful effects; it remained unclear whether MST had clinically significant advantages compared to other interventions.

One critique of the previous research trials by Littell and colleagues is the involvement of MST developers in all but one of the included studies. The possible effect of developers-as–evaluators was investigated by Petrosino and Soydan (2005) in a meta-analysis of 300 RCTs of interventions targeting recidivism and a review of 12 meta-analyses of offender treatment. In both cases larger mean effect sizes were found when evaluators were influential in the design and delivery of treatment. Whilst highly involved researchers may be unduly influenced at various stages; it is also possible this finding is explained by an increased attention to integrity and delivery. The need for further independent investigation of MST effectiveness was highlighted. The only independent study reviewed by Littell et al., (2005) did not find MST to be superior to usual services in reducing adolescent antisocial behaviour (Leschied & Cunningham, 2002).

Additional critiques by Littell et al., (2005) involved poor descriptions of "usual services", incomplete information about randomisation procedures and unexplained attrition in at least three studies in the number of participants who had agreed to be assessed, who were then randomly assigned and reported in the results. Follow up periods varied considerably within studies meaning that one participant could be followed up for twice as long as another participant which was problematic when making between group comparisons.

The systematic review made an important contribution in bringing together previous findings and highlighting methodological limitations. However; it was based on research literature from 1985 up to January 2003 and therefore can be considered somewhat anachronistic. This is particularly relevant given the increased body of international research in line with the global spread of MST (more than 500 MST teams across 15 countries). Littell et al., (2005) were only able to include studies across three countries (America, Canada and Norway) and reported that there were thirteen "ongoing" possibly randomised studies which did not at that time have enough data to be included. The sufficient number of additional primary studies may well alter previous conclusions.

The findings by Littell et al., (2005) that the effectiveness of MST was not convincingly demonstrated contradicted a meta-analysis by the programme developers undertaken at a similar time and including six of the eight same studies (total participants = 708) (Curtis et al., 2004). An overall average effect size of d = .55 for criminal behaviour (based on official records) was reported and MST participants and their families were found to be functioning

better than 70% of participants treated by usual methods. The different conclusions reached by these two reviews sparked debate about quality assessment, inclusion criteria, allegiance effects and the estimation of effect sizes (see Henggeler, Schoenwald, Borduin & Swenson, 2006; Littell, 2006).

It is worth noting that within the meta analysis, a clear difference was found between efficacy and effectiveness trials. The former is typically conducted under optimal circumstances, i.e. closely supervised by developers, often university based with therapists who are graduate students. Larger effect sizes were observed under these conditions (d=.81, CI 95% = +/- .33) than effectiveness studies which had been carried out by therapists in community settings (d=.26, CI 95% = +/-.06). The significance of the study condition variable highlights possible challenges in the dissemination of MST to the real world and further points to the need for an updated review in line with a likely increase in effectiveness studies.

Aims and objectives of the current review

This current review aims to determine whether MST is more effective than usual services or no treatment for adolescents who are at risk of serious antisocial behaviour and /or out-of-home placement. The primary focus is further offending as measured by official data which, despite its problems, remains the most significant test of any intervention designed to reduce antisocial behaviour. Other more general non-offending outcomes will also be reported. The review followed the methodology outlined in the Cochrane Handbook for Systematic reviews of Interventions (2011) with the exception of the inclusion of non-English studies due to time and resource constraints.

The main objectives were:

A. To identify the highest quality experimental studies which have measured the effectiveness of MST since the search undertaken by Littell et al., (2005) and provide a detailed description of their methods.
B. To determine whether MST (including adaptations for PSB / CM) was more effective than treatment as usual/ no treatment in addressing outcomes (primary outcomes: antisocial behaviour and out-of-home placement; secondary outcomes: substance use, adolescent functioning; family functioning, peer relations and school performance) in adolescents aged 10-17 years.

Method

Search strategy

The search strategy comprised an electronic search completed on the 21st June 2014 of seven online bibliographic general reference databases, two dissertation and thesis portals, government policy sources and four websites related to MST listed below. The search was restricted to studies published after January 2002 in accordance with guidelines by Petticrew and Roberts (2006) to allow for an overlap of approximately one year before the end date for updates to previous good quality reviews.

Validity of the search strategy was likely to be have been reduced because the entire content of key journals were not hand searched (Armstrong, Jackson, Doyle, Waters & Howes, 2005). In order to make the literature search more encompassing, reference lists of shortlisted articles as well as relevant book chapters were hand searched to identify potentially relevant literature.

Reference databases

Cochrane; PsychINFO; Medline; EMBASE; Applied Social Sciences Index and Abstracts (ASSIA); National Criminal Justice Reference Service (NCJRS) and Web of Science

Dissertation and thesis portals

ProQuest Dissertations and Theses Global and British Library ETHos

The following search terms were used and modified where appropriate to meet the search requirements of each database. The full search syntax is presented in Appendix 3.

MST OR Multisystemic OR Multi-systemic

AND

therap* or treat* or interven* or program*

AND

Outcome* OR evaluat* OR effect* OR experiment* OR trial OR compare* OR impact OR consequen* OR recidiv* OR reoffen* OR relapse OR reconvict* OR research

AND

youth* or adolesc* or young* or teen* or juvenile* or child* or minors* or boys* or girls*

Government policy sources

US Office of Juvenile Justice and Delinquency Prevention; US Department of Health and Human Services; UK Ministry of Justice; UK Department of Health and NHS evidence

MST related websites

MSTi; http://mstuk.org; http://www.mstservices.com; Family Services Research Centre of the Medical University of South Carolina

Expert Contact

A number of prominent authors in the field were contacted directly to identify unpublished or on-going research and recommendations on literature that might meet the inclusion criteria (see Appendix 4). All but one responded within the time limits of the review.

Study selection

Inclusion/ exclusion criteria

Given that the objectives of this review were to measure the effectiveness of MST, a PICO (Population, Intervention, Comparators and Outcome) framework was used to support a robust search strategy and identify potential studies to be included. The inclusion and exclusion criteria are laid out in Table 3 and a predefined form was used to shortlist articles for review (Study Eligibility Form, Appendix 5).

Table 3
The PICO guide to identify relevant literature

	Inclusion:
Population:	Adolescents aged 10-17 years at risk of serious antisocial behaviour / out of home placement / foster care / residential setting/ incarceration; Males and females; Different Nationalities; Different ethnicities
Intervention:	Licensed MST programmes including the adapted versions MST-PSB and MST-CM
Comparator:	Treatment as usual in youth justice or social care system / other treatments (e.g. individual therapy) or no treatment
Outcome:	Primary outcomes: antisocial behaviour (arrest / criminal conviction); family living arrangements (at home or placement) Secondary outcomes: alcohol and drug use; adolescent functioning; family functioning; peer relations; school attendance and performance
Study Type:	Experimental where participants are randomly allocated to treatment and comparison/ control groups. Studies were included if they followed up a sample of adolescents who had

	engaged in MST over time. Prospective and retrospective studies were included. Studies covering the same population were included only where each study examined unique factors. Where similar factors were measured the more up to date study, i.e. the one with the longer follow up period, was included and the other excluded.
Language:	English language only
Year of Publication:	From January 2002 until search date (21st June 2014)
Exclusion:	Specifically where the primary presenting problem is related to physical health; or as an alternative to hospitalization for psychiatric care*; or MST for abuse and neglect Non-licensed MST programmes Narrative reviews, editorials, commentaries, single case studies, opinion papers or other group designs Any publications prior to January 2002 Studies with children out of the age range Studies without follow-up Studies reported in Littell et al., (2005) systematic review; unless updates are available

*This differs from the systematic review undertaken by Littell et al., (2005)

Rationale for inclusion / exclusion criteria

- The focus of this review was exposure to MST which has been designed to be delivered with adolescents aged 10-17 years and thus this was the age criteria of the population. Only programmes licensed by MST Services Inc. were considered due to the stringent training and ongoing supervision / consultation processes.
- Adapted versions for PSB and substance abuse were included given that this review focused on offending and the highly elevated rates of alcohol and drug use among those involved in the youth justice system (Tripodi & Bender, 2011).
- Where possible the methods employed in the review update should mimic those of the original review, unless explicitly altered (e.g, through developments in review methods, Higgins & Green, 2011). One of the studies included in the review by Littell et al., (2005) involved an adaptation for psychiatric emergencies. It could be argued that this population differs quite significantly in clinical presentation from antisocial adolescents. This was further indicated from the substantially different mean treatment lengths between the psychiatric emergency adaptation and standard MST (90 hours versus 23-40 hours respectively). It is not clear how including this study in the previous systematic review impacted the overall findings; but the validity of including this adaptation when examining the treatment effect for offending is

questionable. Therefore only standard MST and versions for PSB and substance abuse were included.

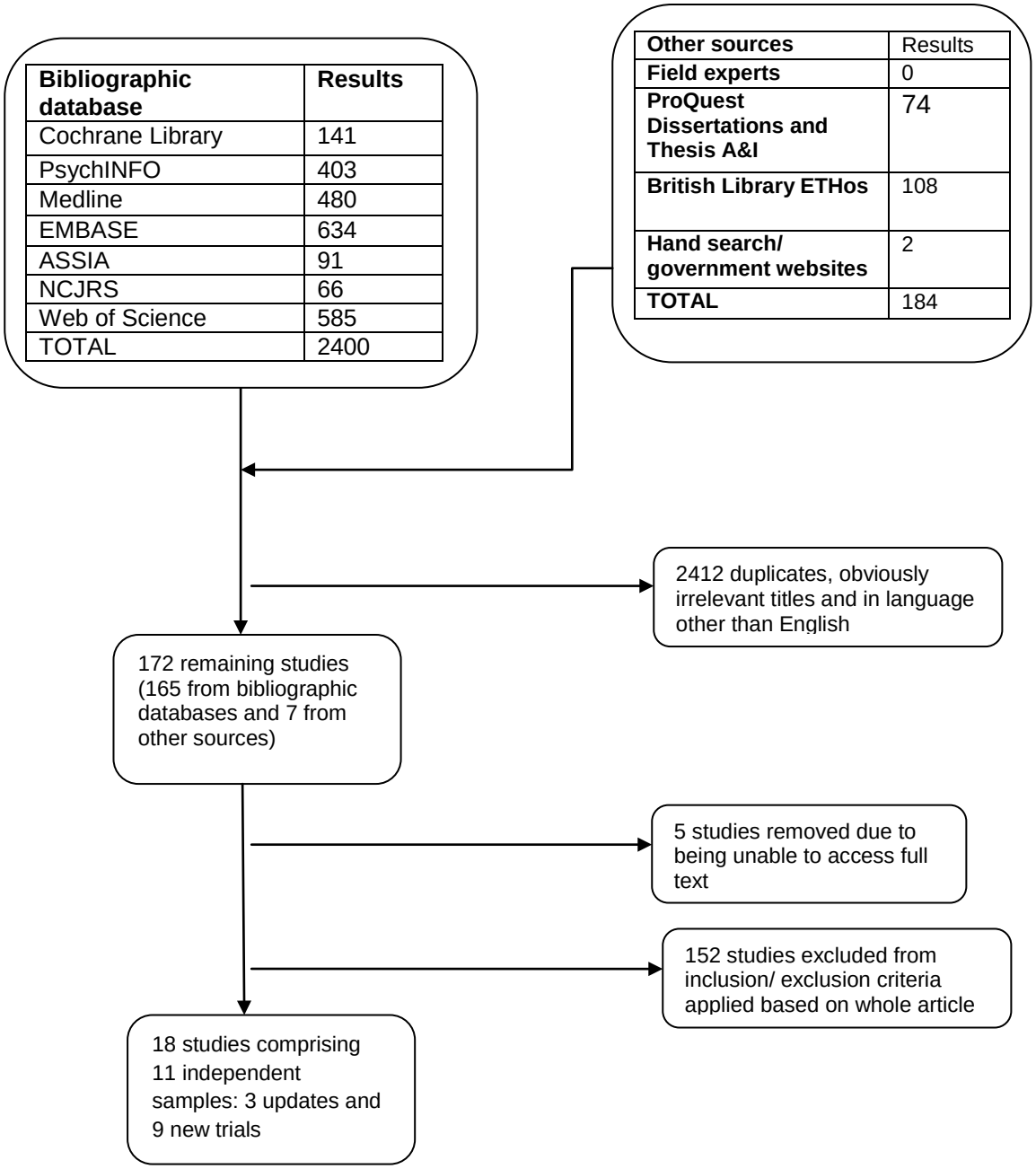
- The aim was to evaluate the effectiveness of MST as an intervention for reducing antisocial behaviour and therefore eligible study designs involved the random assignment of participants to treatment and comparison /control groups. Although it is recognised that there are challenges with random allocation, the RCT is recognised as the optimal design for minimising possible pre-existing differences between treatment and comparison groups as well as risk of inadvertent researcher bias. As highlighted by Peto, Collins and Gray (1995) "There is simply no serious scientific alternative to the generation of large-scale randomised evidence…. [RCTs] have a central role to play in the development of rational criteria for the planning of health care throughout the world" (p.39).
- The inclusion of duplicated data can potentially overinflate treatment effects (Higgins & Green, 2008) and so every effort was made to cross reference studies using the same sample. The more recent data was used where available to examine the longest possible treatment effects.

The initial systematic search provided a total of 2400 potentially relevant hits. An additional 184 articles were identified from other sources including hand searching reference lists, dissertation portals or government policy sources. The majority of hits were excluded during the initial screening of titles and abstracts only by the first author, due to clear irrelevance to the current review, duplication or non-English language. Of the 172 remaining studies; attempts were made to retrieve the full copies of the article via the University of Birmingham e library, on site library, interlibrary loans or direct contact with authors. Five articles could not be located (Appendix 6).

A more comprehensive assessment using the study eligibility form was undertaken and details of papers assessed as potentially relevant during initial sifting but excluded after inclusion criteria applied to the full article are documented in Appendix 7. Some studies were excluded due to not including the defined age range (e.g. Nelson, Hurley Synhorst, Epstein, Stage, & Buckley, 2009); studies involving descriptions or case studies (e.g. Wells, Adhyaru, Cannon, Lamond, & Baruch, 2010); narrative reviews (e.g. Henggeler & Sheidow, 2012); exploring costs analysis (e.g. Olsson, 2010); non random allocation of participants (Barnoski,

2004) and studies where the sibling outcomes of those allocated to treatment were investigated (e.g. Rowland, Chapman & Henggeler, 2008). A further four studies were excluded due to having already been reported upon in the previous systematic review by Littell et al., (2005) (see Appendix 8). This resulted in18 articles including 3 updates to two studies included in the systematic review by Littell et al., (2005) and 15 cross referenced publications for 9 new trials (see Appendix 9). This process is presented in Figure 3.

Figure 3
Search results and study selection



Quality Assessment

Following initial data exploration, the 11 studies meeting inclusion criteria were each rigorously quality assured using a pre-defined checklist. Information was cross referenced across publications as recommended by Littell, Corcoran and Pillai (2008). Relevant to the review aims and design of the selected studies, adaptations to a tool developed by NICE (2012) was undertaken (Appendix 10). This checklist contains the most common and well documented biases relevant to RCTs. Furthermore, there are no summary scores or specific numerical algorithms; the use of which is questionable given the lack of standard techniques establishing reliability and validity of quality assessment scales (Jűni, Witschi, Bloch & Egger, 1999). There is also an explicit emphasis on considering the likely magnitude and direction of any possible bias supporting the critical evaluation of the implications for interpreting findings (Centre for Review and Dissemination, 2009).

A few items were removed in line with being unnecessary; for example, it is not possible for either therapists or family members participating in MST to be blind to treatment allocation. An item from an instrument which has been developed to assess the conditions under which potential conflict of interest is more likely (Eisner & Humphreys, 2012) was added given that historically much of the empirical research had been conducted by MST developers and their associates. Lastly, the language was modified turning items into questions for ease of coding.

A structured judgement process was used to combine the overall appraisal of bias and confidence in the findings into four possible categories: strong, good, weak and, rejected. These are described further within the adapted tool itself provided in Appendix 10. All of the included studies were critically appraised and a random selection, 36.4% (4 papers) were quality checked by a second independent reviewer to ensure reliable ratings. The second rater (Forensic Psychologist with doctoral level training in research methodology) used the quality assessment checklist to independently appraise the four studies. Scores for each item, the overall appraisal and direction and strength of possible bias were then compared between the two reviewers. In all four cases there was agreement in the overall rating and discrepancies for specific items were discussed until a resolution was reached. Due to time constraints, it was not possible for the second reviewer to code every study as recommended (Littell et al., 2008) and the consensus ratings, where applicable, are presented in Table 4 (page 23).

Data extraction

Data were extracted from the included studies by the primary author using a predetermined form (Appendix 11). This was designed by the author and aimed to provide a framework for gathering the relevant information from each study to allow comparison and support in answering the research question. This included data such as population characteristics, geographic location and measurements used to assess outcomes. Any absent or unclear information was marked next to the relevant item.

Results

Quality of included studies in review

The included studies ranged in quality as coded by an assessment checklist (see Table 4 for quality checking). Four of these were rated 'strong' (Asscher, Deković, Manders, van der Laan & Prins, 2013; Butler, Baruch, Hickey & Fonagy, 2011; Sawyer & Borduin, 2011 and Sundell, Hansson, Löfholm, Olsson, Gustle & Kadesjö, 2008); four others were rated as 'good' (Borduin, Schaeffer & Heiblum, 2009; Letourneau, Henggeler, Borduin, Schewe, McCart, Chapman & Saldana, 2009; Ogden & Hagen, 2006 and Weiss, Han, Harris, Catron, Ngo, Caron, Gallop, & Guth, 2013) and three were rated 'weak' (Glisson, Schoenwald, Hemmelgarn, Green, Dukes, Armstrong & Chapman, 2010; Henggeler, Halliday-Boykins, Cunningham, Randall, Shapiro & Chapman, 2006 and Timmons-Mitchell, Bender, Kishna & Mitchell, 2006).

Referral pathways were often poorly described in that a discrepancy existed between eligible participants and those included for randomisation. For example, in the UK, about a quarter of those referred could not be contacted or refused to consent to assessment. This was a similar proportion in referrals of both Weiss et al., (2013) and Letourneau et al., (2009). It is not clear whether this proportion may represent those families with more chaotic lives who are perhaps less willing to cooperate with services and whose profiles could be substantially different from those who do agree. Furthermore, other staff frequently carried out the initial screening (e.g. social workers, Sundell et al., 2008; probation staff, Henggeler et al., 2006). Various local agencies may have made different judgements on possible eligibility introducing a level of selection bias among and across sites or referrers. It is not known how representative the samples within the trials may be of the general target population of MST.

Table 4 Quality checking of included studies

Author(s)	*Date*	*Appropriate randomisation*	*Adequate concealment*	*Comparable groups at baseline*	*Adequate sample size*	*Well described conditions*	*Same care*	*Missing data appropriately handled*	*Equal follow up or adjusted*	*Available outcome data*	*Intent to treat analysis*	*Follow up at least a year**	*All outcomes considered*	*Reliable measures*	*Researchers blind*	*Author(s) independent*	*Overall rating*
Asscher, Deković, Manders, van der Laan & Prins	2013	Y	N	Y	U	N	Y	Y	Y	Y	Y	Y	Y	U	U	Y	**Strong**
Borduin, Schaeffer & Heiblum	2009	Y	Y	N	U	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	**Good**
Butler, Baruch, Hickey & Fonagy	2011	Y	Y	Y	Y	Y	U	Y	Y	Y	Y	Y	Y	Y	U	Y	**Strong**
Glisson, Schoenwald, Hemmelgarn, Green, Dukes, Armstrong & Chapman	2010	Y	Y	U	Y	N	U	U	Y	U	U	Y	N	N	N	N	**Weak**
Henggeler, Halliday-Boykins, Cunningham, Randall, Shapiro & Chapman	2006	Y	U	N	N	Y	U	Y	Y	Y	Y	Y	Y	Y	U	N	**Weak**
Letourneau, Henggeler, Borduin, Schewe, McCart, Chapman & Saldana	2009	Y	Y	Y	U	Y	N	U	Y	Y	Y	Y	Y	Y	N	N	**Good**
Ogden & Hagen	2006	U	Y	Y	U	N	U	N	Y	Y	Y	Y	Y	Y	U	Y	**Good**
Sawyer & Borduin	2011	Y	U	Y	U	Y	U	Y	Y	Y	Y	Y	Y	Y	Y	N	**Strong**
Sundell, Hansson, Löfholm, Olsson, Gustle & Kadesjö	2008	Y	Y	Y	U	Y	Y	Y	Y	Y	Y	Y	Y	Y	U	Y	**Strong**
Timmons-Mitchell, Bender, Kishna & Mitchell	2006	U	U	Y	U	N	U	U	Y	U	N	Y	Y	N	U	Y	**Weak**
Weiss, Han, Harris, Catron, Ngo, Caron, Gallop, & Guth	2013	U	U	Y	U	N	Y	Y	Y	Y	Y	Y	Y	Y	U	Y	**Good**

Appropriate randomisation was undertaken in most studies, although there was variety in the method, the point at which this occurred and concealment of allocation. The method of randomisation was not reported in three studies (Henggeler et al. 2006; Ogden & Hagen, 2006; Weiss et al., 2013), and it is therefore unknown whether any possible bias existed within this process. A further two studies used the coin toss (Sawyer & Borduin, 2011; Timmons-Mitchell et al., 2006); the validity of which is questionable (Clark & Westerberg, 2009). Almost half of the studies did not explicitly state who actually undertook randomisation and how this remained concealed making it difficult to discern whether the methods were vulnerable to bias (e.g. Weiss et al., 2013).

It was positive that almost all of the studies explored group differences at baseline on demographic, criminal histories and /or psychosocial characteristics. No statistically significant differences were found for most studies indicating that randomisation had been successful (e.g. Asscher et al., 2013). Exceptions to this included Henggeler et al., (2006) and Borduin et al., (2009) where the likely direction of the effect of the bias was assessed as favouring the comparison group. In the Norway RCT (Ogden & Hagen, 2006), differences in baseline scores could have overinflated the estimates of treatment effects.

Sample sizes were relatively small with three studies having less than 100 participants (Borduin et al., 2009; Ogden & Hagen, 2006; Timmons-Mitchell et al., 2006). Few studies specifically reported on undertaking power calculations (only Butler et al., 2011 and Glisson et al., 2010) making it difficult to assess whether the sample size was adequate to detect a true effect or increase confidence that a significant result reflected a true effect.

Almost half of the included studies provided inadequate descriptions of the comparison condition making it difficult to know what MST was being compared with. In almost all of the studies; it was unclear whether the groups had received the same care apart from the intervention being studied.

Some studies reported low rates of missing data (e.g. at 2 year follow up 94% of participants completed assessment measures, Letourneau et al., 2009); whereas other studies had relatively high rates of non completion (e.g. in Glisson et al., 2013, just over half of participants (57.0%) completed the 18 month assessment measures). Only one study provided no information on drop outs on account of the ethical conditions of the research (Timmons-

Mitchell et al., 2006). There was variation across studies in whether analyses had been undertaken to examine the missing and completed data and any possible differences between groups. This is potentially problematic as participants who drop out may have more significant difficulties; and as a consequence treatment effects could be overinflated.

It was positive that all of the studies had follow up periods of over one year. Recidivism rates increase with time indicating the need for long term observation strategies. The degree of difference between studies in follow-up periods is potentially problematic. It may be that, for the studies with shorter follow up periods, recidivism rates would increase as time since assessment/discharge increases. For the two MST-PSB studies; the low base rate of sexual recidivism is an inherent difficulty in outcome research. Letourneau et al., (2009) reported only four sexual offences across the sample at the 2 year follow up.

Most of the studies considered a wide range of outcomes, used reliable measures for their assessment and multiple sources of information. The exception to this was Timmons-Mitchell et al., (2006) where research assistants completed the Child and Adolescent Functional Assessment Scale solely from court records. No inter rater reliability information was reported for the coding process and it is not clear how comprehensive the file information was. Four studies relied on caregivers to report out-of-home placement which is potentially less reliable as parents may be motivated in various different ways (Glisson et al., 2010; Henggeler et al., 2006; Letourneau et al., 2009 and Ogden & Hagen, 2006). In America, the vast majority of the studies only examined official data on antisocial behaviour within the state (e.g. Borduin et al., 2009) potentially missing a proportion of those adolescents who moved to another state over follow up.

It is positive that 7 studies used other sources of information for involvement in antisocial behaviour given that many offences are not reported; and even those which are brought to the attention of police may not be officially recorded. For the majority this was with the Self Reported Delinquency Scale (Elliott, Huizinga & Ageton, 1985) which has demonstrable reliability and validity across a range of settings. However, this tool focuses on serious criminal behaviours and it is possible that adolescents may incorrectly label certain behaviours thus overstating seriousness. As with all self report measures; there are issues related to social desirability. This may be particularly relevant given that most of the

populations under examination were involved with the justice system and adolescents may be reluctant to provide accurate accounts for fear of further consequences.

In some studies the treatment and comparison groups were assessed on the same schedule (e.g. Weiss et al., 2013); however in others data was collected at different points (e.g. Timmons–Mitchell et al., 2006). This can be problematic because the outcome data for cases may not be comparable due to the differences in the length of observation periods.

In some studies there were good descriptions of the care taken to ensure that those collecting the data were blind to the condition (e.g. teachers were informed that questionnaires were for a study on teen socialisation in Borduin et al., 2009). However in other studies; blinding was unclear (e.g. Timmons-Mitchell et al., 2006) or it was stated that those collecting the data were aware of the assignment (e.g. Letourneau et al., 2009). This potentially introduces an element of bias due to people's preconceived beliefs about MST and how these may consciously or unconsciously influence their behaviour.

Just over half of the studies were assessed as independent of the MST developers and their associates (Asscher et al., 2013; Butler et al., 2011; Ogden & Hagen, 2006; Sundell et al., 2008; Timmons-Mitchell et al., 2006; Weiss et al., 2013).

Characteristics of included studies

Population

Table 5 provides an overview of the characteristics of the 11 included studies. The majority were undertaken in America (Borduin et al., 2009; Glisson et al., 2010; Henggeler et al., 2006; Letourneau et al., 2009; Sawyer & Borduin, 2011; Timmons-Mitchell et al., 2006 and Weiss et al., 2013) and Europe including the Netherlands (Asscher et al., 2013); Sweden (Sundell et al., 2008); the UK (Butler et al., 2011) and an update to the Norway RCT (Ogden & Hagen, 2006).

The participant characteristics were well described in most studies and it was possible to quantitatively synthesize some demographic information. The sample size ranged from 48 (Borduin et al., 2009) to 674 (Glisson et al., 2010) with over a hundred participants in eight of the studies. The size of the sample across all studies was 2042 adolescents (mean 185.6, SD = 171.5). The mean average age for the whole sample was 14.9 years (SD = 0.5) with

Asscher et al., (2013) reporting the highest mean age (16.0 years) and Borduin et al., (2009) reporting the lowest (14.0 years). The samples were predominantly male; percentages of females ranged from 2.4% (Letourneau et al., 2009) to 39% (Sundell et al., 2008). The ethnicity of participants varied and the use of ethnic categories was not consistent across studies.

Only four studies examined possible age, gender and ethnicity and treatment condition interaction effects although it is worth noting that in all cases the subgroups sizes were small thus reducing the confidence in the findings. In the longest follow up, Sawyer and Borduin (2011) found little moderating influence of age, gender or race on treatment effect as measured by official rearrest data. Sundell et al., (2008) also found treatment to be equally effective with adolescents from different sociodemographic backgrounds. Asscher et al., (2013, 2014) found no moderating effects for adolescents under or over 16 years of age. A significant interaction for self-esteem, personal failure and hostility on questionnaire data immediately post treatment was found for females; although this was not sustained at 6 month follow up. For ethnicity; treatment effect was stronger for native Dutch adolescents on parental report of externalising behaviour immediately post intervention. No differences in recidivism for native Dutch and immigrant juveniles were observed (Asscher et al., 2014). In Norway, Ogden and Hagen (2006) found MST to be particularly effective for boys and not girls; and for those older adolescents (over 17 years of age) as measured by out- of-home placement at the 2 year follow up.

Samples were recruited from various sources; the majority from youth justice (Borduin et al., 2009; Butler et al., 2011; Glisson et al., 2010; Henggeler et al., 2006; Letourneau et al., 2009; Sawyer & Borduin, 2011, Timmons-Mitchell et al., 2006); social care (Ogden & Hagen 2006; Sundell et al., 2008); alternative education (Weiss et al., 2013) or a combination (Asscher et al., 2013). Eligibility criteria ranged from adolescents appearing at court for felony offences (punishable by death or imprisonment in excess of one year) (Timmons-Mitchell et al, 2006); alternative education settings where only those participants without a caregiver to provide consent were excluded (Weiss et al., 2013) and meeting specific diagnostic criteria (e.g. Sundell et al., 2008).

Table 5 Characteristics of included studies

Authors*; date; country; method of randomisation	Population		MST: length; fidelity	Comparison: usual services; length	Follow up period	Main findings*
	N*; source	Mean age; % male; ethnicity				
Asscher, Deković, Manders, van der Laan, & Prins (2014) Netherlands Computerised programme	256 (MST = 147; US = 109) Severe antisocial behaviour	16.02 years (SD = 1.3) 73% male 55% Dutch; 34%Moroccan; 32% Surinamese	Length not reported Mean TAM score M = 4.36 (SD = .51)	Individual treatment (21%); family based (53%); combination (7%); detention (4%); no treatment (14%) Length not reported	Reoffending: 36.7 months (SD = 15.8). Measures: post Tx 5.7 months (SD = 1.90) & follow up 13.0 months (SD = 3.0)	• No significant differences in percentage arrested at least once, number of arrests, time to first arrest or type of recidivism • MST significantly more effective in reducing externalising behaviour (parent and adolescent report); ODD and CD symptoms; self reported property offences not violent offences • MST parents reported significantly greater increase in sense of competence; significantly more improvement for positive discipline (caregivers, adolescents and observer report); relationship quality (caregiver and observer report) and inept disciple (observer rated)
Borduin, Schaeffer, & Heiblum (2009) America Random number table	48 (MST = 24; US = 24) Juvenile court	14.0 years (SD = 1.0) 95.8% male 72.9% white	30.8 weeks (range 14.3 - 63.7) Fidelity data not reported	CBT group (90 mins 2 x week) and individual Tx (1x week) 30.1 weeks (range 17.0 - 89.9)	Reoffending: 8.9 years (range 7.31 - 10.64) Measures: within 1 week post Tx	• MST had significantly fewer arrests for sexual and other offences, fewer days incarcerated; less self reported person and property offences • Significant group effect on psychiatric symptoms, behavioural difficulties (caregiver and adolescent) and family cohesion and adaptability favouring MST • Significant increases in emotional bonding and social maturity; decrease in youth aggression towards peers; increase in youth grades for MST group over US (caregiver and teacher)
Butler, Baruch, Hickey, & Fonagy (2011) UK Stochastic minimisation balanced for offence type, gender & ethnicity	108 (MST = 56; US = 52) Court referred	15.2 years (SD = 1.2) 82.8% male 37.3% White British / European; 33.3% Black African; 24.7% Other	20.4 weeks (range 11- 30) TAMs not reported	Youth offending services: individually tailored to prevent reoffending Mean contacts 20.88 (SD = 12.88)	Reoffending: 18 months Measures: 4 weeks post Tx	• Significant between group differences in mean number of offences only at 18 months • Custodial sentences increased in both groups • Significantly greater reduction in MST group for adolescent reported offending behaviours • Significant increase in favour of MST for positive parenting (parent report only) • Significant decrease in antisocial processes in MST group (parent report only) • YSR/ ABAS/ DP/ SFIT/ CBCL: no significant interactions

Authors*; date; country; method of randomisation	Population		MST: length; fidelity	Comparison: usual services; length	Follow up period	Main findings*
	N*; source	Mean age; % male; ethnicity				
Glisson, Schoenwald, Hemmelgarn, Green, Dukes, Armstrong, & Chapman (2010) America Sequence numbers	674 (MST = 349; US = 325) Juvenile court	14.9 years (SD = 1.59) 69% male 91% white	15.0 weeks (SD = 6.3) TAMs not reported; weekly logs; coding of audiotaped sessions	Inpatient (24%); outpatient: family/ parent focused Tx (50%) 186.6 days (SD = 138.3)	Out of home placement: 18 months Measures: 6, 12 and 18 months	• Out-of-home placements significantly lower for MST group • CBCL: at 18 months no significant between group differences
Henggeler, Halliday-Boykins, Cunningham, Randall, Shapiro, & Chapman (2006) America Not reported	161 (DC&MST = 38; DC&MST-CM = 43; DC = 38; FC = 42) Juvenile court	15.2 years (SD = 1.1) 83% male 67% African American; 31% White	MST 66 hrs (SD = 32) MST-CM 57 hrs (SD = 30) CM: voucher system; functional analysis and management planning	Family court (yearly) and group and individual Tx Drug court (weekly) and outpatient Tx Length not reported	Reoffending: 12 month Measures: 4 and 12 months	• No significant between groups differences in mean number of arrests or days in placement • SRD: 3 DC conditions significantly fewer status offences and crimes against the person (not general theft) than FC (adolescent report) • CBCL: no significant between group difference • Urine screens: significant difference between groups. DC/MST and DC/MST-CM had significantly lower positive % than DC • Form 90: DC/MST & DC/MST-CM reported significantly less alcohol, marijuana and polydrug use than FC
Letourneau, Henggeler, Borduin, Schewe, McCart, Chapman, & Saldana (2009) America Stratified permuted blocks based on	131 (MST = 68; US = 63) Court ordered	14.6 years (SD = 1.7) 97.6% male 54% Black 44% White	30.9 weeks (SD = 12.2) Mean TAM score 3.99 (SD = .68)	Weekly 60min group cognitive behavioural Tx. Standardised therapeutic activities 54.1 weeks (SD = 43.1)	Reoffending & out of home placement: 24 months Measures: 6 and 12 months	• No between groups difference for nonsexual arrests • MST caregivers significantly less likely to report out-of-home placement • SRD: MST youth reported significantly less involvement in delinquent behaviour • No between group differences for self reported substance use • ABSI: Significantly greater reduction in problem sexual behaviour over time for MST youth (adolescent report only) • CBCL: MST group showed significantly greater reduction in externalising and internalising symptoms (caregiver and adolescent report)

Authors*; date; country; method of randomisation	Population		MST: length; fidelity	Comparison: usual services; length	Follow up period	Main findings*
	N*; source	Mean age; % male; ethnicity				
index victim age						• PYS: Significant MST treatment effects on Lax Discipline (youth report) and Bad Friends only
Ogden & Hagen (2006) Norway Not reported	75 (MST = 46; US = 29)	15.02 years (SD = 1.36) 64.0% male 98.7% Norwegian	Length not reported TAMs not reported	Not reported. Original study: institution (36.9%); crisis (13.2%); social worker care (15.8%); home Tx (18.4%); No Tx (15.8%)	Out of home placement and measures: 24 months	• MST less likely to be living out of the family home either at or in the 6 months prior to follow up • MST group showed significantly greater reduction in total score and internalising (not externalising) symptoms (caregiver report not adolescent). Teacher report for scores (internalising, externalising and total) significantly differed favouring MST • MST group scored significantly lower on self reported involvement in delinquency than US
Sawyer & Borduin (2011) America Coin toss	176 (MST = 92; IT = 84)	14.5 years (SD = 1.4) 69.3% male 76.1%White 22.2% African American	20.7 hours (SD = 7.4) Summary of systems addressed	Individual therapy: psychodynamic, client centre or behavioural approaches	Reoffending: 21.9 years (range 18.3-23.8 years)	• For all categories of arrests (violent or nonviolent felony) excluding misdemeanours, rates were significantly lower for MST group than IT • MST participants were significantly less likely to have been sentenced to prison
Sundell, Hansson, Löfholm, Olsson, Gustle, & Kadesjö (2008) Sweden Computer generated	156 (MST = 79; US = 77) Conduct disorder	15.0 years (SD =1.45) 61% male 47% not Swedish: Asia (30); Europe outside of Scandinavia(25) and Africa (14)	20.8 weeks (SD = 7.4) Mean TAM score 4.00 (SD = 0.61; range 1.73 to 5.00)	Individual Tx (26.0%); Family Tx (20.8%); Mentor (15.6%); Placed (10.4%); ART (5.2%); Addiction Tx (2.6%); Special education (2.6%); No Tx (16.9%)	Report on police contact and measures 7 months (SD = 1.0) and 24 months (SD = 0.6)	• No significant between group differences on social care and caregiver reports of police involvement, out-of-home placement, self reported delinquency, CBCL, YSR, SOC, AUDIT & DUDIT, social competence, parenting skill, school attendance or mothers mental health

Authors*; date; country; method of randomisation	Population		MST: length; fidelity	Comparison: usual services; length	Follow up period	Main findings*
	N*; source	Mean age; % male; ethnicity				
Timmons-Mitchell, Bender, Kishna & Mitchell (2006) America Coin toss by court staff	93 (MST = 48; US = 45) County family court	15.1 years (SD = 1.25) 78% Male 77.5% European American 15.5% African American	20.7 weeks (SD = 8.7, range 6.1 to 62.6) Mean TAM score 4.2 (SD = .38)	Not tracked. Probation officers reported that referrals made to drug and alcohol Tx, anger management, individual and family Tx	Reoffending: 24 months Measures: post Tx and 6 month	• Recidivism significantly lower for MST group and arraigned for significantly fewer new offences • No significant difference in average time to first arrest or percentage of felonies versus misdemeanours • CAFAS: MST scores significantly greater improvement on four of the six subscales: School / work, Home, Community, Moods and Emotions
Weiss, Han, Harris, Catron, Ngo, Caron, Gallop, & Guth (2013) America Not reported	164 (MST = 84; No Tx = 80) Conduct problems in behaviour class	14.6 years (SD1.3) 83% male 60% African American 40% European American	Length not reported Mean TAM score = 4.41 (SD = .51) "moderately high to high" Coded sessions	Behaviour focused classroom management; usual school and community services	Reoffending: 30 months Reoffending from official sources: charges	• No significant difference between groups for felony arrest or time to being arrested • CBCL and YSR: rate of reduction in problem behaviours greater for MST group. • No significant difference for teacher reported problem behaviour, SRD, drug use, reintegration to mainstream; grades, number of days absent or suspended, family adaptability or cohesion • PAQ: significant curvilinear treatment effect on permissive subscale indicted a greater rate of decrease for MST group

*primary study in bold (see Appendix 9 for associated studies); Full details of outcome measures provided in Appendix 13; US = Usual services, IT- Individual therapy, ART = Aggression Replacement Training, Tx = Treatment

Participant offending history, where reported, varied across studies. In the UK, none of the participants had previous custodial sentences and the mean number of offences was 2.5 (SD = 1.7) in the 12 months before referral (Butler et al., 2011). The offending histories of participants were typically more severe in the American studies (e.g. Timmons-Mitchell et al., 2006 reported that the average number of all pre-treatment offences was 6.87, SD = 4.4). The exception to this was the PSB sample in Letourneau et al., (2009) which appeared less delinquent (62% had no prior general offences).

Intervention

The majority (8) of the included studies examined standard MST; a further two studies examined PSB and one for substance abuse. The way in which mean treatment length was reported varied across studies (hours, weeks or months). The average length of treatment was provided by eight studies (excluding Asscher et al., 2013; Ogden & Hagen, 2006; Weiss et al., 2013) and this was converted to weeks where possible. Glisson et al, (2010) had the lowest mean treatment length (15.0 weeks, SD = 6.3) and MST- PSB had the longest (approximately 31 weeks) (Borduin et al., 2009; Letourneau et al., 2009). The researchers stated that this was likely due to the new adaptation and frequently encountered professional anxiety with PSB. Only two studies provided information on MST contact. Henggeler et al., (2006) reported that approximately half of therapist contacts were with family; 13% school, 5% peer; 14% youth and 19% community. By contrast, Weiss et al., (2013) reported increased involvement with adolescents (95% individual sessions) and school (94%).

The proportion of participants who successfully completed MST was frequently unreported (e.g. Butler et al., 2011, Glisson et al., 2010). Only Borduin et al., (2009) reported 100% treatment completion. Few studies provided clear information about how many of those randomly allocated started treatment, were discharged on the mutual agreement of caregiver and MST or prematurely terminated for various reasons such as out of home placement, limited progress or inability to engage the family (e.g. both Letourneau et al., 2009 and Sundell et al., 2008 gave clear descriptions).

With regard to the therapists; most studies provided information about professional background and demographic characteristics. This ranged from qualification details (e.g. 86% had Masters degrees in Asscher et al., 2013) to specific information about professional background, additional training and years of clinical experience (e.g. Sundell et al., 2008;

Butler et al., 2011). Given that this review only included licensed MST; as standard all therapists would have received the 5 day orientation training; weekly group supervision / consultation and quarterly boosters (Schoenwald, 2008).

Every study in this review made some attempt at measuring MST treatment integrity. This most frequently involved administering the Therapist Adherence Measure (copy of TAM in Appendix 12). However, not all of the studies reported on the actual mean adherence score (e.g. Borduin et al, 2009; Butler et al., 2011) and those which did provided little referential information about what the score signified in terms of treatment adherence. Only Weiss et al., (2013) reported the mean therapist score to be in the moderately high to high range for adherence to treatment. In many studies; the TAMs were not available from all families for reasons unreported (e.g. Sundell et al., 2008; Timmons-Mitchell et al., 2006). Other measures included independent coding of adherence to the MST nine principles from audio taped sessions by MST consultants (Glisson et al., 2010; Weiss et al., 2013). However, it was not clear whether those involved in the coding were aware of the ongoing research trial. Furthemore, given that there continues to be a lack of clarity as to how the MST principles reflect the theory of change and are operationalised in clinical practice; it remains unclear as to whether such codings provide a reliable measure of fidelity to MST specifically. Glisson and colleagues (2010) also used therapist logs to detail time spent addressing sub-systems (e.g., individual child, family with primary caregiver, school with caregiver). Whilst this may provide a good indication of the multi-modal approach of MST, it does not provide a measure of treatment integrity per se.

Comparison

All of the studies compared MST with another approach apart from Weiss et al., (2013). Although, the sample were all in a self contained intervention classroom and so were participating at some level in a behavioural change programme.

There was variation in the information provided about comparison groups. The most comprehensive reports were provided by the two PSB studies which included the theoretical orientation and content, format, supervision processes and therapist characteristics (Borduin et al., (2009; Letourneau et al., 2009). Other studies provided a general overview (e.g. in the Netherlands usual services consisted of counselling, family based treatments, detention or no treatment, Asscher et al., 2013). There appeared to be less emphasis in the UK on family

work compared with the other European countries. Some studies also reported relatively high proportions of comparison group participants to be placed out-of-home (e.g. about a quarter, Glisson et al., 2010; Ogden & Hagen, 2006).

Data synthesis

The majority of studies examined outcomes across a range of domains including antisocial behaviour, drug and alcohol use, adolescent functioning, family functioning, peer relations and school (see Appendix 13 for measures used to assess outcomes).

Antisocial behaviour

A standard operationalisation of antisocial behaviour is lacking and outcomes were reported in different ways including official data: arrests / charges (yes or no; rates, time to first arrest and type) and out-of-home placement (yes / no; number of days/ years; combining various types such as prison, treatment setting, foster parents, institution or supervised living facility; official and caregiver report) (see Appendix 14 for findings from official sources). Information was typically obtained from a range of official sources including correctional, probation and police services. In America, only Letourneau et al., (2009) accessed national sources as well as within state data. The follow-up periods for the official recidivism data ranged between 1 year (Henggeler et al., 2006) and 21.9 years (Sawyer & Borduin, 2011) and these broad variations make it difficult to directly compare rates across studies.

About half of the studies found no significant differences on the official measures of antisocial behaviour (e.g. Asscher et al., 2014; Henggeler et al., 2006; Letourneau et al., 2013; Löfholm et al., 2009; Weiss et al., 2013). The study with the longest follow up period (21.9 years) found significant differences on arrests for both violent and non violent felonies, years incarcerated but not misdemeanour offences (Sawyer & Borduin, 2011). In the UK, Butler et al., (2011) found significant between group differences in favour of MST for violent and non violent offences at 18 months follow up. The charges for which adolescents were formally arraigned were also significantly fewer for the MST group in Timmons-Mitchell et al., (2006). Survival analyses indicated that MST participants survived for longer without any type of arrest than the comparison group (χ^2 (1) = 6.06, p = .01). Lastly, Borduin et al., (2009) found that the MST-PSB group had significantly fewer arrests for sexual crimes, non

sexual crimes and fewer days in custody (effect sizes reported between .086 and .155) which can be considered small. Survival analysis examining the proportion of participants who were not arrested in each group by time favoured treatment efficacy (χ^2 (1, n = 48) = 8.17, p<.01). Lastly three studies reported a significant difference in out of home placement in favour of MST based on caregiver report (Glisson et al., 2010; Letourneau et al., 2013 and Ogden & Hagen, 2006).

Seven studies used the Self Report Delinquency scale (SRD) (Elliott, Huizinga & Ageton, 1985) (see Appendix 15). Of these; one could not be reported as analysis was not undertaken between the MST and non-MST condition (Henggeler et al., 2006). Of the remaining six, differences between group scores were significant for four studies (Asscher et al., 2014 for property but not violent offences; Borduin et al., 2009; Letourneau et al., 2013; Ogden & Hagen, 2006). It is difficult to make direct comparisons as various subscales were used and reported upon differently (e.g. raw score / T score). Both Asscher et al., (2014) and Ogden and Hagen (2006) also reported effect sizes which were 0.37 and 0.26 respectively and could be considered small.

Alcohol and Substance use

For the study investigating MST-CM; a significant group and time interaction effect on the self report Form 90 for alcohol consumption was found (p = .049) (Henggeler et al. 2006). This indicated that adolescents under drug court for both the MST and MST-CM conditions reported less alcohol use at follow up (12 months) controlling for baseline scores. This was also indicated for heavy alcohol, marijuana and polydrug use. There was also a significant difference between urine screens (DC only: 45% positive; DC & MST: 7% and DC & MST-CM: 17%, p<.001) in favour of the two MST conditions.

Few studies used specific measures to assess substance use directly. The exception to this was Löfholm et al., (2009) who found that drug related problems reduced over time whilst risky alcohol increased for both groups. At the longest follow up (2 years), Letourneau et al., (2009) also found no significant between group differences on self reported substance use as measured by a subscale of the Personal Experience Inventory.

Adolescent functioning

Adolescent outcomes were typically gathered from multiple informants including caregivers, adolescents and school staff. A range of measures were used; the most common being the Child Behaviour Checklist (Achenbach, 1991). Psychiatric symptomology (e.g. Borduin 2009); antisocial beliefs (e.g. Butler et al., 2011); self esteem (Asscher et al., 2013) and psychopathy (e.g. Asscher et al., 2013) were also examined. One study included a measure to assess a protective factor (Sense of Coherence Scale, Asscher et al., 2013).

The caregiver reported CBCL was used by eight studies and the findings are shown in Appendix 16. Significant between group differences were reported by four of the studies in favour of MST (Asscher et al., 2014 (externalising); Butler et al., 2011 (aggression and delinquency subscales); Ogden and Hagen, 2006 (total) and Weiss et al., 2013 (externalising)). Findings could not be directly compared because different scales were used; subscales and reporting of scores (raw or T scores). Four of the studies also reported on the effect size which ranged from 0.35 (Weiss et al., 2013) to 0.53 (Asscher et al., 2014) which is in the small to medium range.

The adolescent report version of the above tool (YSR, Achenbach, 1991) was used by seven studies; the findings of six of these are presented in Appendix 17. The scores were not reported in the results section in the substance use trial as the T scores for the total were almost the same as the mean for the normative sample (Henggeler et al., 2006). Three of the six studies found a significant positive treatment effect; all on the externalising scale (Asscher et al., 2014; Letourneau et al., 2009 and Weiss et al., 2013). Two of these provided effect sizes which could be considered small (0.39 in Asscher et al., 2014; 0.26 in Weiss et al., 2013).

Family functioning

Six of the included studies examined the family domain and this was where the range in measures used varied the most (as illustrated in Appendix 13). Areas of parenting (e.g. Butler et al., 2011), quality of parent-youth relationships (e.g. Asscher et al., 2013) and parental mental health (e.g. Borduin et al., 2009) were all explored. Some researchers used adapted scales of various parent and family assessments and combined them together (e.g. Asscher et al., 2013). One study also included an observer assessment of the family examining positive parenting, inept discipline and relationship quality (Asscher et al., 2013).

There were some mixed findings within and between studies and the variety in the measures used makes it challenging to draw any generalisations. For example, Butler et al., (2011) found that positive parenting increased in the MST group and decreased in the control group (ES time(MST) = 0.29, 95% CI = -0.12, 0.72) although this was only for caregiver and not adolescent report. Löfholm et al., (2009) in Sweden found no treatment effect on parenting skills and across both conditions, parenting skill increased significantly over time as reported by caregivers but not by adolescents. In contrast, positive findings were found in Henggeler et al., (2009b) for youth report of Lax Discipline involving an increased follow through on adolescent misbehaviour by caregivers in the MST group ($p<.05$). Only Asscher et al., (2014) found significant improvement for positive discipline for the MST group as rated by caregivers, adolescents and observers.

Peers

Peer relationships, most typically association with procriminal peers, was assessed in five of the studies mostly from youth and/or caregiver reports. Some studies found no significant differences in the association with delinquent peers between MST and comparison groups (e.g. Butler et al., 2011; Sundell et al., 2008) whilst others reported favourable treatment effects. These included Henggeler et al., (2009b) who reported that the scores for "Bad Friends" for MST participants decreased significantly more over time than for usual services ($p<.05$). Borduin et al., (2009) also reported favourable treatment effects for both the parent and teacher composite measure and adolescent report of emotional bonding and social maturity for the MST group. Asscher et al., (2014) found significant between group differences on increased contact with prosocial peers in favour of MST but not decreased affiliation with deviant peers.

School

Education was the area least considered assessed by only three studies involving information about grades, suspensions and attendance (Borduin et al., 2009, Sundell et al., 2008; Weiss et al., 2013). This was most comprehensively examined in the alternative education sample. No treatment effects were found on the Teacher externalising scale, school grades or days suspended. Borduin et al., (2009) reported a significant effect for parent and teacher report of grades in favour of MST. Lastly, Löfholm et al, (2009) reported no treatment effect for school attendance.

After MST

The majority of the studies provided no information regarding aftercare services following treatment end. Only Sundell et al., (2008) reported that at the 7 month follow up; two thirds (66%) of MST adolescents were still receiving services and 39% had been rereferred for investigations resulting in new services. This was similar to the comparison group. At the 24 month follow up, a third of the MST group were still receiving services (Löfholm et al., 2009).

Discussion

The review aimed to investigate the impact of MST compared with usual services / no treatment for adolescents aged 10 to 17 years with serious antisocial behaviour. A previous systematic review undertaken by Littell et al., (2005) found that studies had not consistently demonstrated that MST was any more effective than usual services.

Following a systematic search for relevant research, 11 individual RCT studies (over 18 publications) were assessed for quality. These ranged from weak to strong. Adequate concealment of randomisation and data collection by those blind to the allocated conditions was frequently difficult to ascertain; sample sizes were relatively small; comparison conditions were often poorly described as were details about any other services provided to treatment and comparison groups both during the intervention and follow up period.

The heterogeneity between studies was problematic for data synthesis and extracting common themes related to effectiveness. This was evident across population characteristics; factors associated with the implementation of MST and comparison treatment; and variety in methods of assessing outcomes. The findings of this updated review will be discussed in the context of previous MST research and separated into standard MST, MST-PSB and MST-CM.

Standard MST

Six new RCTS and two updates to previous trials have been conducted to evaluate the effectiveness of MST adding to the previous five RCTS (four published, one unpublished) reported by Littell et al., (2005). A criticism of earlier studies was that they were primarily conducted under optimal circumstances potentially increasing the chance of achieving

favourable treatment effects. The six most recent studies were all found to have been conducted in real world settings with community practitioners; by research teams not associated with the original developers (excluding Glisson et al., 2010 where the second author is on the MST Board of Directors).

It is positive that MST has now been evaluated in six countries (America, Canada, Netherlands, Norway, Sweden and the UK) increasing the external validity of findings. However, increased international research is not without challenges. There continues to be some disagreement about the level of adaptation needed to transport MST to local contexts and systems (Ogden, Hagen, Askeland & Christensen, 2009). A recent doctoral thesis about MST in England highlighted a number of areas in delivery format which perhaps do not fit well with American / English cultural differences (Kiddy, 2014).

Furthermore, the interpretation of findings are complicated by the social, cultural and ethnic factors that are unique to a particular country or context and influence "usual services" for managing adolescents with antisocial behaviour (Epping-Jordan, 2004). Aggregating the findings could potentially mask the real differences in contributing contextual factors thereby misleading readers. In both the Netherlands and Sweden; adolescents (up to the age of 20 years) presenting with antisocial behaviour are primarily managed through the child welfare system. Services frequently adopt an in-home and family orientated therapeutic approach. By contrast, out-of-home placements are often the primary intervention in America where young offenders are managed through the juvenile justice system. Whilst the American and UK legal systems are potentially more compatible than other European counties; a relatively comprehensive and well structured framework supports with targeting those areas that put an adolescent at risk of (re)offending and builds upon individual and system strengths. Placement in secure settings is generally limited to those most persistent and serious of young offenders.

Norway was the first European country to implement MST and the most recent report at 24 month follow up showed some positive treatment effects on out-of-home placement, self reported delinquency and parent / teacher reported adolescent difficult behaviours (Ogden & Hagen, 2006). However, one of the four original sites was removed from analyses in the update due to the lack of TAM data thereby preventing assessment of treatment integrity. It

was not clear why the TAM was not collected at this site and this further led to a substantial reduction in the sample size.

By contrast, the Swedish RCT found that usual services performed equally as well as MST; decreases in adolescent problem behaviours, improvements within family and social skills were observed for both groups (Sundell et al., 2008). One possible explanation provided by the researchers is the difference in how MST had been implemented (Löfholm et al., 2009). The Swedish implementation was guided by local initiatives, whereas in Norway; there was a national strategy which may have increased the support and training given to teams; demonstrated a commitment to MST; increased the acceptability of MST to practitioners and level of accountability for outcomes.

Another possible explanation is that in Norway; about 50% of participants in the comparison condition were in residential settings compared with 18% in Sweden. The proportion of participants placed out-of-home is a complicating factor and may impact upon antisocial behaviour. Placement with other adolescents with risky behaviours may increase the chance of iatrogenic effects (Dishion, McCord, & Poulin, 1999) thus disfavouring the Norwegian comparison group. Alternatively, usual services in Sweden may be of a higher quality than in other countries and therefore the comparison group experienced more positive outcomes. A final possible contributing factor is that MST was not delivered with adequate fidelity in Sweden (lower mean TAM scores by 1 SD were found compared with American studies) and previous research undertaken by MST developers has linked TAM scores with positive outcomes (Schoenwald, Letourneau & Halliday-Boykins, 2005). This correlation is not, however, a consistent finding (e.g. studies in the UK, Sweden and Canada found no such associations).

Whether the TAM itself actually provides a measure of adherence remains contentious (Littell, 2006). Sample items such as ("My family and the therapist worked together effectively" and "We got much accomplished during the therapy sessions") may be related to constructs such as client satisfaction and therapeutic alliance rather than adherence to MST principles per se. Furthermore, the TAM is a family rated measure; which arguably provides little independent assessment of therapist adherence. One other possible explanation is that families who experience positive outcomes also give better feedback.

Treatment integrity can be defined as the extent to which an intervention is implemented as intended involving therapist adherence, competence and treatment differentiation (Perepletchikova, Treat & Kazdin, 2007). The TAM provides little indication about the level of competency with which therapists may deliver the multiple components of MST. This remains unexplored within research literature but is important given that therapists are required to be expert in several different therapeutic approaches. It is not clear how this is achieved in practice or if and how the variety in knowledge and clinical skill of MST therapists affects implementation or clinical outcome.

Across other countries, no significant differences between MST and usual services on a range of primary outcomes have been found. This includes for for convictions or out-of-home placement in Canada (Leschied & Cunningham, 2002) and for frequency, timing and type of rearrest in the Netherlands (Asscher et al., 2014). In the latter case, small positive treatment effects (ranging from 0.25 to 0.36) were, however, found for parent and adolescent reported externalising behaviour.

In this review, the three studies with favourable treatment effects on official data were the UK study (Butler et al., 2011); an American family court (Timmons-Mitchell et al., 2006) and the 21.9 year follow up by MST developers (Sawyer & Borduin (2011).

In the UK, MST was investigated in an ethnically diverse urban sample and compared with existing youth offending protocols. Whilst in both conditions there was reduced reoffending and out-of-home placements; there was a significant between group differences in the numbers of non-violent offences at 18 month follow up. Consistent with this finding, post treatment adolescent and caregiver reported externalising behavioural problems showed significantly greater reduction in the MST group. No group differences immediately post treatment were found for any of the secondary outcomes (e.g. parental supervision or association with deviant peers). One explanation provided by the authors is that changes within these domains may occur later; as with the official data where between-group differences only emerged at the 18 month follow up. Given that the assessment measures were only completed at intervention end; it is difficult to make conclusions about any possible delay in the impact of MST.

The authors concluded that MST adds value to the currently used evidence based services for adolescents, however, these findings do need to be interpreted with some caution. The sample size was relatively small (N = 108) and underpowered to be able to explore any mechanisms of change contributing to outcomes. The trial was conducted in two North London boroughs limiting the external validity to other parts of the UK.

A positive treatment effect on official antisocial behaviour was also found by Timmons – Mitchell et al., (2006) which was the first independent replication in America with serious juvenile offenders. Worryingly, however, two thirds of MST adolescents still went on to be arrested within the 18 month follow up period. There were some substantial methodological limitations with the study including the randomisation method (coin toss by court personnel); poor description of US; collection of data from a single secondary sources and limited examination of the 11% drop outs. Treatment effects are likely to be overinflated when drop outs are not used in analyses as these cases tend to have more negative outcomes; thus the direction of bias would likely be in favour of MST.

Lastly, in the longest follow up trial by Sawyer and Borduin (2011); significant differences on arrest for both violent and non violent felonies, years incarcerated but not misdemeanour offences in favour of MST were found. It is positive that these participants continue to be followed up and such lengthy periods of observation are rare in interventions aimed at reducing antisocial behaviour. However, MST was compared with individual therapy underpinned by psychodynamic, client centre or behavioural approaches which is unlikely to represent current practice among health and social care agencies.

MST-PSB

This review found two new RCTS for MST-PSB adding to one previously reported upon in Littell et al., (2005). MST-PSB is one of the very few programmes for adolescent sex offenders which has been investigated using a RCT research design (Langstrom, Enebrink, Lauren, Lindblom, Werko & Hanson, 2013). MST developers should be given credit for overcoming some of the significant logistical, legal, and ethical challenges in the pursuit of conducting RCTs with this specific population.

MST-PSB has only been investigated within America; with oversight by the developers; either as the main researchers (e.g. Borduin, Henggeler, Blaske, & Stein, 1990; Borduin et al.,

2009) or expert consultants (Letourneau et al., (2009). This significantly limits the external validity of the findings; particularly since Curtis et al., (2005) reported a difference in treatment effects for efficacy versus effectiveness studies. The study reported in Littell et al., (2005) had a very small total sample size (n=16) (with half being assigned to MST or individual therapy (no sex offender treatment component) (Borduin et al., 1990). Recidivism rates (defined by arrest data from court and police records) at the 3 year (range 21–49 months) follow up were considerably lower for MST adolescents than the comparison group (sexual offences: 12.5% vs. 75%; non-sexual offences 25% vs.50%).

In this updated review; one of the few studies which found a significant treatment effect of MST on antisocial behaviour from both official data and self report was PSB (Borduin et al., 2009). Findings from the assessment measures pre and post treatment further indicated that MST was more effective in decreasing problem behaviours in youth; improving family relations (cohesion and adaptability); peer relations (emotional bonding and social maturity) and academic performance (improved grades). There was a large observation period; which is particularly important given the relatively low base rate for sexual recidivism. However, the sample size was relatively small (N= 48).

The second included study investigating MST-PSB did not report any treatment effect on officially recorded offending (general arrests) but did on self reported delinquency and out of home placement (Letourneau et al., 2013). The follow up period (2 years) is not considered long enough for investigating sex offender treatment (Collaborative Outcome Data Committee, 2007). However, this was a larger clinical trial (N = 128) and the only one to use community practitioners. MST was also reported to be more effective in decreasing problematic sexual behaviours and externalising behaviours. It is worthy to note that the sample were substantially less 'delinquent' than in other studies. At baseline, scores on the CBCL were in the normal range and various measures were dichotomised due to low incidence, for example, the SRD and ASBI. How generalisable these findings may be to more chronic and versatile offenders is therefore questionable.

An associated publication by Henggeler et al., (2009b) made attempts to examine the mechanisms by which MST may decrease antisocial behaviour. Despite this being limited to pre and post measures; there were significant decreases in adolescent association with delinquent peers and adolescent report of parents increasingly following through with

disciplinary strategies. In the future, those therapist behaviours and protocols which support these changes could be further examined. The use of multiple repeated assessments over the intervention period and beyond could help to further examine mechanisms of change.

MST- CM

This updated review found one RCT conducted specifically for substance using adolescents (Henggeler et al., 2006) which adds to one previous study in the review by Littell et al., (2005). Previous research by Henggeler, Pickrel and Brondino (1999) involved a sample of adolescents randomly assigned to MST or a community programme (N = 118). Six months following completion, MST participants reported less use of alcohol, marijuana and other drugs than those accessing usual services. Fewer out-of-home placements were also observed. A smaller proportion of the participants (n = 80) were followed up for an average of 4 years and it was found that MST adolescents had fewer convictions and higher levels of abstinence from marijuana as indicated from self report and urine analysis (abstinence: 55% for MST vs. 28% TAU) (Henggeler, Clingempeel, Brondino, & Pickrel, 2002).

The RCT in this current review was a relatively complex trial including four conditions; three of which involved drug court (and usual services or and MST or and MST-CM) or family court (Henggeler et al., 2006). The three drug court conditions all appeared to be more effective in decreasing substance use and criminal behaviour than family court. Data from urine screens and self report indicated that adding MST or MST-CM appeared to further improve the substance abuse rated outcomes for adolescents but not the criminal or placement outcomes.

It should be borne in mind that the MST-CM study was part efficacy and effectiveness in that all of the therapists were employed by the research centre and had supervision from MST developers (Henggeler et al., 2006). It remains to be seen how these findings may be replicated in real world settings. A further matter of concern was that about three quarters of adolescents were placed out of home within the drug court conditions (DC 87%; DC & MST 71%; DC & MST-CM 74%). The researchers suggested that the high level of supervision and weekly court review associated with the drug court contributed to this finding. It would be interesting to understand the full resource implications of this intensive approach and a five year follow up is planned for this RCT which will help in understanding the sustainability of the findings.

Relatively few studies examining standard MST reported using specific measures to assess alcohol and drug use (e.g. Löfholm et al., 2009) or subscales of other measures (e.g. Letourneau et al., 2009). Given the high levels of substance use reported among offending adolescent populations; more effort could be made in future trials to examine this domain.

Conclusions

This review has found an increase in international research for MST and echoes some of Littell et al.'s (2005) conclusions in that the findings for the effectiveness of MST continue to be mixed. It is problematic that none of the studies have used a "no treatment" control group which leaves unanswered the question about how much improvement may be seen without any intervention. There are also advantages of comparing to usual services in that this approach can allow for determining whether the intervention is relatively better than existing services and overcome staff resistance to effectiveness studies (Asscher, Dekovic, van der Laan, Prins & van Arum, 2007).

What has emerged from this review is the need to be clear about current interventions and their effectiveness before implementing new approaches in any cultural / geographical context. Usual services are heavily influenced by social, legal and political systems; furthermore they consist of changing and active approaches influenced by new theory and methods (Löfholm, Brännström, Olsson & Hansson, 2013). Relative effects of treatment may vary over time as community agencies adopt key features of MST; most likely to involve an increased emphasis on systemic and community approaches within services for complex adolescents in contact with the criminal justice system.

The transportation of empirically supported interventions to new contexts is perhaps more challenging than initially thought. It is promising that outside of America; some independent replication studies have found positive findings. There are a multitude of context sensitive risk factors that likely influence the success of MST, such as presence of gangs; high crime neighbourhoods, poverty and access to weapons (Loeber & Farrington, 2000, Lindsey et al., 2002, Martens, 2003). It could be argued than more wide spread interventions are needed to target these more specifically. Across cultures; such risk factors may well differ as well as how they are counterbalanced by the presence of protective factors.

Most MST studies continue to use relatively small sizes; the largest RCT so far was in the rural Appalachian counties (N =674, Glisson et al., 2010). Sample size is important in order for sufficient statistical power to more reliably detect any possible group differences and begin to explore some of the possible moderating factors, such as gender, age and ethnicity. This would help with identifying those who may benefit the most from MST. Female delinquents have consistently been found to have specific difficulties including greater levels of sexual abuse victimisation and mental health problems (Emeka & Sorensen, 2008). It is important for future trials to allow for establishing the effectiveness of MST with females; exploring their experience of MST and making adaptations as necessary.

Age as a possible moderating factor also needs examination given that MST views the primary caregiver as the main conduit of change (Henggeler et al., 2009a) and that adolescence is a critical stage of development where the influence of peers and school factors may become stronger than family. Ethnicity is also an area which has been neglected in MST trials thus making it difficult to draw conclusions about the generalisablity across cultures. Differences in gender roles; acceptable disciplinary practices and family communication may all be relevant aspects and again this would increase understanding of the conditions under which MST is likely to be more successful.

Increased consideration about the specific target population for MST is required and would help in the allocation of such an intensive resource. The research would benefit from more consistent reporting of baseline criminal histories given that certain factors, such as age of onset, have been demonstrated as strong predictors of adolescent offending (Loeber & Farrington, 1998).

On the MST Services website, it states that the average length of treatment is up to 60 hours of contact provided during a four-month period (approximately 17.4 weeks). Average treatment length where stated in the included studies for the most part was generally higher than this reported figure. It is difficult to know if there is any interaction between treatment dose on outcomes; and whether a particular number of sessions over a period of time may be associated with successful outcomes. Furthermore, the outcomes for the proportion of adolescents and their families who drop out of treatment does not appear to have been fully investigated within MST research. The average MST completion rate has been reported to be 74% (as cited in Sundell et al., 2008) which is comparable to other offending behaviour

treatment programmes (Olver, Stockdale & Wormith, 2011). A consistent finding is that those who do not complete treatment tend to fare worse therefore highlighting the value of exploring key predictors of attrition.

Furthermore, the lack of carefully defining and tracking other services accessed by participants in the conditions was evident across studies. Given that most samples were referred from justice and /or social care agencies; there are likely to be contacts with other services (e.g. probation officers) but what this involved was often left unreported. Only Weiss et al., (2013) reported that three quarters of participants had received some form of mental health service outside of the project; in most cases from a qualified mental health professional. Whilst this was comparable between conditions and assessed as being not significantly related to the primary outcome, access to other services is an area in need of further research. This is important because MST is an intensive, costly resource and efforts should be made to reduce any possible duplication. Furthermore it cannot be clear whether and what contribution other services may make to the outcomes achieved.

It was positive that many of the studies used a number of outcome measures across domains given that MST adopts a social ecological approach and works with the multiple systems within which adolescents are embedded. Furthermore, examining the depth and breadth of treatment effects can help to form better decisions. A general critique in the way in which the MST outcomes are assessed is that the specific referral problem behaviours (e.g. non attendance at school; family aggression), treatment goals for each individual case and progress towards these is not reported. This adds to the challenge of how "success" is defined and how changes in the various systems contribute to the treatment progress. Given that inherent within MST is building upon individual and system strengths; it was surprising that only Sundell et al., (2008) used a measure to explore a protective factor and is a future area of research. Furthermore, the school domain was the least examined area. Studies would benefit from wider consideration of education given its relevance to adolescent desistance from offending behaviour (Lösel & Bender, 2003; Payne, Gottfredson & Gottfredson, 2003;), the value of school information in measuring adolescent progress and that "in work or school" is one of the routine outcomes gathered by MST Services Inc (www.mstservices.com).

Additional strengths and limitations of current review

With regard to the search strategy; published outcome research for MST has been well documented and the MST Services website was one of the sources examined in depth (e.g. Multisystemic therapy: Research at a Glance, 2015). It is therefore unlikely that any published studies would have been missed. A strength of this review was the comprehensive search terms and substantial attempts to find unpublished research from several sources (including dissertation and thesis portals, government websites, searching relevant reference lists and contact with experts). All of the experts who responded were not aware of any further research which might be relevant.

Whilst a comprehensive search was undertaken, it is recognised that this process is not without bias. Due to time constraints and resources, only research in English was included. With a movement towards publishing research in English, the risk of language bias likely presents as less of a potential issue (Higgins & Green, 2011). To provide a more inclusive approach, reference lists were scanned and it is recognised that the sole use of titles to identify articles of potential relevance involved some level of subjectivity. Furthermore, the expansion of the search in this way relied on the reference lists of the shortlisted articles; regardless of how the article itself had been identified.

Bias is also evident in the use of pre-defined criteria to establish which studies to include within this review. It could be argued that high criteria were set for inclusion (i.e. RCTs) which may be to the detriment of considering equally valuable studies to the reader interested in MST. This includes a number of quasi experimental designs investigating MST (e.g. Painter, 2009) as well as benchmarking studies (e.g. Curtis, Ronan, Heiblum & Crellin, 2009). Furthermore there are a few published and unpublished qualitative studies which make important contributions to the knowledge base, for example, investigating client experience of MST (e.g. Tighe, Pistrang, Casdagli, Baruch & Butler, 2012).

However, this review focused on RCTs due to various factors which can affect non random allocation potentially predisposing the treatment group to better or worse outcomes. One good example of this is a study conducted in Washington State where allocation was left to the discretion of court personnel or inappropriately based on case numbers (Barnoski, 2004, sample size N = 145). The review found no treatment effect for recidivism data at 18 month

follow up; but on examination, participants who had been allocated to MST scored significantly higher on the risk assessment tool used at baseline. The conclusions were that the validity of the trial had been compromised and that MST would need re-evaluation. As well as the risk of selection bias in non randomly allocated trials; it can be difficult to match groups given that researchers need to know all of the possible confounding factors which may influence the outcomes. Even with random allocation which should offset any systematic differences between groups; a proportion of the included studies in this review found a few significant differences on the baseline measures.

The stringent inclusion criteria therefore served to minimise the risk of any inadvertent bias in allocation and increase the chances that included studies were appropriate and measured similar concepts. Despite this; there continued to be substantial heterogeneity between the RCTs on a range of variables. A strength of this current review is that the disparities between studies were clearly acknowledged and possible explanations examined; even though this limited the extent to which the data could be synthesized to provide themes and commonalities.

In a separate paper about MST in the Netherlands, Asscher et al., (2008) provided an excellent description about their experience of conducting the RCT. This provided insight into researcher decision making about at what point randomisation could be carried out and the resistance encountered from professionals to the RCT design. This included the perceived threat of negative research findings; referrers and their pre-existing beliefs about what would work most effectively; decisions about whether families who do not wish to participate in the research continue to receive services and the extra work created for the therapists involved in potentially collecting information and encouraging families. The authors also describe the substantial effort required to maintain cooperation from the involved agencies. It would be helpful for more researchers to be transparent about the challenges of conducting RCTs in real world settings which would aid in the development of possible solutions for overcoming these.

Implications and recommendations for further research

There are changes in the commissioning of social and health care services associated with the need to reflect up to date practice, demonstrate measurable outcomes and prioritize the finite resources for those families who are most likely to benefit. MST is a relatively expensive and intensive intervention. Furthermore, MST teams carry very low caseloads and how sustainable this is with the frequently reported regular clinician turnover and cuts in funding is not known.

The advantages of MST do need recognition. It is one of the most widely evaluated and internationally transported interventions. Over and above effectiveness, MST addresses those known risk factors for reoffending among multiple domains within a structured framework. MST is delivered within the adolescents' natural ecology thus potentially reducing barriers to accessing services and increasing the generalisablity of the skills taught. Assessing and promoting treatment fidelity as part of the outcome literature as well as focusing on clinician accountability are all highly valued features of MST. Lastly, there are strong support systems for clinicians (e.g. weekly supervision / consultation and quarterly booster training.)

In the UK fewer adolescents are being placed in secure settings year on year and the YJB are committed to reducing reoffending. This is evident from the increasing number of schemes aimed at diverting adolescents from youth justice and numerous developments in effective practice. It may be that as traditional services develop; MST may not be economically viable if it is no more beneficial in reducing incarceration and antisocial behaviour. MST is also not always suitable or effective, for example, when there is no primary caregiver thus limiting applicability to many of those adolescents in the care system who are often involved in offending behaviour. It will be interesting to see what the findings of the ongoing RCT trial in England are and how these are interpreted within the context.

This review has highlighted a number of areas for future research which are briefly summarised below:

Areas for future consideration:

- None of the studies have utilised a no treatment control group and it therefore does remain unclear whether it is always necessary or ethical to offer such a high intensity

intervention. The internal validity of effectiveness research would be increased with a control condition.

- The majority of studies have been undertaken with predominantly male samples and are often too small to be able to fully explore any interactions between gender and outcome. Other characteristics worthy of exploration are age and ethnicity which would help with more specifically answering the question of who may benefit most from MST.
- Researchers need to be encouraged to provide clear descriptions of the usual services and actively gather information about providers, underlying theory and delivery format as part of RCTS.
- Comprehensive guidelines for researchers on what to report about sample characteristics (e.g. age of first arrest, school attendance percentage, diagnostic status), intervention details (e.g. reported in weeks and hours; content; therapist competence) and assessment measures (e.g. standardised measures of antisocial behaviour; secondary outcomes from multiple sources) would enable comparisons to be made more effectively between studies.
- Research investigating MST drop-outs is lacking and given that those who do not complete treatment tend to have more negative outcomes; a follow up of this proportion is important. Factors which may be associated with engagement and retention could be helpful in preventing treatment non completion; particularly since teams carry low caseloads and the need for careful allocation.
- Surprisingly, there is a complete absence of data about the arrangements for aftercare services at treatment end. In Sweden, around one third of MST participants were still receiving services at 2 year follow up. The chronicity of conduct disorder is well recognised as are relapse rates for substance misuse. Despite the assertion by MST Services that most cases need minimal formal after care services (MST Services, 2008, p1), from the authors own clinical experience; it is highly unlikely that adolescents and their families who often have intergenerational dysfunction, trauma and abuse histories; long standing contact with social care or justice services will not need some form of aftercare package.
- MST research has been driven by examining effectiveness and greater effort needs to be made to investigate mechanisms of change. Understanding the process by which parenting interventions may be effective is at its infancy (e.g. Sandler, Schoenfelder,

Wolchik & MacKinnon, 2011). Attempts have been made to identify possible mediating factors (e.g. Dekovic, Asscher, Manders, Prins, van der Laan, 2012; Henggeler et al., 2009b) but multiple repeated assessments could be used to evaluate the time sequence. This could include, for example, examining parental attributions of adolescent behaviour or adolescent cognitions. On a positive note; MST researchers are making efforts to examine the outcomes of the nearest age sibling for those randomly allocated to interventions (e.g. Rowland, Chapman & Henggeler, 2008; Wagner, Borduin, Sawyer & Dopp, 2014). Conducting sibling research is valuable because it may help to begin to explore whether changes in family functioning and caregiver skills are potentially transferred. The next chapter branches out to investigate the lived experience of therapists involved in delivering MST. Such research has the potential to usefully inform the literature of adaptations to MST intervention strategies, unanticipated outcomes or factors contributing to success and challenges faced in the real world implementation.

Chapter 3

Multisystemic Therapy: Therapist experience of programme delivery, processes and outcomes

Abstract

Despite the rapid international transportation and extensive research base of Multisystemic Therapy (MST); there remains a paucity of literature that examines the experiences of those delivering this unique intervention. Semi structured interviews were conducted with seven therapists in London with the aim of eliciting an in-depth understanding of their lived experiences of carrying out MST. The data were analysed using Interpretative Phenomenological Analysis (Smith, Flowers & Larkin 2009) revealing four recurrent themes. These were: (1) Persisting despite challenges, (2) MST and us, (3) Relationships matter and (4) How do we know we are getting anywhere? The results have implications for clinical practice and are discussed in the context of previous research and directions for future investigations.

Introduction

Developing our understanding of interventions that effectively reduce persistent patterns of antisocial behaviour among adolescents continues to be an ongoing priority. One intervention which has been indicated as promising in this regard is Multisystemic Therapy (MST) (Henggeler & Borduin, 1990). This intensive, family and community based intervention is now delivered in 15 countries with over 35 teams in England, Scotland and Northern Ireland (www.mstuk.org). MST has gained strong cross-government support in the UK and is one of the recommended multimodal interventions in the treatment of conduct disorder for adolescents (National Institute of Clinical Excellence Guidelines, 2013). The key features of MST will be described below followed by the justifications for this study and its aims.

MST interventions

Various evidence based interventions (such as parent management training, structural family therapy, cognitive therapy, and couples therapy) are flexibly employed dependent upon individual need and the conceptualisation process within MST (Borduin, 1999). Interventions are designed to increase parental responsibility in addressing the factors across the multiple systems which maintain the problem behaviours (Ashmore & Fox, 2011). For example, targets could include increasing parental involvement, boundary setting and improving child-parent interactions. Therapeutic efforts are continuously evaluated by the key participants to measure their effectiveness. There is an emphasis on building upon the existing family and system strengths, and on continuously promoting family engagement. This involves flexibility on the part of the therapist, valuing the family's culture and bringing hope and reinforcement (Tuerk, McCart & Henggeler, 2012).

Given that there are no set treatment techniques within MST; the actual components and mechanisms through which MST may exert its effects is not well understood (Littell, 2006). The various combinations and sequencing of interventions presents significant challenges in identifying which of the treatments are effective, in what combination and the correct "dosage" to achieve positive outcomes (Fonagy, Target, Cottrell, Phillips, & Kurtz, 2002). It remains unknown whether the level of intensity is required for all cases or whether certain components or a less intense format would work as well. This could increase the accessibility of MST and support with the development of treatments for adolescents

presenting with levels of clinical dysfunction who do not require such a highly intense community intervention. The challenges of delivering treatments of a high integrity and quality are also potentially increased when combining multiple interventions (Kazdin, 1997). Furthermore, the exact nature of therapist and family interactions that contribute to adolescent outcomes and what therapist features are most helpful remains unknown (Henggeler & Schaeffer, 2010).

MST delivery

MST therapists carry small caseloads (four to six families) and meet the families about three times a week for 3 to 5 months with an average of 60 hours of contact (Ashmore & Fox, 2011). MST is unique in its intensiveness and the therapy team is available to families 24 hours a day, 7 days a week through an on call system. A MST team typically comprises of a Supervisor, three to four therapists and an administrator. MST therapists come from a range of educational backgrounds including applied psychology, social work, youth justice, family therapy and nursing (Fox & Ashmore, 2014). Some of the key therapist characteristics, as outlined in the MST Therapist Recruitment Toolkit, include a willingness to work a non-traditional schedule, ability to manage the emotional intensity, logical and evidence based thinking, ability to see others in a strength based way and viewing the ecology as the client (MST services, 2010). Therapists are expected to be multi-skilled and to deliver several different therapy models themselves taking on the "lead" clinical role (MST Services, 2008).

Most of the interventions are carried out in the community; typically involving lone working in homes on days and times convenient to the family. Therapists also work with schools, other community agencies and the adolescents' peer group and extended family as needed. This supports families who may have difficulties in accessing more traditionally delivered services and promotes engagement and generalisation (Henggeler & Schaeffer, 2010).

The therapist and team are considered accountable for case outcomes within MST (Henggeler, Cunningham, Pickrel, Schoenwald & Brondino, 1996). The slogan "whatever it takes" illustrates the therapist's responsibility in promoting engagement and in bringing about change rather than the onus being on adolescents to engage (Ashmore & Fox, 2011).

It is worth noting that there was no cultural adaptation or tailoring process of MST during the transportation to the English environment. Findings from a recent doctoral study provide some indication that the system and cultural differences may well impact delivery. Kiddy

(2014) interviewed eight therapists and employed grounded theory methodology to explore informal 'cultural tailoring' undertaken by therapists in the transportation of MST. One identified barrier involved "MST not fitting our systems in England" which consisted of therapists feeling that they had less status than in America which impacted on their ability to take on the role of lead professional and make key decisions, for example, about school placement. Taking on the lead role and reducing the support already provided by other services was not always felt appropriate. This finding was linked with recent serious case reviews consistently highlighting the need for good information sharing and collaborative working between health and social care professionals in protecting adolescents. Other areas in need of further thought included the focus on persistence in engaging families; the emphasis placed on clients accessing support from their informal networks, and family response to the strengths based approach.

MST Quality Assurance Systems

Adherence to treatment is measured through a variety of procedures. At an organisational level, twice yearly implementation reviews are undertaken to assess agency and community barriers to programme effectiveness (Henggeler, Schoenwald, Liao, Letourneau & Edwards, 2002). MST therapists undergo five-day orientation training (covering the theoretical and empirical basis of MST) and undertake quarterly booster training (Schoenwald, 2008).

Therapists complete paperwork detailing the intervention, participate in team supervision and phone consultation with an MST expert on a weekly basis. The supervisory processes include: (1) forming case specific recommendations to progress treatment, (2) monitoring therapist adherence, and (3) supporting clinicians in their development with regards to the MST analytic process (Henggeler & Schoenwald, 1998; Schoenwald et al., 2000). The group helps therapists to learn from each other, provides a safe environment for practising intervention strategies and increases team collaboration.

Adherence is promoted through the regular review of audio tapings of sessions and through the completion of the "Therapist Adherence Measure (TAM)" by caregivers and the "Supervisor Adherence Measure (SAM)" by therapists (Schoenwald, 2008). The TAM is a 26 item Likert scale (see Appendix 12) which was developed through MST expert consensus and validated in two studies (Henggeler, Melton, Brondino, Scherer, & Hanley, 1997; Henggeler, Pickrel, & Brondino, 1999). TAMs are collected regularly with each family and are said to measure those therapist features which are specific to the MST principles.

Therapist adherence as measured by TAM scores is seen as a key contributing factor by the developers both to clinical outcomes and to the transportability of MST worldwide (Schoenwald, Letourneau, & Halliday-Boykins, 2005). High therapist adherence has been associated with decreased rates of adolescent criminal behaviour and out of home placements (Henggeler et al., 1997; Henggeler, et al., 1999) as well as improved family functioning (Huey, Henggeler, Brondino and Pickrel, 2000; Schoenwald, Henggeler, Brondino, & Rowland, 2000). However, it is worthy to note that these findings have not been replicated consistently (e.g. In Canada or the UK).

The TAM has not been investigated between MST and other interventions thus making it difficult to draw conclusions about how it specifically assesses the MST principles and model adherence. The therapists in the study exploring cultural fit reported a number of confounding variables impacting on TAM scores (Kiddy, 2014). These included the families' feelings towards the therapist, their feelings towards completing the TAM and their ability to make the link between understanding therapist actions and the wording in the TAM. It remains questionable whether the TAM score adequately reflects therapist behaviour.

MST Therapist impact issues

It is relevant to provide a brief literature review pertaining to therapist impact issues given both the target population and home-based delivery of MST. The potential for frequent exposure to families affected by trauma is likely to be high, the impact of which on therapists is widely recognised (Figley, 2002). Some therapists working with trauma clients report positive feelings including a sense of fulfilment and pleasure that they are making a difference to people's lives (Larsen & Stamm, 2008). There is a growing body of literature related to compassion satisfaction, resilience and vicarious posttraumatic growth in line with the recognition that a strengths perspective can inform personal and organisational preventative strategies (McFadden, Campbell & Taylor, 2015; Cohen & Collens, 2013).

Therapists can also become indirectly traumatised by working with such clients. Various terms to describe this process have been used interchangeably in the literature (Sodeke-Gregson, Holttum & Billings, 2013). Most commonly, these include vicarious traumatisation, compassion fatigue, secondary traumatic stress and burn out. The term vicarious traumatisation (VT) will be used here because it is a theory driven construct and believed to be a profound personal change resulting from therapists empathic engagement

with client trauma experiences (McCann & Pearlman, 1990; Pearlman & Mac Ian, 1995). Therapists suffering from VT are hypothesised to experience symptoms akin to post traumatic stress disorder (PTSD) including physical, emotional or behavioural distress symptoms. These can affect personal and professional relationships as well as an individual's way of experiencing themselves, others and the world. VT is grounded in constructivist self-development theory and depicts the resulting change to be pervasive, cumulative and permanent (McCann & Pearlman, 1990).

The implications are important as VT has the potential to affect a therapist's ability to work effectively and provide high quality care (Collins & Long, 2003). Protecting therapist well-being whilst providing excellent care continues to be a challenge for those in the helping professions (Thompson, Amatea & Thompson, 2014). VT has also been implicated in staff turnover, the consequences of which on service consistency and stability can be serious (Middleton & Potter, 2015). Understanding the possible risk and protective factors in the development of VT is therefore critical and can aid in developing workforce development interventions.

Whilst various individual (e.g. gender, personal trauma history), work-related (e.g. caseload, clinical experience) and organisational (e.g. supervision, perceived workplace support) factors have been investigated, there is as yet no clear picture of the variables associated with or most likely to predict VT (Sodeke-Gregson et al., 2013). Inconsistent findings may well be related to the various scales used to measure therapist experiences as well as the differing populations under investigation. Furthermore, the majority of research has been undertaken in America and therefore findings should be treated with caution due to the differing healthcare systems, supervision requirements and professional training in the UK.

As far as the author is aware protective and risk factors for VT have not been as yet investigated among MST therapists. The findings from a recent systematic literature review (65 included studies) for child welfare social workers (McFadden et al., 2015) are likely to be relevant given the comparable client group. Personal therapist style predictors including active problem and emotion focused coping strategies to alleviate distress were found to be more effective in reducing symptoms associated with VT. Furthermore, intentional involvement by therapists in self-care activities appeared to be helpful to regulate their emotions and experiences, including exercise and pleasurable activities. Actively seeking

both emotional and instrumental social support were also common methods of coping and associated with less vicarious trauma (Collins & Long, 2003). Organisational factors including co-worker and supervisory support were found to consistently act as a buffer for the effects of burnout. Promoting conversations on the impact of the work among professionals was also considered a strategy for preventing VT (Rourke, 2007).

A final point related to therapist impact issues worth consideration is the home based nature of MST. Whilst this may allow therapists to become involved in the reality of the family's everyday life (Waisbrod, Buchbinder & Possick, 2012), this delivery method can also lead to significant challenges to the therapist-client relationship (Adams & Maynard, 2000). Therapeutic boundaries can be thought of as the rules clarifying which behaviours are acceptable in therapy (Miller & Maier, 2002; Knapp & Slattery, 2004). Koocher and Keith-Spiegel (1998) have stated that "lax professional boundaries are often the precursor of exploitation, confusion and loss of objectivity" (p. 172). A helpful distinction in the literature is related to boundaries either as crossings or violations (Guthiel & Gabbard, 1993). Boundary crossings can be helpful, harmful or neutral and need to be considered in the context of the individual therapeutic relationship (Knapp & Slattery 2004). For example, a therapist engaging in limited self-disclosure for the clear purpose of helping a client. Such crossings can, however, become violations when clients are placed at risk of harm. For example, accepting an expensive gift is likely to be harmful as it threatens the neutrality of the relationship.

There are a number of challenges associated with the intimate nature of home based services including blurring of boundaries and ethical issues related to multiple roles and confidentiality (Miller & Maier, 2002; Knapp & Slattery, 2004). For instance, assuming the role of guest in the home could lead therapists to pay attention to the social demands of the situation rather than the treatment goals. MST therapists may be at greater risk of developing dual relationships with clients and unintentionally drifting into a social role (Roberts, 2008). This role shift may be facilitated by the immersion in the family system and involvement in family activities, such as looking at family photos and meeting neighbours. The nonprofessional atmosphere and uncontrollable environmental factors can also place greater demands on the therapist and make it more difficult to find a safe and confidential space (Knapp & Slattery, 2004). Further to this is the increased possibility of becoming privy to

unwanted information, often irrelevant to therapeutic practice, but which can alter the client-therapist relationship in subtle ways (Roberts, 2008).

Recommendations for maintaining professional boundaries have included establishing such rules pre-treatment by discussing with the family the nature of the professional role of the therapist (Knapp & Slattery, 2004). Ongoing supervision can also be used both to monitor the therapy processes and encourage full and honest discussions about boundary crossings, how they fit in with the goals, the short and longer potential impact of actions and strategies to counteract them (Knapp & Slattery, 2004). The current weekly MST supervisory processes do not appear to consider such issues and primarily focus on promoting adherence to the model and analytic process.

Rationale behind the current study

Despite the extensive research base of MST, there are limited qualitative studies published (e.g. Tighe et al., 2012; Paradisopoulos et al., 2015) or unpublished (e.g. doctoral theses Lawrie, 2005; Harvey, 2011; Packer, 2014; Bibi, 2014 and Kiddy, 2014). Qualitative research not only adds depth, detail and meaning but also complements quantitative measurement as part of evaluating the effects and outcomes of therapies (McLeod, 2001). Perspectives from clients, clinicians, and stakeholders are key in the design and further development of interventions (Greenhalgh, Robert, Macfarlane, Bate & Kyriakidou, 2004; UK Medical Research Council, 2008).

Recent qualitative studies have made important contributions to the MST literature. Tighe et al., (2012) interviewed adolescents and their families about their experience of MST and the therapeutic change process. Two broad themes were identified: (1) engagement in MST and initial processes of change, and (2) outcomes are complex. The importance of the therapeutic alliance was highlighted and change was attributed by participants to improvements in familial relationships including reduced conflict and increases in warmth, closeness and understanding. The greatest area of continuing concern was adolescent association with antisocial peers which has implications for the future development of MST. The value of qualitative inquiry was further evidenced by the range of outcomes reported by adolescents and their families as being important to them. These included increased communication with education systems, increased parental confidence, and improved family functioning. Tighe

and colleagues recommended that interviews with therapists themselves could provide further information on therapeutic change; the processes that may hinder or bring about change and what change might look like. Limitations of this study included the short follow up post MST end (2 months) making it difficult to explore the longer term change processes, and the use of thematic analysis resulting in the account of the data being primarily descriptive in nature.

Building upon Tighe et al.'s study, Paradisopoulos et al., (2015) interviewed eight adolescents after a follow up of approximately 14 months and used grounded theory to explore their experience of factors which promoted sustainable successful changes. Identified themes from the model included increases in systemic awareness, recognizing responsibility, positive peer relationships, acknowledging and celebrating success, continued use of specific strategies and the identification and planning for a preferred future. The importance the adolescents placed on the therapist relationship in acting as a catalyst for change echoed the findings by Tighe et al., (2012). The time between treatment end and research interview did vary from 5 to 21 months and it may be that different factors are more or less relevant at different time points. A further limitation is that participants had experienced positive changes and those factors which could potentially hinder success were largely ignored.

Other unpublished doctoral theses have expanded along similar lines of inquiry. Lawrie (2005) interviewed parents and adolescents about their experience of MST; Harvey (2011) interviewed adolescents about their experience and Bibi (2014) interviewed caregivers to explore mechanisms of engagement and change specifically for minority ethnic families.

One doctoral thesis which explored therapist experience of delivering MST (Packer, 2014) was limited to those specifically working with gang involved adolescents. Three main themes were identified: (1) The unique clinical challenge of working with gang-involved adolescents, (2) it's not perfect but MST offers a good option, and (3) MST is limited in the support it provides therapists. MST was valued by therapists in its consideration of the systemic factors contributing to problematic behaviour. There was also, however, a sense that the therapist was regarded as being able to tackle any difficulty and that the accountability that MST gave therapists could increase levels of stress and leave them feeling blamed and hopeless. The researcher was related to the ongoing START trial and it may be that this association impacted upon how honest therapists felt that they were able to be, given

that the team was being formally evaluated. Furthermore the term "gang involvement" was not explicitly defined and so it is not clear how therapists distinguished between adolescents with antisocial peers and those involved with a gang. Lastly, whilst thematic analysis is highly flexible, it does not stem from an underlying philosophical theory and there is no clear agreement about how its procedure (Gil-Rodriguez & Hefferon, 2014). This can result in an account of the data which is descriptive in nature rather than demanding the researcher to engage with the data through several stages and acknowledge their reflexive role.

It is evident that there continues to be a paucity of literature from the perceptions of the MST therapists themselves into their lived experience and personal meanings of delivering this unique and intensive programme. The application of qualitative phenomenological approaches can allow for rich, in depth accounts of participant experience, exploration of important psychological processes and relevant issues involved in treatment delivery (Smith, 2008). This approach is highlighted as particularly useful for exploring areas where there is limited prior research (Pistrang & Barker, 2012).

Therapist experience is important to explore as MST differs from more traditional models of intervention for adolescents presenting with antisocial behaviour in England (Ashmore & Fox, 2011). MST includes the whole family, school, peers and local community as well as the individual. The expectation is on the MST team to engage adolescents and their families and have flexibility in scheduling appointments which are home/ community based. Exploring therapist experience is particularly relevant given the expectation that the therapist is multi-skilled and the central role of accountability and treatment adherence for positive outcomes.

The findings of this exploratory piece of work have a number of potential clinical implications. Providing a detailed examination of the experience of MST therapists may enable decision makers to understand the dynamics of MST operations and delivery of the programme. Findings may also highlight some of the factors relevant for working practices and aid in staff recruitment. Programmes are also dynamic and develop as staff learn what works. Practitioners are one of the most important sources of information about intervention delivery (Rossi, Freeman & Lipsey, 1999) and identifying what may have been more successful may not only support referral decisions but also treatment practices. The findings will compliment quantitative analysis; by adding to the evaluation literature.

Aims

The present research study aims to**:**

- Elicit an in depth understanding of therapists' lived experiences of implementing MST within England. This will address various aspects including therapist views about the strengths and challenges of MST and those processes that may limit or promote positive treatment outcomes.

Method

Design: the case for taking a qualitative approach

This study used a non-experimental, qualitative design. Qualitative approaches support the researcher in being sensitive to the many interpretations that people may make of their experience to gain some sort of sense of meaning (Smith, 2004). The aim is to gain a more meaningful understanding and to represent people's experience as they engage and live through situations (Smith and Osborn, 2003).

There are a number of qualitative methodologies available to the researcher, which differ in their underlying theoretical approach, assumptions about the data and what it can reveal (epistemology). The rationale for the approach adopted needs to be consistent with the particular object of concern and epistemological position of the research aims. The Interpretative Phenomenological Approach (IPA) was therefore considered to be the most appropriate qualitative methodology on account of its compatibility with the research aim to focus on therapist personal meaning making of delivering MST (Smith, Flowers & Larkin, 2009).

Interpretative Phenomenological Analysis

IPA (Smith, 1996) is a recently developed approach to qualitative inquiry originating in psychology. Researchers are increasingly interested in how people make sense of major life experiences and a recent review identified phenomenological approaches being applied within several fields of applied psychological sciences (e.g. Smith et al., 2009). The three main theoretical underpinnings of IPA shall be briefly described below (Gil-Rodriguez & Hefferon, 2014).

- Phenomenology: A number of key phenomenological philosophers (Husserl 1859-1938; Heidegger 1889-1976, Merleau-Ponty 1908-1961 and Sartre 1905-1980) are connected with IPA (Smith et al., 2009). IPA aims to understand and explore in detail how participants make sense of their personal and social world as opposed to producing an objective truth about something. It is further recognised that individuals live within social contexts which influence those perspectives. This is achieved during IPA through the in-depth consideration of the complexities of the sense

making process for participants, maintaining an openness to emerging meanings and applying a continuous reflexive approach.

- Hermeneutics (theory of interpretation): Influential theorists for the development of IPA include Heidegger 1889-1976, Schleiermacher 1768 –1834 and Gadamer 1900 – 2002. IPA attempts to access an individual's personal world whilst understanding that this is inextricably and dynamically linked with the analysts own assumptions and conceptions (Smith, Jarman & Osborn, 1999). The double hermeneutic involved in IPA is highlighted by Smith and Osborn (2008) whereby the researcher is making sense of participants trying to make sense of their world. The nature of this complex interaction and the analyst's role in making sense of and presenting the data is therefore strongly acknowledged. The IPA researcher maintains an open and non judgmental approach as well as a high level of awareness of their own biases and preconceptions (Smith et al, 2009). Hermeneutics recognises that the interpretative account is iterative and dynamic in that the researchers' relationship with and ways in which they think about the data will move back and forth.
- Idiography: This is concerned with understanding the detailed meaning of individual life rather than more traditional nomothetic approaches which focus on claims at the group and population level and generalisability. IPA places importance on the value of the individual case in its own right situating people in their particular contexts. Single cases are examined from one to the other in an iterative process to arrive at more general inferences which are inherently more cautious than those from nomothetic approaches (Smith et al., 2009). This provides new and differing perspectives on a phenomenon by learning from those who are experiencing it.

The aim of IPA is to gain an insider perspective by exploring in detail how people make sense of their experiences coupled with an explicit emphasis of the contributing contextual and cultural factors and reflective process of the analyst. IPA helps to provide new perspectives on a phenomenon from those experiencing it rather than being biased by pre-existing notions within existing research. IPA was therefore considered the most suitable methodology to hear the voice of the therapist delivering MST.

Data Collection

Participants

The sample included seven participants who met the inclusion criteria; therapists currently delivering MST in London who were willing to take part. This sample size enabled sufficient analyses to provide meaningful perspectives with adequate contextualisation and examine case similarities and differences without there being an overwhelming amount of data. Smith and Osborn (2008) recommend five to six participants for a student IPA project and it is usually accepted that 'less is more' (Reid et al., 2005). London was chosen in line with the need for a purposive, carefully situated and broadly homogenous sample (Smith et al., 2009). At the same time, it was recognised that protecting the anonymity of participants was of paramount importance. At the start of the study, there were five teams delivering MST in London; each varying from between three to five therapists. Four of these were NHS and one was a non NHS provider. As participants were recruited from within a very small community; limited demographic information was provided for the group in order to minimise the likelihood of identifying participants (Elliott, Fischer & Rennie, 1999). All of the participants had professional qualifications in psychology, family therapy, youth work or social care and all were English speakers.

Recruitment

Permission from two NHS research and development offices and from the Director of the non NHS provider was sought (Appendix 18). In order to preserve participant anonymity the sites approached and recruited from will not be named. Prospective participants were recruited by an email information advert explaining the rationale of the study and procedure (Appendix 19). Access to these email addresses was felt to be part of the researcher's normal professional duties and thus covered by the university's ethical approval process. A participant information sheet (Appendix 20) and consent form (Appendix 21) was then sent to those who expressed an interest. The first seven participants to respond and agree were chosen for the study.

Interviews

The data were collected using a semi-structured interview, which was deemed to be the most suitable method to gather information of sufficient depth and quality to provide rich accounts of participants experience (Smith, 1996). This format further allowed for flexibility; for modifying initial questions in response to participants and the importance that they placed on

particular experiences and to follow novel areas relevant to the research aims. The interviewer in this respect was seen as a facilitator thus creating a more informal conversation (Smith & Osborn, 2008).

The interview schedule (Appendix 22) was developed from the extant literature, discussion with research supervisor and relevant literature on IPA methodology (e.g. Gil-Rodriguez & Hefferon, 2014). Broad open-ended questions were purposefully used to encourage participants to focus on what was important to them and to express themselves as freely as possible. Therapists were initially asked to "tell me about your typical day as a MST Therapist", which was then followed with questions concerning how delivering MST may affect aspects of everyday life; good and bad days; positive change within families and possible barriers. Although participants were asked all of the questions, the interview schedule was used as a guide and to discover different areas of the therapist responses. This allowed participants to express their meanings in their own words with minimal interruption and not be unduly led by the researcher's questions.

Procedure

Arrangements were made via telephone to meet at the convenience of participants. Four interviews took place on office premises and three at participants' homes. It is possible that the location had some more implicit impact on the interview experience for participants. There were some brief interruptions for interview four which took place at an office which may have affected the participant's engagement.

Prior to interview start, the consent form was discussed with participants and their understanding checked. In particular issues around confidentiality and processes for anonymity involving the removal of personal identifying information and use of any quotes in the write up were discussed.

Interviews lasted approximately one hour and were terminated when judged to have come to a natural conclusion. Each of the interviews was digitally recorded. At the conclusion, participants were provided with a debrief sheet (Appendix 23) and with the opportunity to give feedback about their interview experience (e.g. how was that for you?). Immediately after interview, detailed notes were made about the researcher's initial thoughts, feelings and impressions. Anything that may have affected the interview was also documented, such as interruptions. These notes informed subsequent data analysis and researcher reflexivity.

All audio recordings were transcribed verbatim by the researcher and potentially identifying information was either removed or disguised. Pseudonyms were used to replace participant names.

Ethical Considerations

The study was reviewed by a university ethics panel and adhered to the British Psychological Society Code of Ethics and Conduct (BPS, 2009). Advice was sought from the NHS Ethics Committee and approval from the various NHS Research and Development Offices was gained (Appendix 18).

Informed consent

Participants were recruited using an advert clearly explaining the nature of the research (Appendix 19). Interested parties were sent detailed information prior to meeting (Appendix 20) enabling them to consider their decision to participate in their own time. This was further discussed verbally prior to interview including the type of topics to be covered, what they could expect and answering any questions. The researcher confirmed that the study had been granted ethical approval. Participants were reminded of their right to withdraw at any time up to one month after interview completion without giving a reason. Signed informed consent was gained which addressed consent to interview as well as outcomes of the data collection, including the use of anonymous verbatim extracts, to be used in the researchers' thesis and other published reports (Appendix 21).

Confidentiality and anonymity

Confidentiality and its limits were detailed in the information sheet and explained verbally prior to interview. Participants were assigned a code to identify their interview and a list was kept in the event that they wished to withdraw within the month. Audio recordings were deleted as soon as transcription had taken place. Transcripts were anonymised and pseudonyms used for participants, and any other people or specific organisation names or locations referred to. Transcripts were only seen by the author and research supervisor. The signed consent forms, contact details and transcripts were securely stored in a locked office and will be kept for a period of 10 years as per University of Birmingham guidelines. Pseudonyms were used in the final report and any quotes were sufficiently anonymised.

Potential distress

Due to the nature of the topic and given that all participants had professional qualifications, it was felt that the research procedure was unlikely to be stressful or distressing. The research materials were not of a sensitive nature; participants were not members of a vulnerable group and the design was sufficiently well-grounded so that the participant's time was not wasted. It was hoped that participants would appreciate the opportunity to share their experiences as Packer (2014) had reported in her interviews with therapists. In the event that a participant did become distressed, the researcher would use clinical skills to try and manage the situation at the time. Participants were informed that they could stop the interview at any time and did not have to answer questions they did not wish to. Appropriate supporting organisations were referred to in the information and debrief sheet in the event that the interview brought up any sensitive issues (Appendix 23). After each interview there was time to debrief and participants were asked about their experience to further check well being.

Dissemination of results

Participants were provided with contact details in order to request a copy of the research report should they wish to do so.

Position of the researcher

An important aspect of qualitative research is consideration of how the researcher's experience, theoretical orientation and personal assumptions impact upon the process (Elliott, et al., 1999). The primary researcher was a HCPC Registered Forensic Psychologist completing the study as part of the CPD Doctorate in Forensic Psychology. At the start of the study, she had about one year's clinical experience of delivering MST in London. The researcher had worked with a forensic adolescent population for approximately eight years prior to this, which had initially fostered an interest in adopting a social ecological approach in the treatment of antisocial behaviour.

The original impetus for the study was born out of noting the high therapist attrition rate, the uniqueness of the model and her own experience of the pressure of the focus on accountability and achieving goals. The author therefore had a particular set of experiences leading to an agenda and assumptions about the data. For example, it was presumed that MST therapists would have strong views about the on call system and experience similar

challenges about the delivery. Whilst she recognised her own experiences; the researcher made attempts to maintain an open and curious stance. Setting one's own perspectives aside and attempts to "bracket" existing theory and experience is a crucial aspect of IPA and increases analytic rigour. This supports with more fully understanding and representing the meanings that the participants give to their experience of a particular phenomena (Reid et al., 2005). The researcher brought her own clinical experience and knowledge to the data and this is reflected in the results. The researcher was motivated to focus on topics with clinical utility and it is acknowledged that others may have given prominence to other facets. A personal biography is provided in Appendix 24 including background experience and preconceptions.

In further efforts to increase transparency in how the data was generated, the researcher kept a reflexive diary (Finlay, 2008, Ortlipp, 2008). This involved documenting thoughts, experiences and assumptions throughout the study enabling self reflection about possible influencing factors to the research process. Six short extracts are provided in Appendix 25 to demonstrate how assumptions were recorded and their possible impact on the analysis and interpretation of the data. A short example reflective thought is provided below to further help demonstrate analytic reliability (Yardley, 2000) and is concerned with conducting the interview with participant 1.

"I wonder about the connection between the interviewee and myself. On the one hand, it appeared that the interviewee had some sort of affinity in that he knows I know about the nitty gritty aspects of MST and this helped with a shared understanding and to avoid lengthy descriptions which are potentially of little clinical utility. On the other hand – he also used language which seemed to seek some sort of approval or agreement with me – perhaps this was his way of trying to find a connection. I also got the sense that he was not too sure of what to assume that I know and sought to clarify what my expectations were. I think it may be better to explicitly state at the start of the next interview to assume no prior knowledge as this may help breakdown some of the ideas about how participants tailor what they say. This first interview made me much more aware of my professional position and relationship with the participant as well as the small sample pool in London as his narrative contains references to people that we both know and I wonder how this impacts on his ability to be open and honest with me."

Analytic strategy

The transcripts were pasted into a table format with three columns and given line numbers. The analysis was carried out by the primary author in line with the accepted principles and procedures of IPA (Reid et al., 2005); documentation on quality in qualitative research (Elliot et al., 1999; Spencer, Ritchie, Lewis & Dillon, 2003; Yardley, 2008) and through supervision with a Forensic Psychologist experienced in conducting qualitative research. Whilst IPA is not prescriptive in nature; the process is both inductive and iterative and involves a series of processes which are described below (Smith et al., 2009).

Transcripts were analysed individually in turn. This involved firstly becoming familiar with the ideas and experiential understanding being expressed within participant transcripts by repeated detailed reading, listening and close line by line analysis. Passages of interest, phrases and words that seemed meaningful and distinct were annotated in the right hand column of the transcript labelled 'exploratory coding.' Patterns, similarities and differences were highlighted and preliminary interpretations were made. The types of comments made included descriptions (content; use of language and researchers own emotional response); linguistics (language and non verbal account, for example, use of humour and hesitations) and conceptions (interpretations and questioning the participants' sense making).

Emerging themes were then identified by rereading the transcript taking into account the exploratory coding. These were written in the left hand column labelled "emergent themes" and an example of this process is provided in Appendix 26. This required development, refinement and moving to a higher interpretative level of abstraction. The emergent themes were then recorded in the order that they appeared in the transcript (see Appendix 27), each one on a moveable post it note. Attempts to make sense of connections between these themes were made resulting in the creation of theme clusters. This process has been likened to a magnet "with some themes pulling others in, helping to make sense of them" (Smith & Osborn, 2008, p.70). The related themes were grouped together and the theme clusters were then tentatively labelled to capture the essence of the idea and develop subthemes. A table was produced to represent this process including supporting key verbatim text extracts (see Appendix 28). Throughout this process, the transcript was continually returned to ensuring that themes were grounded in the interview data and that subthemes reflected what the participant had actually said.

Each of the seven transcripts was systemically analysed in this manner; each being put aside prior to commencing the detailed analysis of the next one. This is consistent with IPA's strong idiographic approach and helped to acknowledge new issues emerging in each transcript. At this stage of the analysis, a person independent to the research (Forensic Psychologist) carried out an audit (Smith et al., 2009) to ensure sufficient rigour had been applied to the data analysis and examine the credibility of the phenomenological interpretations. This involved considering the extent to which the emerging themes and potential theme labels reflected the meaning conveyed within the data. Areas of agreement and disagreement were discussed and the different ways in which the themes could be clustered until a 'best fit' was reached.

The tables of emerging themes for each of seven transcripts were then all examined and clustered together resulting in the creation of a master list of themes and subthemes for the interview data. During this process patterns across recurrent themes and areas of convergence and divergence were noticed across participant transcripts (Smith & Osborn, 2008). The master table provided a framework for understanding therapist's experience of delivering MST and was written up into a narrative account. This enabled the analysis to be expanded and an explanation of the themes to be illustrated with verbatim extracts.

Validity

Efforts were made to achieve validity of the interpretative phenomenological account according to four criteria outlined by Yardley (2000, 2008). Providing participants with the opportunity to comment would have enhanced the quality of the study, however time constraints did not permit this. The following was considered:

Sensitivity to context

This involves demonstrating sensitivity to participant perspectives and the social cultural context. Firstly, relevant theoretical and empirical literature was referred to in the introduction and formation of the research questions. The research process was sensitive to the possible impact on participants of the researchers' characteristics and a thorough recognition of ethical issues was undertaken. The focus on the participants' perspectives was further ensured by using open ended questions and the researcher guiding the interviews. Sensitivity to the raw data was achieved in the narrative account by providing examples to

clearly illustrate and support the themes and evidence the participant's voice in the interpretations made (Smith et al., 2009).

Commitment to rigour

The researcher attended IPA training (Gil-Rodriguez & Hefferon, 2014) to ensure methodological competence and consulted relevant literature to develop skills and knowledge. The researcher's commitment to rigour was further achieved through the selection of participants, adherence to the IPA protocol as outlined in Smith et al., (2009) and the use of a reflexive diary. A clear commitment to the underlying theoretical principles of IPA was evidenced in the method section and the audit by an independent professional further increased the confidence in the interpretations made. Yardley's second criterion was further upheld by grounding examples from interview data to allow readers to assess the analytic process and plausibility of the argument.

Coherence and transparency

Yardley's third principle refers to coherence which he defines as "the extent to which it makes sense as a consistent whole" Yardley (2008; p.248). To achieve this, the rationale for the study and choice of the qualitative methodology was made explicit. The position of the researcher and transparency about the analytic process were provided to support the reader in understanding what was done and why. Discussions with peers throughout the analysis supported in the themes making sense (Angen, 2000) and verbatim extracts were used in the narrative account to support themes and allow for the reader to assess their coherence.

Impact and importance

In order to achieve Yardley's final validity principle, the rationale and clinical implications of the study were made explicit in the introduction and discussion. Suggestions were made on future directions for research. This criterion will involve ongoing appraisal about the meaningfulness and interest of the findings by the reader.

Analysis

This section presents the results of the IPA of the seven participant accounts of their experience of delivering MST. The clustering resulted in four recurrent themes: (1) Persisting despite challenges, (2) MST and us, (3) Relationships matter, and (4) How do we know we are getting anywhere? Each of these recurrent themes consisted of subthemes and the arrangement is outlined in Table 6. These themes form one possible account of how the therapists made sense of delivering MST and were selected due to their relevance to the research aims. Within IPA the process of discovering such themes is based on the researcher engaging in a double hermeneutic which the reader should remain aware of (Smith et al., 2009).

Table 6
Final recurrent themes with subthemes

1. Persisting despite challenges	**2. MST and us**
We persevere and are flexible	*MST first, our lives second*
We stay in the now and target behaviour	*Carrying families in our minds*
Do we have the 'right' knowledge and clinical skill?	*Who are we within MST?*
Supervision guides us; what about reflection and emotional support?	
3. Relationships matter	**4. How do we know we are getting anywhere?**
We hold onto hope	*The data means mean nothing to us or families*
We need each other	*Are families doing or feeling something different?*
We need others to believe families can make changes	*What about afterwards?*
We need families who want to do MST	
It's all in the timing	

Note: Subthemes are in italics

1) **Persisting despite challenges**

This recurrent theme consisted of four subthemes: we persevere and are flexible; we stay in the now and target behaviour; do we have the 'right' knowledge and clinical skill? and supervision guides us; what about reflection and emotional support?

All of the therapists described the persistence and flexibility of MST as being important to their experience, as unique and for the most part a highly beneficial feature. This included having flexibility to meet with families at times convenient to them and about where 'therapy' happens thus increasing the accessibility of MST. Whilst the impact of disruptions in the family home was highlighted, in general, therapists described how home delivery provided an opportunity to see what was actually going on and to observe interactions between family members as they were happening.

> Expecting a parent to take away from an hour session an idea that you totally understand and a concept that they may really have little erm idea of, is one of the reasons that many traditional therapies fall down a little – so to be able to go in with the family, having developed the intervention, explained it, practiced it and then actually practice it live as it's happening is, I think a real privilege for an MST … Erm, and really can shift things [Emma, line 123 – 130].

The intense nature of MST further enabled responsivity to the family and as intervention strategies were implemented; immediate feedback allowed for adaptations and barriers to be quickly identified and thought through.

> stuff that I was looking at the beginning of treatment, driving the behaviour, the journey's progressed – that's not what we're working on, that's actually changed and that doesn't apply anymore and you have the benefit of doing that, so you can respond quite quickly to what's going on, which means that you're more likely to get some form of change. [Laura: line 390-397].

The emphasis placed on therapists engaging families was described as contributing to success. Some of the challenges are illustrated within the extracts below which illuminate the internal struggle about how therapists feel about themselves when persistently with families.

> Chasing families up – I don't like doing that. I hate doing that. You know, when they don't come back to me and I need to be a bit of a stalker. I need to always go there, knock on the doors, call the… 'I don't wanna see you!' 'I know, I know. How about tomorrow then?' 'I don't wanna see you tomorrow.' 'Yes, you know, I understand, I understand. Well, how about the day after tomorrow, then?' I don't like doing that, but I know that's, you know, that's what gets people going [Sam: line 723-729].

> It was so hard, I dreaded going [laughs], um, I would turn up at the door and it, it, she would just, you know, she just did not want to see me, well she, no she would vocalise that she didn't wanna see me …… but she would always let me in and we would sit there and I would always be the one that would have to end the session, even though most of the session she would spend, like I say, kind of lying on the sofa …… huffing and puffing at everything I said [Susan: line 53-63].

In the extracts above Sam talked about viewing himself as a 'stalker' illustrating his role in continuously pursuing families and Susan further described experiencing feelings of 'dread' at having to try to engage a mother over and over again.

The challenges of being community based included time spent travelling between family homes and not always having a "base" close by in the event of cancellations. Furthermore, possible risks associated with lone working in family homes were highlighted by two of the therapists (Laura and Susan) who described experiencing hostility and threats of violence.

> I thought oh my God these [redacted] might actually go onto my face [laughs] and, um, yeah, I didn't, and I didn't know how, I didn't know what to do with that cos it, cos, yeah, you, you, you're not really prepared on how to manage somebody coming at you with [redacted] that even the mum can't get to back off. That was quite frightening. [Susan, line 843-847].

See how Susan laughs nervously and repeats 'not knowing' what to do. This provides insight into her state of uncertainty about what she could or should have done; as well as a sense that she is alone in managing the situation.

The second subtheme involved therapists staying in the now and targeting behaviour. More than half of the therapists described the predominance of behavioural approaches within

MST. This typically involved supporting parents to respond in a different way than usual to problem behaviours which would likely result in a different response from the adolescent. By doing so, therapists described how parents were empowered to see themselves as being able to influence and facilitate changes in their children's behaviour.

> The young person would constantly wind mum up about her sister and mum would constantly defend her sister, ooh look at this card, ooh she's got a card from a boy, and the mum would go oh just leave it, just leave it, just forget it, you know, I'm sure it's nothing and just thinking about trying a different behaviour, ooh that's interesting … shut the young …… sort of shut the young person up immediately, so that type of behaviour approach …… so just doing something differently and then seeing a different response from the young person. [Tom: line 565-581].

Consider Tom's story describing how a mother tries something new and how this led to a quick change and supported her in feeling confident that she can do something that works.

The behavioural approach was also seen as limiting at times. Firstly it was described that little consideration was given to the potentially vital role that cognitions play in parent behaviour. The sustainability of changes was questioned given that core beliefs about gender and roles within the family were largely ignored. The limited consideration about how families had come to be in their current situation was also noted and this contributed to a sense that the family's story was seen as irrelevant to how difficulties were thought about.

> We're encouraged not to sort of get at someone's cognitions unless we have to... I'm picking up a lot sooner now in cases where cognition needs addressing …you, you often get the, you still need to let us try this first. Let's explore every behaviour approach first… [Tom, line: 595-604].

> I can understand the present focus thing, I can definitely understand that, but sometimes you have to say this-this woman feels…has reported that she's scared to challenge the boys because of historical difficulties…you don't have to go into masses of why it is that way…but you can…it needs some kind of explanation for the present …present-presentation and there's not a lot of scope to do that [James: line 480-489].

MST was also described as "not rocket science" in that the level of intensity and simply having lower caseloads allowed the therapists to have more time to think about the family.

> I've just got the privilege of being able to do it all day, every day if I want to, I can sit and think about this family every day' and there's no other system that allows you to do that [Laura: line 264-268].

> In a way if-if you just cut past all the jargon it's-it's nothing different than just general psychological formulation of assess, [laughs] common practice, treatment and evaluate and when I see it that way it makes a lot of sense [James: line 90-93].

In the extract above, consider how James tries to relate his experience of MST to his own professional training. Despite the unique language used in MST, James draws on the similarities between the analytic process and that of other approaches within psychology to help him make sense of the process.

The third subtheme involved questioning the right knowledge and clinical skill for therapists themselves. There was consensus across all participants that having therapists with different professional backgrounds in the MST team was beneficial. This supported sharing of knowledge. In the excerpt below Emma describes how important it is to her in how their team support each other in clinical thinking with their different areas of expertise.

> One of the things that works so well about our team is that we all have different backgrounds and we're trained in different clinical erm areas and all work within the model but really able to complement each other so quite often we're…we'll say 'oh I specifically wanted to ask you about this' or whatever, 'how would I go forward?' [Emma: line 661-616].

The flexibility of the MST model was also valued in that many of the therapists felt they could bring their own background knowledge and therapeutic preferences when designing and implementing intervention strategies. This allowed for differences between how therapists approached the problematic behaviours but an approach which was still grounded in MST.

> we're able to use our own ideas, our own kind of clinical background and expertise as well to-to formulate with the family, and I suppose I'm systemic and al-have always

> been grounded in systemic theory and believe in it to such an extent that I'd be potentially more likely to prioritise a more systemic driver, so a more interactional pattern between parent and child [Emma: line 144-153].

There was also consensus that MST therapists need to have a certain level of therapeutic experience due to the complexity and high level of risk and needs of the families. The "amount" of experience was difficult to quantify and in reality varying levels of clinical training among the team were identified. James described how this impacted on how comfortable he felt in giving advice to peers and surmised that "Its fine if everybody has a diverse background... it's the level of / of the amount of training." This was further echoed by Tom and Laura who drew particular comparisons between those with psychology qualifications from those with social care training. In the excerpt below Laura describes her feelings around what she perceives is an expectation that she should know what she is doing.

> If you're a qualified psychologist you're going to have a lot more skills and knowledge and things like that and clinical experience than somebody who's not. And obviously you're expected to work to the same – and I think that can be sometimes difficult – difficult not because…difficult because you might feel like you're not sure what to do but people think that you should know what to do and then you think 'oh I don't know how to do that' [Laura, line 789-797].

One gets a sense of professional anxiety within Laura around the expectations placed on her to be able to deliver the intervention strategies to some unspecified quality level; particularly as a non psychologist therapist.

The final subtheme involved the way in which therapists experienced the weekly supervision/consultation process (supervision guides us; what about reflection and emotional support?). Therapists described that this supported them in feeling less alone and as gaining hope and reassurance. Supervision supported creative thinking of ways to engage families and help when there were setbacks. MST supervision was seen as motivational; supporting the therapist to keep going and also grounding them back to the model.

> I guess how we are the motivational voice or the positive voice for the family you need that for the therapist as well because you can get …purpose [laughs] …to keep going because you can, you know, sometimes you are working with families where it

> is hard to see, you know, you, you, you have to try and see and you have to not just see it, but you have to try and communicate it to them and to the social workers and to the schools that actually these small little things that we are seeing is, is something positive [Susan: line 186-201].

Consider in the extract above how Susan talks about needing hope and reassurance through supervision which supports her to keep persisting with the families she works with. Supervision was described by the majority of participants as primarily directive in nature. On the one hand therapists expressed that this was reassuring and helpful in thinking through the steps of intervention strategies. However, therapists also perceived that this contributed to a lack of clinical reflection on their part and being ignored as autonomous professionals.

> I think now on a different level about cases. I think about sort of the real minutia I suppose of an intervention [Tom, line 219-226].

> there's also part of me that thinks they can tell us what to do, but it comes from a place that I've seen this and I know wh-what it-how to guide you in terms of…rather than you're a professional in your own right, let me help you think through… [James, line: 573-576].

In the extract above, James reveals his frustrations with the limited acknowledgement of his own training and professional background and his wanting to develop how he thinks things through for himself.

There was consensus among participants about the significant emotional impact on therapists given the intensity of the role and complexity of the families. However, the supervisory processes were described as largely ignoring this and therapists talked about needing to seek support from their own informal networks or team.

> It's just about what, how, where you find that in this job, whether it's, because it, like I say you don't get it so much in your supervision and if you find it difficult with your, with your friends, then actually where does that go cos it does have a, have an emotional impact. It really does actually. [Susan, line: 455-458].

> There was never a sense of anybody actually just, you know, dealing with the fact that something, you know, you've been intimidated and you've been, I wasn't hurt, but,

> you know, there wasn't ever the sense of like looking after that. [Susan, line: 878-882].

In the extract above, consider how Susan reflects on how the work "really does" have an emotional impact on her and one gets the sense that there is something missing for her within that experience of aggressive behaviour which appears to link with how she herself does not feel thought about.

2) **MST and us**

This theme captures the participants' internal struggle created by delivering such an intense and flexible model. The three subthemes are conceptually similar and highly meaningful consisting of MST first, our lives second; carrying families in our minds and who are we within MST? Most of the participants described the method of delivery as having a real practical impact on their everyday lives. They talked about their perception that the working day never ended and they never stopped. MST was described as a demanding role and a particular emphasis on how weekend appointments limit periods of respite and self care was highlighted by both Jane and Emma. Consider the strong words participants used in the extracts below when describing their experience (highlighted in bold).

> Feeling like your personal life and your professional life **bleed** into one [Laura, line: 113-114].

> everyone knows that MST **envelops** your life …… for want of a better term, like it **penetrates** a lot of aspects of your life [Tom, line: 336-339].

> I also need to sustain my life and, but I need to put me first because no-one else will and that for me is a balance of **it won't be forever that I can work like this** [Jane, line 630-632].

One here gets the sense that the flexible yet demanding nature of MST is a significant experience for therapists. Jane highlights the sustainability of delivering a programme at this level of intensity for her and one gets the sense that the family needs are put first. The impact of MST on being able to plan social events was also described. In the extract below, the use

of humour by Susan really brings home the need for therapists to work around the family's schedules and put them first.

> What is a problem is that you cannot say [laughs] next Wednesday I'm gonna come and meet you, I mean you can't plan that far ahead with your friends or with your family, you have to be always, cos you have to be flexible around this family. You don't know what they're gonna be doing [Susan, line: 318-325].

Almost all of the therapists experienced the on call system as impacting on how they organised their social lives; what social activities they took part in and how spontaneous they could be. Most participants highlighted the unpredictable nature of on call as the most difficult aspect. Consider the extracts below and how when on call, one gets the sense of therapists being in a heightened state of alertness and anxiety whereby they were continually checking their phone and were unable to fully enjoy what they were doing in that moment.

> It's a bit like the Lord of the Rings ring burning in your pocket if you've got a phone and you're out the weekend like just checking 'do I have a signal?' [Laura, line: 776-778].

> You can't switch off and have a night out because I'm constantly checking the phone [laughs]. You have to check the phone to see if you're got reception and you have to make sure that you're, you can hear it, you know, you know, I can't drink, um, and then if you are getting a call it's a very difficult environment to be speaking to somebody who could be in a lot of distress. [Susan, line 331-341].

In contrast to the other participants, only Emma highlighted the benefits to her of being able to organise her own schedule in a way which suited her own needs and priorities and found the on call system to have little impact.

The second subtheme was concerned with therapists carrying families in their minds. This involved feelings of being part of a family system and was placed in the context of MST being an intensive service typically involving three weekly home visits. Sam described how he was unable to switch off from thinking about his families and would "wake up in the middle of the night thinking oh I hope they find that girl cause I worry about her." In the

extract below, Susan describes her close relationship with the family and one gets the sense of her substantial emotional investment.

> You really are in these family's lives at all different hours of the day and, you know, really seeing what's going on and even though most of our work is with the, with the parents it's all, it's all for this young person and you start to really, really want them to be achieving, you know, you want, and and with that case I was telling you about with the mum who …who was difficult, it, it was so sad to see how sad this girl was with a family who, you know, for different reasons just could not get this girl to go to school and it always ended in this horrible shouting match [Susan, line: 469-479]

Susan used a number of emotive words "sad" "horrible" and her frequent use of "really" provides some indication of how desperate she is to help the family. Along with being such an active part of the family system, the strong feelings around responsibility and accountability for outcomes on therapists were highlighted. This was evident from the expectation therapists felt to persevere with families and continuously examine their role in promoting engagement. This appeared to lead to professionals questioning their abilities, feeling anxious and what was perceived to be a 'blame culture' when faced with barriers to engaging families.

> If fuelled quite a lot of paranoia in the job that I wasn't doing, I wasn't doing my job. I wasn't a good therapist, which actually I think made me quite angry at the time because I was like actually I work my guts off at every family I work with …and do "whatever it takes" [laughs] in inverted commas …very much, um [pause] and I just felt like I was being told I hadn't done everything I could [Jane, line: 464-473].

Consider Jane expressing what she perceives as unjust treatment above. One gets the sense that she feels undervalued in the efforts that she is making to engage the family. The emphasis on the therapist role in achieving the clinical outcomes was also identified as being meaningful in the experience of delivering MST. Tom used the analogy of the family being like his 'baby' to describe what the family means to him and his relationship with them. One gets the impression that the family need caring for but over time and with nurturing can grow. Positive feelings were experienced with successful change in families with words such as "amazing" and feeling "high" being used.

> when it's high you can really feel that, you know, you can go away at the end of the week, you know, and it can lift you up just knowing that what you've done has got bla bla to school, or whatever [Susan, line 504-507].

However when change was not seen as being in the right direction, this could be very difficult for therapists perhaps due to their intricate and complex relationship with the family.

> You can't separate yourself. I think you become part of the family system and so when there is a crisis that's very much emphasised within me, I'm not saying by anybody …… else, so I think you feel part of that crisis and you feel the stress of it and you …… feel an element of responsibility for it [Jane, line 933-945].

> you know that if you can't get it to work here it, this, you know, it's, it's gonna be, you know, there isn't a, the solution isn't for them to be not at home … and we need to make it work at home, um [pause] [Susan, line 487-493].... I just, I start to feel more for, you know, what's gonna happen to, you know, whoever, if we can't do this, um, yeah, so I guess that's, that's a big responsibility to be [laughs] …… going home with… [Susan, line: 497-502].

In the extracts above Jane described how when crisis situations arose; these affected her in a way that for her was comparable to the family members. Susan described MST as the last chance before more formal interventions which appeared to add to the immense sense of responsibility on her to meet the treatment goals. There was also a sense of pressure reported to achieve the weekly intermediary goals. Almost all of the therapists talked about how easy it was to get caught up with the family's everyday crises. The internal debate as to whether addressing difficulties as they arose supported what was important to the family versus the impact of crises on treatment progress is illustrated in the extract by Jane below.

> there is always a pressure when you come back to doing your paperwork as I haven't met my goals …… and that's gonna be flagged up …… and has that meant we haven't moved forward or questioning was that the right thing to do or should I've parked that "crisis" in inverted commas, or whatever, so … … I think I tend to beat myself up quite a lot about was that the right thing to do if we've come off …off the IGs and off, off the do loop if you like because of a crisis [Jane, line: 177-190]

> because they're [professional network] kind of like on me – 'what are you doing, why is this happening?' and sometimes I don't think…they're not really getting the model because things are then like 'did you expect this was going to be fixed overnight?' like I don't know what and 'I'm not a magician, I never pretended to be a magician' [Laura, line 217-221].

In the extracts above, Laura talks about the pressure she feels from other professionals about progress. Note her use of the word "magician" which illustrates the impossibility of the task and yet there is the sense that others believe that it should be achievable.

There was also a sense of therapists feeling alone on a daily basis and this could contribute to feeling hopeless and carrying some sort of 'burden' by themselves. MST therapists frequently described having limited contact with team members. The sense was of them being left with carrying and holding the families difficulties by themselves.

> There was something reassuring about having contact with other people who do the same thing that you're doing …so you don't feel so alone with it. I think that's, that's when it starts to feel, that's when I think it feels it can be, it can stop you from moving forward if you're just like oh God this is all me on my own. I'm carrying all of this and I don't know what to do with it, [Susan, line: 162-168].

The final subtheme is described as who are we within MST? which originated from James, Laura and Sam and captures their sense making in relation to their personal relationship with MST. Consider the extracts below and the words used which have been highlighted in bold. As well as what is highly mechanist language, there are significant negative connotations associated with words such as "cult" and "brainwashed" being used by the participants.

> Sometimes it is very individual and it's part of something very unique but erm, it is something **you form part of** [Jane, line: 110-111].

> Sometimes you feel like you're in a bit of a **cult!** [Laughs] [Laura, line: 506-507].

> I've been quite **brainwashed** by them [Sam, line: 1025].

> am I speaking from **my own** MST experience **or** am I speaking from like, MST standard point of view? [Sam, line: 181-183].

> when I'm with professionals I have to be an MST therapist **and talk in a certain way** and… and it's a fine line between being an…keeping an authenticity in-in that…while being part of this **machine** [James, line: 100-104].

One gets the sense of the individual therapist not being in a position to exercise autonomy and being under some sort of influence. Both James and Sam refer to the discrepancy between their own points of view and that of MST. One is left with the impression that the therapist are under pressure to speak from a MST perspective which is not necessarily reflective of their real views.

3) **Relationships matter**

This recurrent theme is made up of five subthemes including holding onto hope; needing each other; needing others to believe families can make changes; needing families who want to do MST and timing. Therapists talked about how easy it was to get caught up with everyday crises and become hopeless. MST peers, the supervisor and consultant were all seen as vital in supporting the process of the therapist holding onto hope and hopefulness supported therapists to persist in engaging families and to be creative in their thinking.

> We've tried that, that, that, that that and that, da da da da.' 'But have we tried this?' 'No, we haven't.' And then, as a clinician, you get a bit of a glimmer of hope, and you don't know if it's gonna work or not, and you have a bit of a, 'No, I don't think it's gonna work.' But you have this consultant and you have this supervisor who's pushing you. 'Let's try it.' [Sam, line 878-883].

Consider how hopefulness is present for Sam at a number of different levels (team members, supervisor and consultant) and propels him forward into thinking that something can work.

The second subtheme relates to therapists needing each other. Colleagues were described as providing emotional support, role play opportunities to develop clinical skills and a much needed space for reflection. There was a consistency among all the therapists that a cohesive team supported therapists with their emotional well being and effective working.

> You, you do supervision together, so everyone knows everyone's cases. You share on call … [laughs] which is great, but everyone knows everyone's cases as a result of

> that. You, you help each other out. You let your colleagues know. You might get an on call tonight because this has happened today. You're forced, the model almost forces you to do that. I guess that's less the model but more the way we work. So you're almost forced into a position where you have to communicate as a team …… and the team sizes are small enough for you to, for that to work effectively, um, and then that, I feel as such, that then leads to you feeling supported, which also leads to better relationships [Tom, line: 318-334].

Consider the extract above and how Tom described the way in which the model actively supports team cohesion; this is emphasised by the multiple use of the plural noun "you" indicating a sense of togetherness

The third subtheme involved needing others to believe families can make changes. This was evident at a basic level ensuring that other agencies know what MST is and what it involves; thinking about the match of MST to families and having clear and realistic expectations about what was achievable.

> if everyone wants the same thing …and that's quite explicitly spelt out, which I think MST does a really good job of at the beginning, that really helps pull people together, like if everyone, not necessarily exactly the same things, but there are overlapping goals from everybody …suddenly you've got everybody pulling together [Jane, line: 779-790].

> if you can get the social worker aligned, er, then when you're sat in core groups they'll be talking for you which is helpful …because then often the professionals will follow their lead anyway, um, so, yeah I think if you've got, if you've got good relationships with ….. the networks around the family and you understand what's going on, regular communication then it definitely makes the work easier, um, so that, I think that leads to more successful outcomes [Tom, line: 735-744].

As illustrated in the extracts above, good relationship between the wider professional team enabled more collaborative working and planning about the solutions to the family difficulties. The social worker was identified as the key professional to build rapport with as they can potentially influence others. Another aspect of relationship building involved the caregivers working from that same plan and believing that there was something that they

could do to change their adolescents' behaviour. This was seen as a major contributing factor to success. It was Tom's experience that alignment between parents could be challenging and was important to think about to support a consistent approach and increase the effectiveness of intervention strategies. This included when both parents were present in the family home as well as when parents were separated but maintained relationships with their child.

> trying to align with parents that don't believe that them increasing or decreasing some behaviours will result in their children increasing or decreasing some behaviours. Um, so, I think, you know, again, it's, um, it's… you know, it can cause quite, you know, quite frustration [Sam, line: 754-758].

> when there's a two parent family that's separated …and the family's, the young person's seeing both parents, effectively if you've not got alignment in the group from both parents then it's very likely that one parent will undermine the work …you're doing, which is a massive, massive barrier. It can really, really sort of make the case impossible if someone's there effectively unpicking your work [Tom, line: 799-814].

In addition to needing families and others to believe they could make changes; the effort and motivation from parents (needing families who want to do MST) emerged as a subtheme. Almost all of the participants described the importance to successful change of families who had actively asked for help and who appeared motivated to engage with MST. Families who were willing to try new things and whose other commitments and priorities allowed for the intensive nature of MST were identified as more likely to achieve positive changes.

> who was the referral for and, and what did they want, so I think sometimes the referral comes from social services or YOT teams …… because they want the young person and their family to do this but the family or the young person aren't signed up for that and that's where the majority of our work is focused, so in that sense where do you go? [Jane, line: 872-881].

> If you wanna lose weight you go to the gym, you eat less. If you wanna be, you know, if you wanna… if your child… if you want your child not to misbehave, you know, you have to do that, you know, you have to be a very strong parent, [Sam, line: 716-719].

In the extract above, Sam uses a simple yet effective analogy comparing the effort needed by caregivers to participate in MST with that needed for weight loss. This really reflects the commitment that caregivers need to give to make MST work for them.

The final subtheme related to relationships related to thinking about why MST and why now (timing). Weighing up the families other commitments and priorities when assessing how they could commit to the intense nature of MST was considered essential to success. Consider the extract from Emma below and her experience of the importance of considering the parents other needs. In this example; the caregiver's emotional well being appeared to be a factor in why MST had perhaps been less successful.

> that referral might not have been so appropriate is her mother had just died and she practically co-parented with her mother so she, for the five months has been in the process of grief, really chronic grief, erm, so perhaps making her motivate-perhaps it wasn't the right time for this family [Emma, line: 527-535].

Having more time to reflect on referrals was further highlighted by Jane and Laura and linked with what they considered to be a fast paced nature of the cycle of referral, assessment and intervention. In the excerpt below, Jane uses a series of questions about the process of making and considering referrals providing a good example of the restrictive impact of the fast pace and various organisational priorities.

> I wonder around that process of do we stop and think who's made this referral and why? And are the family signed up for it …because we give them an hour, hour and a half to tell them about the service and then say ok now we're together for five months. It's a huge commitment and I wonder, I don't know, I'm just thinking out loud, but I just wonder about that process of did they want the referral? Did the social worker refer? Did the social work manager want the referral? Do MST need more cases? [Jane, line: 886-894].

Linked with considering the timing; there also appeared to be some discrepancy described by therapists about who MST was designed for, who is it actually being delivered with and which young people might benefit the most. Adolescents who were at the earlier part of their involvement in antisocial behaviour and of a younger age were particularly highlighted as cases where positive changes appeared to be more likely.

> A lot of kids we see in MST, they are not what MST started for. They are not that kind of, you know, young offenders heavily involved in some kind of anti-social offending behaviour and stuff like that [Sam, line: 196-198].

> Families where the kids are in school and not getting arrested for instance, or just not getting arrested …… you tend to feel as a therapist that you're more likely to be able to stop that first arrest happening …or you're, you're intervening at an earlier stage which is, gives you maybe more confidence that change can occur. I think if you're taking on a case where the young person's being arrested quite regularly and they're on, at risk of custody …… my sense is normally they've been beyond parental control for a long time, um, and ……as a therapist you always, or I feel this'll be tough [Tom, line: 870-890]

In the final extract by Tom; there is a real sense of the variety in referrals to MST but also the dilemma that this creates for him. He feels that there is a connection between those adolescents who are less or more heavily involved antisocial behaviour and the likelihood of facilitating successful change. He works with a broad spectrum but one gets the sense of his reluctance and feelings of doubt as to whether MST can work effectively with those adolescents significantly involved with the justice system.

4) **How do we know we are getting anywhere?**

This recurrent theme consists of three subthemes: the data means nothing to us or families; are families doing or feeling something different? and what about after MST ends? There was a common thread among participants that quantitative measures of success had little clinical meaning, were misleading and did not provide the full picture. As illustrated in the extracts below, the routine measures were seen as arbitrary, superficial and being "paper" based. Successful changes were seen as much more than the simple absence of specific behaviours and the need to more fully consider the complexities of the family situation were highlighted.

> for me now it's less about [laughs] um, you know, because the young people that we're working with are so extreme you, you know, it's unrealistic to think you are gonna get a family to change to the point where they're attending seven days out of seven. They're not absconding. They're never using drugs. They're in a completely,

> you know, the, the kind of overarching goals that we would have, um, in that kind of like idealistic way I think is, is that, you know, if you're aiming for that in a way you're gonna be let down [laughs] [Susan, line: 531-538]

In the extract above, Susan highlights the importance of being realistic about change, as emphasised by her laugh. One gets the impression that it is important to her to focus on the contrast between treatment start and end rather than some unachievable ideal which could lead her to feeling that progress has not been made and like she has failed.

The second subtheme was the value of considering whether families are actually doing or feeling something different. Most of the therapists described that more effective indicators of successful change to them included increases in parental confidence in managing challenging behaviours, carers feeling less hopeless and increasingly in control. Parents understanding their role in negative interactions with their adolescent and taking more of an active role in getting support from their informal networks were also identified.

> you do 12 weeks of learning to drive and you learn the basics but the real change will happen once you're out on the road alone …and I feel that that's what MS, I think that's what MST should do, it shouldn't necessarily solve problems, or, but it should give in five months families enough skills to manage effectively from thereon and …… that's more important to me than saying this case is now perfect, tick, tick, tick. [Tom, line: 416-429].

As with Susan, one gets the strong sense from Tom about the need to be realistic about what is achieved within the intervention period. One does wonder about how in light of the complexity of the family situation; families are then able to implement their learning moving forward and "on the road alone." This links with the final subtheme which is what happens after MST. There was consistency between therapists in the recognition that at the end; the majority of families continued to need some level of input either from social care or health care services. Tom highlighted the benefits of planning for the end right from the start in terms of always considering how the intervention strategies could be supported by those in the natural ecology. With the use of the words "what/ how are you", one gets the sense that this planning helps with putting the responsibility back on parents for the success of sustainable change.

> MST uses the sustainability side of things which I think if you start that earlier on that's helpful …. and so you start thinking about what are you doing instead of calling on call? Who are you calling within the family that understands what you're trying to do? How are you supp, feeling supported within your sort of own ecology? [Tom, line: 450-467].

> I think mental health should be a bit like dentistry, right? Anything you do, regardless, you need to have regular check-ups. You need to go the next year – errrr (hesitation) yeah, that's fine. Keep doing that, keep doing that. Well, maybe you need to change your toothpaste or whatever, right? See you next year [Sam, line: 976-980].

Only Sam shared his ideas about what MST, and mental health services in general could do differently to support the sustainability of positive changes. Likening this to dental care really emphasised the idea that good mental health also needs to be actively and continuously worked on.

General Discussion

Using an interpretative phenomenological approach, this study sought to explore the lived experience of therapists delivering MST by conducting interviews with a purposeful sample in London. The rich qualitative data was informative allowing insight and illuminating areas that help with understanding the 'real world' implementation of this unique intervention. IPA does not enter so readily into the practice of generalisability (Smith et al., 2009) and therefore the discussion below aims to connect participants experience with relevant literature. This can improve our understanding of the participants' lived experience and direct future research.

The sense that the persistent and flexible delivery of MST allowed for common barriers to families accessing services to be more effectively overcome was consistent across participants. Reviews of interventions for conduct disorders in adolescents indicate high attrition rates (30-40%, NICE 2013) and emphasise the burden that therapies delivered in more traditional ways often place on families. These include practical and financial difficulties associated with transportation, appointment times, childcare and the frequently reported need to 'persuade' the referred child to attend (Kazdin, 1997). The in-home, flexible and 7 day a week nature of MST overcomes these barriers increasing the accessibility of therapeutic services. The completion rate of MST has been reported as ranging from 76–100% (Curtis, et al., 2004). The small caseloads in MST and high availability further allows for more time to build relationships and engage families in the therapeutic process. This can be linked with the research literature indicative of family engagement as being key to effective interventions (Friedman, 2000).

The participants further highlighted that home delivery allowed for in the moment observations of family interactions and the increased potential for more effective transference of learning. This appears consistent with other advantage of in home interventions including therapists being in a better position to get to know the everyday reality for family members in their natural environments thereby increasing the possibilities for forming solutions to encourage effective family functioning (Waisbrod, Buchbinder & Possick, 2012). Therapists in the home environment may also be more likely to develop a holistic perspective of the family needs; relate more effectively to their strengths and think about the family members as experts of their own lives (DeJong & Miller, 1995).

The benefits of a multi professional team were highlighted by all of the therapists. These included increased opportunities to share areas of expertise and to develop clinical thinking and skills. There was also further consensus that a certain level of clinical experience and skill was required to practice safely and effectively. There are a number of possible reasons for why this was identified as important: the MST therapist delivers the majority of interventions strategies themselves alone in the family home which can range widely; therapists have different professional backgrounds and families referred to MST typically have high levels of clinical need and risks.

In this study, two participants expressed feeling that the psychologist therapist may be better equipped to deliver MST. Within psychology training, a range of theoretical models are typically taught across various clinical placements which is likely to increase critical and flexible thinking. Interventions require skilled and competent therapists to be delivered effectively (see Blow, Sprenkle & Davis, 2007 for a review of therapist role). Therapist variables have been shown to account for more variability in clinical outcomes than treatment-specific factors (for example in treating depression, Kim, Wampold & Bolt, 2006). Further consideration may need to be given to establish some sort of baseline of clinical knowledge and skill for MST therapists. This is further indicated by the freedom the therapists described feeling to bring their own ideas and preferred therapeutic approach to delivering MST. The example provided by Emma that she was more likely to prioritise parent child interactions highlights the possible variability with which MST is delivered in the real world.

Within offending populations, treatment integrity and therapist delivery style are regarded as essential aspects of effective programmes (McGuire, 2001). Comparable programmes targeting antisocial adolescents include Reasoning and Rehabilitation (Ross & Ross, 1995); Juvenile Thinking Skills Programme (Nichols and Mitchell, 2004) and Teen Triple P-Positive Parenting Programme (Sanders & Ralph, 2001). Compared with MST, such programmes have clearly described theory and practice manuals with explicit sequential structures and session plans which support the therapist with their understanding and in adhering to the procedures (McCulloch & McMurran, 2007). Furthermore such manualised programmes operationalise the therapeutic procedures thereby increasing both the replicabilty of treatment and the evaluation of treatment adherence (Wilson, 1996). The multicomponent nature, lack of clarity about therapist decision making and increased potential for variability in delivery

within MST, do present as significant challenges to investigating specifically what parts of MST work and why.

The weekly team supervision / consultation process primarily focuses on promoting adherence to the MST principles and analytic process (Schoenwald et al., 2000.) These processes appeared to be valued by the participants to gain direction, feel reassured, prevent feelings of isolation and review progress alongside colleagues. However, consistent with the findings of recent qualitative research (Packer, 2014; Kiddy, 2014); the limited opportunity for clinical reflection was highlighted. Therapists felt that they were told what to do rather than encouraged to think reflexively. There is ongoing debate about the desirable elements of clinical supervision, objectives and links to outcomes for clients (Davy, 2002). However, as Milne (2009) points out, clinical supervision forms the most essential and primary method of training and teaching clinical skills and ensuring service quality. Reflection can be defined as 'cognitive housekeeping' (Moon, 2006) involving switching off the mental autopilot and considering the 'whys' behind the 'whats' and acting on the basis of fresh understanding. Reflective supervision can thus support practitioners in turning experiences into meaningful learning and in turn their professional development.

The therapists further reported experiencing little acknowledgment within supervisory processes of the emotional impact of the work on them. Therapists made frequent references within their accounts of delivering MST to carrying the families in their minds; feeling alone and seeking out peers for emotional support. This can be further linked with descriptions detailing how therapists saw themselves as honorary members of the family system and positive changes and setbacks impacted upon them in a similar manner. Susan described feeling "high" when an adolescent made positive progress; but in contrast; feeling desperately sad when adolescents engaged in risky behaviours. Therapists also reported feeling pressure from the emphasis on their accountability and responsibility for engagement, achieving the weekly goals and treatment targets. These pressures could leave them feeling professionally inadequate, anxious and conflicted between achieving the weekly goals whilst supporting families with everyday crisis.

Again these findings about the emotional demands of delivering MST echo the therapist accounts within both Packer's (2014) and Kiddy's (2014) studies. One possible hypothesis is that participants' experience of MST supervision as having limited opportunity for emotional processing contributes to how supported therapists feel and the relationships they develop

with their families. There does appear to be limited attention within MST given to the important 'restorative' function of clinical supervision involving the encouragement of emotional experiencing and processing (Milne, 2009). Within Hawkins and Shohet's well known seven-eyed model of supervision (Hawkins & Shohet, 2006); there is specific emphasis placed on therapist processes (e.g. counter transference), relationships between the client, therapist and supervisors as well as the wider organisational context within which the therapeutic work takes place. The task and adherence focused supervision within MST appears to neglect these wider aspects.

References to waking in the night thinking about the family and comparing the family to a "baby" provide a tentative indication of somewhat unhealthy client / therapist relationships. It is worth considering in relation to the findings of this study the possible impact of in home intensive therapeutic interventions on client / therapist boundaries (Bryant & Lyons, 1991). Boundaries can be thought of as the limits that circumscribe the relationship between the therapist and client; violations of which range from treating clients as if they were friends, therapist self disclosure to sexual exploitation (Martinez, 2000). Therapists in this study described feeling immersed within the family unit which likely has the potential to increase the risk of role shifts and boundary violations (Roberts, 1996). The possible impact on the safety of the therapeutic environment and clinical outcomes of this is unclear but does warrant future investigation.

The need to include emotional support within MST supervision is further indicated by research indicating an association of attending to these factors with higher job satisfaction and staff retention (Barak, Travis, Pyun & Xie, 2009). The literature related to therapist burnout (Freudenberger, 1974), compassion fatigue (Figley, 1995), secondary traumatic stress or vicarious trauma may all offer useful ways to understand how therapists may react to providing MST. These terms refer to those psychological, cognitive and physiological responses to client's trauma symptoms (Baird & Jenkins, 2003). The consequences of providing services to traumatized populations on therapists have been hypothesized to include ''significant disruptions in one's sense of meaning, connection, identity, and world view, as well as in one's affect tolerance, psychological needs, beliefs about self and other, interpersonal relationships, and sensory memory'' (Pearlman & Saakvitne, 1995, p.151).

Consider the descriptions used by the therapists in this study about what the family meant to them; they felt part of the family crisis, they felt responsibility when adolescents went

missing or offended and they felt in the families lives at all times of the day. It is hypothesised that MST therapists are a population likely to be susceptible to burnout. Some specific programme to identify the presence of work related stress and to respect and normalise the natural consequences of therapist responses to working with these complex families could be integrated within MST training and the ongoing supervision process. In particular, research has identified coping strategies and social support as potentially protecting against burnout (Stevens & Higgins, 2002). Increasing active coping can help in changing how individuals may respond to stress and develop personal resiliency; support networks can mitigate the effects of stressful experiences. The importance therapists here placed on actively seeking out their peers for emotional support would appear to be consistent with this.

It is not clear to what extent supervisors are aware of the reported limited clinical reflection and emotional processing within supervisory processes. It would be helpful to further interview supervisors about their experience of providing supervision within MST. The possible discrepancy between therapist and supervisor experience was indicated from a study involving focus group interviews with MST therapists (Adams & Maynard, 2000). Supervisors were reported to be surprised by the theme of demoralisation and feelings of professional inadequacy which emerged.

The qualitative interviews in this study also highlighted the real practical impact for therapists in organising their daily lives (MST first, my life second). The on call system was described as limiting social activities and contributed to a state of hyper alertness. The MST recruitment toolkit advises that the flexibility and on call schedule be made explicit in advertisements and further discussed at interview (MST Services, 2010). Despite this commissioners may need to think about how periods of respite and self care are protected for the MST therapist. Jane described how the intense way of working in MST would not be sustainable for her in the long term. This could be one of the contributing factors to the relatively high MST therapist turnover.

There is currently no data on staff attrition in England, however a Canadian study reported that over the project period (4 years) only one of the four teams remained intact (Cunningham, 2002).

Possible reasons for therapist attrition include evening and weekend working, on call, isolation, intensity, travel time, scrutiny of therapist work and weekly paperwork. There are a number of possible challenges associated with staff turnover including cost implications for recruitment and training; disruption to treatment with multiple or novice therapists and team stability and cohesiveness (Curtis et al., 2009; Cunningham, 2000; Sheidow, Schoenwald, Wagner, Allred, & Burns, 2007). Research is needed to examine the reasons why therapists leave which could support with developing strategies to retain staff.

The importance therapists placed on relationships in contributing to positive treatment changes within families was highlighted. Information about which clients and under what circumstances MST may be more effective can help with directing resources, increasing understanding of what and why it works and supporting programme modifications.

The therapists in this study highlighted the vital role of a cohesive team in helping them to maintain a sense of hope which they felt facilitated therapeutic change. 'Hope and expectancy' has been described as a common factor associated with positive individual psychotherapy outcomes (Karam, Blow, Sprenkle & Davis, 2015) and could also be applicable to family therapies (Flaskas, 2007). Effective treatment may rely in part on the client knowing that they are in treatment, becoming hopeful and expecting that treatment works (Lambert, 1992).

The literature on how therapists remain hopeful or indeed how this is present in their interactions or in the relationship with the family is scarce. Given that the families referred to MST often have long standing difficulties of a nature severe enough considered to require intense services; it is possible that the family may have developed complex patterns of hope and hopelessness. The therapists' ability to hold onto hope themselves in the face of family hopelessness is likely to be quite challenging; this could be further linked with how therapists in this study described feeling overwhelmed and as if they are carrying some sort of "burden."

In Wampold's (2001) meta-analysis of models and methods within psychotherapy, the allegiance of the therapist to their approach was indicated as bringing hope and confidence to the clinical intervention. One possibility is that those therapists that fully believe or "buy" into MST are more credible in their interactions with families about how MST will support with positive therapeutic change. All of the therapists in this study alluded to their

supervisors having strong faith in MST and supervisory processes being aimed at continuously grounding them back to the model which may contribute to maintaining a sense of hope.

There have been relatively few MST studies examining client variables which may moderate outcomes, despite the emphasis on caregivers as the main conduits of change. Adolescents with untreated behavioural difficulties are more likely to experience a number of poor outcomes (Moffitt, Caspi, Harrington, & Milne, 2002) and it is therefore vital to investigate those variables which may be associated with parental engagement in treatment. This is recognised within MST which holds engagement as a priority consideration throughout (Cunningham & Henggeler, 1999). The therapists here identified that, in their experience, MST was more effective for those families who had requested the intense support. This may be linked with the high level of commitment needed for MST including multiple weekly sessions and active parental changes; often resulting in temporary escalations in adolescents' problematic behaviours as boundaries and meaningful consequences are implemented.

The findings here are consistent with that of a doctoral thesis which interviewed a sample of minority ethnic families who had participated in MST (Bibi, 2014). Consistent among the caregivers was the sense of having the choice to engage as important to their willingness to participate. Self determination theory (Deci & Ryan, 2000) is of relevance here; given the potential role of autonomy in intrinsic motivation. In SDT, specific external contingencies (e.g. avoidance of legal proceedings) as applied for those families who do not agree to participate would be deemed as undermining of intrinsic motivation. Certainly within individual psychotherapeutic change literature; those client characteristics related to level of motivation and commitment to change are indicated at some level to clinical outcome (Miller & Rollnick, 2002). Whilst 'motivation' continues to be an ambiguous concept and is also dynamic; it can be thought of as a willingness to participate in treatment with the goals of obtaining positive change (Drieschner, Lammers, & van der Staak, 2004). In family therapies, caregiver interest and willingness to make changes to influence their adolescent and their perception of being able to do so may all be relevant considerations (Drieschner et al., 2004).

For those families where MST participation is mandated by court / social care; the extent to which this may impact on outcomes is not known. This is likely to vary across families in terms of the actual pressure to participate, the likelihood of the consequences of not

participating, caregiver perception of the level of coercion and how this links with their own personal goals (Ward, Day, Howells & Birgden, 2004). These issues are further complicated by the multi-client nature of MST. Prochaska's (1999) work on the process of change and stages of change may provide a helpful framework for understanding both adult and adolescent readiness; however, its application to family therapy is unknown. Despite the challenges described, the assessment of motivational constructs could help to guide the selection of families who may be more likely to actively participate.

Within participant accounts, there were frequent references to who may be most likely to benefit. MST was originally designed for serious juvenile offenders; however, the variability in the referred population was indicated by the therapists in this study. Indeed, Ashmore and Fox (2011) note that MST is for adolescents at risk of custody or care and the only exclusion criteria are the presence of a neurodevelopmental disorder, current risk of suicide or psychosis. How various local agencies operationally define what "at risk" actually means is unclear. There is no known research examining the factors affecting referral pathways in England and the variation in clients referred in terms of the chronicity or severity of problematic behaviours was indicated by therapist in this study.

The therapists here reported that positive change was more easily achievable with those adolescents whose involvement in antisocial behaviour had not yet come to the attention of the police. This would appear to contrast to the MST developers findings that severity of antisocial behaviour is not a mediator of outcomes in their MST trials with juvenile offenders (e.g. Borduin, Mann, Cone, Henggeler, Fucci, Blake, & Williams, 1995; Henggeler et al., 1997). Therapists in this study also reported that in their experience MST was more effective with younger adolescents. This appears consistent with a recent meta analysis undertaken by Van der Stouwe, Asscher, Stams, Deković and Van der Laan (2014) which found larger treatment effects of MST on delinquency for adolescents who were an average age of less than 15 years. Moreover, only those studies with younger participants showed improvement on the secondary outcomes (externalizing and internalizing behaviour; family factors). The findings in this study support the possibility that family factors may well lose their predictive value of recidivism as adolescents develop (Van der Put, Deković, Stams, Van der Laan, Hoeve & van Amelsfort, 2011). MST is an intensive resource and further research investigating who and the conditions under which treatment may be more effective is vital

The relationships with the professionals around the family were also reported by therapists to be essential in contributing to positive change. Agreement about the solutions to the families difficulties, the preservation approach and adopting an ecological approach were all reported to support change. In an evaluation of MST in Connecticut, the necessity of good relationships and successful collaboration between the key stakeholders was also highlighted (Franks, Schroeder, Connell & Tebes, 2008). Specifically, the authors identified the benefits of helping other professionals to understand the clinical components of MST, setting up realistic expectations of change and the adjustment required by others in shifting the focus away the adolescent. It is difficult to draw conclusions about how therapists develop alliance not only with various family members but with multiple subsystems. How the priorities and relationships of various eco-systems are balanced and how this may contribute to overall treatment progress remains unexplored.

With regard to how therapist thought about progress (how do we know we are getting anywhere?); there was substantial consensus that the routinely collected measures (adolescent in school, at home and not reoffended) do not provide a complete picture of change. Arrest data is fraught with difficulties and without requiring a conviction, is likely to lead to inflated reporting. Furthermore, the significance of an adolescent attending school rather than information about their performance and how this contributes to longer term prognosis is questionable. Moving away from yes/no constructs could provide more meaningful and relevant outcome data.

Therapists are a useful source of information given that they may be aware of subtle changes within the family. The most commonly reported positive changes that the therapist themselves experienced involved caregivers feeling more confident in managing difficult situations, being more in control, understanding their influence on their children's behaviour and getting support from their informal networks. It is important to place these findings in the context of other qualitative research involving interviews with adolescents and their families. The second domain within Tighe et al., (2012) study was "outcomes are complex". Clients reported that MST had been important to them in re-integrating adolescents into school; increases in parent confidence and an increased interest and understanding of a adolescents' own role in creating their own future. Measuring changes in the family interactional patterns given that MST is designed to improve these would be valuable. Furthermore, MST is underpinned by the socio- ecological approach and therefore a broader

assessment of outcomes at each system level (individual, family, peer, school and community) would enable better understanding about how changes within these contribute to overall outcomes.

Therapists in this study were unanimous in their recognition that post MST, the majority of families require some ongoing form of support. The stringent 3-5 treatment period of MST is surprising given the multi determinant nature and pervasiveness of conduct disorder (Fonagy et al., 2002) and follow up sessions are used to support treatment progress among other effective interventions for adolescents (e.g. for recurrent depression). Sam used the example of dentistry to highlight his views about the need for post MST checkups to systematically and regularly monitor progress. Within the MST research literature, there is limited information about families accessing follow up services, what those services consist of or for how long.

Methodological Limitations

There are a number of methodological limitations as highlighted throughout. At the time of conducting the research, the primary author was a MST therapist (on leave) and this may have affected participant accounts in various ways. Participants may have held assumptions about the researchers' prior experience adapting their responses accordingly. During interviews, when participants sought further clarification; the researcher made it clear that they should assume no prior knowledge. One possible benefit was that the researcher had a good understanding of MST processes and so interviews focused on the participant's personal lived experience rather than descriptions.

Give the small potential sample of London MST therapists, participants may also have felt unable to provide honest accounts of their experience. The participants may have felt professional anxiety over what they could share and this may have shaped the findings. The researcher made the limits of confidentiality explicit to participants and provided detailed information about how responses would be anonymised. The interview schedule was designed to ask both about the strengths and limitations of MST and the data does appear to reflect a balanced critique. In particular there were some references to MST being like a "cult" and therapists being "brainwashed." This honesty is potentially indicative of interviewees feeling at ease to provide their opinion in light of how this could be reported. Consistent with Packer's (2014) findings; the MST therapists appeared to have appreciated the opportunity to discuss their experiences and several participants asked to see the

completed analysis. It is also worth noting that interview data is subject to a number of shortcomings. Retrospective self report data relies at some level on participants being able to accurately recall their experiences and to verbalise complex internal and relational processes (Giorgi & Giorgi, 2008).

A further methodological consideration is the sample itself. Firstly with regard to the size, seven participants were recruited. It could be argued that this is too small thereby limiting the generalisability of the findings. However, qualitative research is committed to advancing knowledge through in depth analysis of small group personal accounts (Touroni & Coyle, 2002). A purposive and broadly homogenous sample was used in accordance with the ideographic position taken in this study. The sample size is consistent with other IPA research (see Brocki & Wearden, 2006) and expert recommendations (e.g. Smith et al., 2009). The sample was from London and the findings should therefore be viewed as being temporally and circumstantially situated. The derived themes can be best understood as applying to the recalled experiences and not necessarily as predictive of all therapist experiences or encompassing all important aspects.

Attempts were made to select a 'fairly homogenous' sample. However, a further methodological consideration is the possible variation in terms of how long each participant had worked as a MST therapist. Specifying those with a certain number of years of experience may have increased the homogeneity of the sample. Cunningham (2002) refers to a 1 year learning curve for those new to MST to develop proficiency and it is therefore possible that those therapists who are new to the model have qualitatively different experiences in delivering MST to those who were more familiar with the processes. Limiting the sample to MST experience would have reduced the potential size even further and may not have been viable. It is also acknowledged that the sample comprised of therapists with varying professional qualifications who may potentially think about things in different ways. However, MST is delivered by a variety of professionals. Moreover, differences in training and clinical skill between therapists emerged as a subtheme from participant accounts. Lastly, the participants had all responded to the initial advertisement and were motivated to take part. There is a possibility that the experiences of this sample were qualitatively different from those who did not respond.

With regard to the IPA approach, it could be argued that there are limited guidelines about how to effectively incorporate reflexivity into the process. The position of the researcher and

their interpretative role has been fully acknowledged throughout the research process. Summary notes were made after each interview and a reflective journal was kept in order to support the researcher in understanding her preconceptions about the data and how these may influence what was attended to. Furthermore, care was taken to follow the guidelines by Smith et al., (2009); to increase understanding of IPA through training and to use supervisory processes. During the discussion section, participant accounts and the interpretations were distinguished and a number of verbatim extracts provided to invite the reader to assess the credibility of the interpretations. Openly recognising the interpretative role of the researcher is a key feature of IPA and the account offered is the researcher's interpretation of the data.

IPA also acknowledges that gaining direct access to participants' life worlds relies in part on the role of language in participant descriptions about their personal lived experience. It could be argued that the interview data is an account of how participants spoke about their particular experience, rather than the experience itself (Willig, 2001). Whilst individuals may struggle to use language to convey their lived experiences, it is intertwined and made possible through language. It may be that the researcher interpreted the language in a way that differed from the way in which participants intended. However as recommended by Smith and Osborn (2008); attention was paid to the emotional state of the participants as well as analysing what was not said in order to fully consider the subtleties and nuances of the therapists experience. It is recognised that response validation would have improved this point (Langdridge, 2007).

Implications for Future Research and Clinical Practice

A number of theoretical and clinically relevant areas which warrant further exploration have been described throughout. The findings of this study add to the existing research literature by providing therapist views of the process and factors that may help or hinder change. Key areas for further investigation include:

- In the therapists' experience, when caregivers had actively asked for help; the likelihood of positive changes appeared to increase. Service providers may wish to more carefully consider motivational constructs when selecting appropriate referrals to try and help maximise the chances of success.
- The timing of MST interventions warrants further consideration. The therapists here felt that adolescents who were younger in age or at an earlier point in their criminal careers were more likely to benefit. Within effectiveness research, detailed

information should be provided about population characteristics to increase understanding of where to target MST.

- The findings in this study indicate that the supervisory processes within MST would benefit from improvement. Further research specifically to explore the emotional impact of delivering MST may help with understanding whether this is related to reportedly high staff turnover and it would be helpful to interview a sample of staff that have recently left MST. The important restorative function and reflection for learning could be incorporated within MST supervision. It would be further beneficial to interview supervisors about their experience of providing supervision in MST.
- The therapists here highlighted the limited clinical significance of the three main outcomes that are reported (adolescent at home, in school, no reoffence). In particular, it is suggested that wider consideration of family functioning would be helpful including parental confidence and understanding of their influence.

Conclusion

This study offers an initial exploration into therapist views and provided them with the opportunity to reflect on their experience of delivering MST. The use of a phenomenological approach makes an important contribution to the literature by allowing participants to define and explore issues important to them. Taking this more personal focus can help with increasing understanding about the aspects of MST delivery that may impact upon therapists, those factors that may hinder or promote change and how to define positive changes.

Despite a relatively small sample size and methodological limitations in the design, some interesting considerations emerged. These include the way in which therapists described the impact of delivering MST on their practical life and emotional well-being; the possible ways in which the supervisory process in MST could be adapted to potentially help therapists feel more supported and relationship factors which may promote successful change. Findings indicated that therapists felt that families who had actively sought help and who had younger adolescents who were at an earlier stage in their criminal career may benefit the most from MST. Consistent with previous qualitative research involving interviews with adolescents and their caregivers; therapists described the treatment outcomes as much more than the absence or presence of specific adolescent behaviours. It is hoped that the findings of this study demonstrate the value of adopting qualitative methodology to advance the knowledge base and highlight areas which warrant further investigation.

Preamble to Chapter 4: A note on the critique of a psychometric measure

Within MST; there are no standardised measures in the assessment or evaluation of treatment progress. Therefore the required critique of a psychometric measure will focus on one of the few validated risk assessment tools for adolescent general recidivism. This has therefore been positioned separately at the end of the thesis.

Reliable and valid assessment of adolescent risk of reoffending is essential for various reasons. The Risk-Need-Responsivity (RNR) Principle is very likely one of the most influential models for the assessment and treatment of offenders (Andrews and Bonta, 2006). Of particular relevance here is that the level of services provided to adolescents should be proportional to level of risk. Therefore in order to have the most impact, intensive services like MST should be targeted to those adolescent offenders who are at high risk of reoffending.

Chapter 4

Critique of a psychometric measure:
Youth Level of Service / Case Management Inventory 2.0
(Hoge & Andrews, 2011)

Introduction

Over the past few decades, literature examining the risk factors predicative of offending behaviour in adolescents has evolved (see reviews by Loeber & Farrington, 1998; Lipsey 1995). The assessment of recidivism is important for a range of forensic decisions including public safety, sentencing, level of supervision, allocation of resources and guiding interventions related to specific levels of risk and criminogenic needs (Olver, Stockdale, Wormith, 2009; Hoge & Andrews, 2009). If accurate, as well as identifying those adolescents who pose a high risk of future harm to others; risk assessment can also inform management of adolescents across the secure estate including harm to staff/ other adolescents, incidents and possible security issues (Holsinger, Lowenkamp & Latessa, 2006). Effective discrimination of cases can further save agencies both money and time.

Assessment of risk is understandably a complex and ethically challenging task due to the possible life altering implications (Koocher, 2006). This may be particularly apparent for adolescents who are going through puberty a period of major biological, psychological and social change (Welsh, Schmidt, McKinnon, Chattha & Meyers, 2008). There are dramatic changes in hormone levels, substantial changes in parts of the brain and continued development of social abilities and behaviour (Morgan, 2007). Historically, risk was assessed by a clinician on an individual basis. So called unstructured clinical judgments are, however, subject to high levels of assessor bias and there has been considerable research demonstrating that such methods lack reliability and consistency (Grove & Meehl, 1996).

The practice of risk assessment has moved towards more evidence based and structured approaches in recent decades (Bonta, 2002). Actuarial risk assessments involve the consideration of individual items based upon empirically derived relationships with recidivism (Dawes, Faust, & Meehl, 1989). Whilst such instruments may be easy to score; they can be considered to be atheoretical as items are chosen due to their availability and association with reoffending (Bonta & Andrews, 2007). Furthermore, typically items are

historical and static meaning that they do not allow the possibility of an individual's risk level to change. In line with these limitations, from the late 1970s, "third generation" risk assessment instruments developed which included dynamic risk factors; those characteristics which are amenable to change and which can form targets for intervention, for example, engagement in education. These tools for assessing risk still have a uniform structure, specific criteria for determining risk and explicit coding structures thus supporting clinicians in adhering to important factors and in their decision making processes. Such standardised assessments have been found to typically lead to better predictions about future behaviour (Schwalbe 2007, 2008) and can also be used to evaluate treatment programmes.

Further development of risk assessment tools has involved the addition of case management, intervention planning, monitoring features and other individual characteristics which may be relevant for treatment; so called "responsivity" factors (Bonta & Andrews, 2007). These have been called "fourth generation" instruments (Hannah-Moffat & Mauruto, 2003) and one such tool for assessing general recidivism among adolescents is the Youth Level of Service / Case Management Inventory 2.0 (hereafter YLS/CMI 2.0) (Hoge & Andrews, 2011). This review will firstly describe the YLS/CMI 2.0 in more detail and then examine its scientific properties, its applicability to adolescent offenders and its research uses. Clinicians have an ethical responsibility to ensure that selected instruments include important and relevant risk factors, demonstrate valid and reliable psychometric properties; have relevant samples for the individual being assessed and are fit for purpose (Hoge & Andrews, 2009).

Overview of the Tool

The YLS/CMI 2.0 is designed to support professionals in assessing an adolescent's risk of general reoffending and provides a framework for developing a case plan. It is a structured instrument which identifies both static and dynamic risk/ criminogenic needs and responsivity factors (see Table 7 for a description of the main components and a layout of the tool). The YLS / CMI 2.0 is used extensively in Canada, the US, Australia and Scotland and is appropriate for use by a variety of professionals including probation officers, youth workers, psychologists and social workers. The tool derived from the Level of Service Inventory (LSI: Andrews, 1982) which was developed to support parole and supervision decisions for adult offenders. An earlier version of the LSI was adapted for use with adolescents and constituted a checklist instrument of 112 risk / need items. This was then revised as the YLS/CMI (Hoge & Andrews, 2004) which incorporated those 42 items which

were indicated from research as most strongly associated with reoffending (Hoge & Andrews, 2011). The most recent version has an increased normative sample of 12,798 adolescent offenders across America; an increased age range of 12-18 years; addition of non-criminogenic needs and responsivity factors and new cut offs based on gender and setting (community / custody).

Table 7
Components of the Youth Level of Service / Case Management Inventory 2.0

Components	**Description**
Part 1: Assessment of Risks and Needs (42 items across eight domains)	Prior and current offences / Dispositions Family circumstances / Parenting Education / Employment Peer Relations Substance Abuse Leisure / Recreation Personality / Behaviour Attitudes / Orientation
Part 2: Summary of Risks and Needs	Scores from the risk / need levels from each subcomponents are recorded and a Total Risk / Need score is calculated which is then used to classify young people as low, moderate, high or very high risk.
Part 3: Assessment of Other Needs / Special Considerations	Other relevant information for intervention, forensic decisions and case planning is recorded (related to the responsivity principle).
Part 4: Final Risk / Need Level and Professional Override	The assessor classifies the young person into a risk/need level based on all of the relevant information; where risk/need estimates differ from that in Part 2; the assessor is expected to provide an explanation.
Part 5: Program / Placement Decision	Based on the general risk / need level; the assessor determines the level and type of service required.
Part 6: Case Management Plan	Specific goals and the means by which these will be achieved are documented: these should be consistent with the criminogenic needs identified in Part 1 and responsivity considerations in Part 3.
Part 7: Case Management Review	Review of progress and any changes in risk / need levels.

The YLS/CMI 2.0 is an actuarial scale and was developed from a thorough consideration of the empirical literature concerning factors related to offending behaviour among adolescents. It is based upon the general personality and social psychological models of criminal conduct which postulate that adolescent offending results from a complex interaction of multiple

variables within domains representing the individual and their family, school, and peer factors (Andrews & Bonta, 2006). Four principles underlie the YLS/CMI 2.0:

The Risk principle: those adolescents who are at high risk of reoffending will benefit the most from higher levels of intervention services. Low risk offenders should receive minimal or no intervention. This is of particular significance since research has demonstrated that mixing those who are low risk of reoffending with high risk peers can actually increase the antisocial behaviour of the low risk group ("iatrogenic effects" Dishion, McCord & Poulin, 1999).

The Needs principle: intervention targets should be matched with those factors directly associated with reduction in recidivism (criminogenic needs). These include, for example, antisocial attitudes, association with procriminal peers and substance use.

The Responsivity principle: treatment programmes should be delivered in a way that is matched to individual characteristics, for example, reading level, self-esteem and learning style.

Professional override: Assessors can use their clinical judgment and knowledge about the circumstances of the offence or the young person to adjust the actuarial outcome, for example, from 'low' risk and need to 'moderate'.

The YLS/CMI 2.0 allows an adolescent to be described in terms of an overall risk score based on an evaluation of their risk and needs within specific areas (Hoge & Andrews, 2009). It can be administered at all stages in the youth justice system including pre trial, sentencing and case planning. The YLS/CMI 2.0 further allows for the assessment of change in risk/needs as an adolescent progresses through time or when potentially risk altering events occur. Assessors are required to be trained in the administration and scoring of the tool prior to conducting assessments and the manual provides a description of the test materials and procedures for completing and coding the instrument. For Part 1, administration involves conducting a semi-structured interview with an adolescent offender as well as a file review and interviews with other agencies for other information. Utilising this data, each of the 42 items are scored as either present or absent; a score is given to the presence of an item which is added up for the respective domain score. Areas of strength can also be scored as protective factors. For Part 2, the applicable items are summed to give a total risk score ranging from 0 to 42. The scores are matched with an overall risk / need level in accordance with gender / setting which are presented in Table 8. Clinical judgment can also be used to override the overall risk / need score with explanation.

Table 8
Total risk / need levels in accordance to setting type and gender

Setting / Gender	Low	Moderate	High	Very High
Custodial male	0-19	20-29	30-36	37-42
Custodial female	0-19	20-29	30-36	37-42
Community male	0-9	10-21	22-31	32-42
Community female	0-8	9-19	20-28	29-42

Alternative risk assessment tools with adolescents which can support forensic decision making include the Asset developed by the Youth Justice Board for use across England and Wales (YJB, 2003). There are also specific tools for assessing risk of violence (Structured Assessment of Violence Risk in Youth, SAVRY, Borum, Bartel & Forth A, 2002) and sexual offending (Assessment Intervention Moving on 2, AIM2, Print, Griffin, Beech, Quayle, Bradshaw, Henniker, Morrison, 2007; Estimate of Risk of Adolescent Sexual Offense Recidivism, ERASOR, Worling & Curwen, 2001 & Juvenile Sex Offender Assessment Protocol-II, JSOAP-II, Prentky and Righthand, 2003). The Psychopathy Checklist Youth Version, PCL-YV (Forth, Kosson, & Hare, 2003) whilst primarily developed to assess personality traits associated with the construct of psychopathy, has also been used for assessing risk of reoffending. Further consideration of these tools will be provided when examining the concurrent validity of the YLS/CMI 2.0.

Properties of psychological tests

Whilst the YLS/CMI 2.0 is not strictly a psychometric test in that it does not measure a single construct; it is possible to assess its clinical / research utility and the degree to which it conforms to the properties of a good psychometric test. According to Kline (2000) these include reliability, validity and appropriate norms. In order to accurately classify young people's risk and need levels and improve the quality of forensic decision making; any risk assessment tool needs to possess these qualities which will be addressed here in turn. A recent meta-analysis (Olver et al., 2009) identified 22 published and unpublished research studies which have examined the reliability and validity of the YLS/CMI and it has been described as the most extensively researched adolescent risk assessment tool (Schwalbe, 2008; Schmidt, Campbell & Houlding, 2011; Thompson & MGrath, 2012). It should be noted that the empirical research has been conducted with the earlier version; although the latest

version contains developments, the user manual states that "the scoring of the Total Risk/ Need Score and the eight subcomponents of Part 1 (Assessment of Risks and Needs) remains unchanged from the YLS/CMI" (Hoge & Andrews, 2011, p.3).

Reliability

Reliability is key to psychological measurement and refers to the stability or consistency both within a measure and whether results are replicable (Kline, 2000). The main types of reliability which shall be discussed below in relation to the YSL-CMI are inter-rater reliability and internal reliability.

Inter-rater reliability

It has been argued that the most important reliability measurement for risk assessment tools is the inter-rater reliability which relates to the variation in score ratings between assessors applying the same test to the same case (Doyle, 2011). A simple review of the literature found several studies which have investigated the inter-rater reliability of the YLS/CMI (see Appendix 29). The majority of the intraclass correlation coefficients (ICC) for the total risk/need score were over .70. According to Cicchetti and Sparrow (1981) values of .40 to .59 can be considered fair; .60 to.74 can be considered good and those over .75 as excellent levels of agreement.

Whilst the YLS/CMI does therefore appear to demonstrate with good interrater reliability, some caution should be applied to the findings. Firstly, Doyle (2011) recommends a sufficient proportion of the study participants (between 20-30 / more than 20%) should be included in the analysis of interrater reliability. As demonstrated in Appendix 29, this has not always been the case. For example, Caldwell and Dickinson (2009) only used 19 participants to investigate the interrater reliability which was about 10% of the total sample; and in one study, the proportion was not reported (Marczyk, Heilburn, Lander & DeMatteo, 2005). Furthermore, in some of the studies; it was difficult to determine the training and qualifications of the raters, the ways in which cases had been selected or whether the second raters were external to the study. Welsh et al., (2008) note that having multiple raters with differing levels of background knowledge and skills about risk assessment is reflective of real world practice. The manual advises raters to receive initial training and it may be that future research could examine whether there is any impact of booster training sessions or quality checks on the inter rater reliability. The possibility of drift from rating the measure

accurately could lead to lower reliability and evaluation of early and later ratings to explore rater experience would be useful.

Few studies have examined the interrater reliability of the subcomponents of the YLS/CMI. Schimdt, Hoge and Gomes (2005) reported some inconsistencies; particularly for the item regarding peer relations as did Welsh et al., (2008) with one subcomponent (not specified) being reported as .43 (low end of 'fair'). For both of these studies, it is interesting to note that the ratings between probation officers as part of their usual case management were compared with trained mental health professionals. A final point is that the majority of research has been based on file review rather than through the assessment process of conducting interviews with adolescents and collecting information from other sources as recommended in the manual.

Internal reliability

Another form of reliability which can be reported for the YLS/CMI is the internal reliability. This refers to the components on a test being consistent with each other in what they are measuring and contributing to the overall score (Kline, 2000). With psychometric risk assessment tools, this is typically measured with Cronbach's alpha coefficient and findings over .70 suggest high internal consistency (Kline, 2000). A simple review revealed several research studies which have explored the internal reliability of the YLS/CMI and these are listed in Appendix 30. On the whole, the YLS/CMI has demonstrated acceptable to good levels of internal consistency (e.g. Schmidt et al., 2005; Marshall, Egan, English & Jones, 2006; Onifade, Davidson, Livsey, Turke, Horton, Malinowski, Atkinson & Wimberly, 2008) suggesting that the subcomponents are measuring the same variable. One study also examined the specific items for each subcomponent (Onifade et al., 2008) and found that whilst each of these did not contribute reliably; the subscales themselves did have acceptable levels of internal consistency to the overall total risk/need score. It is worth noting here that there is some argument for whether the internal reliability is an important feature of risk assessment tools compared with a specific psychological construct, such as depression. The combined risk factors in the YLS/CMI were identified from the research literature as those which most strongly predicted general recidivism. Therefore whilst each item does not measure the same thing, it would be expected that they would be associated with reoffending and the total risk / need score.

Validity

Validity refers to a test measuring what it was designed to measure and that inferences are appropriate, meaningful and useful (British Psychological Society, 2007). Whilst there are different types, the most relevant to risk assessment tools is predictive validity (Doyle, 2011). The concurrent and content validity will also be discussed in relation to the YLS/CMI.

Predictive validity

This is the extent to which the scores on a measure relate to some future criterion, in this case recidivism. There are a number of ways in which the outcome data (reoffending) can be defined. This includes dichotomous (reoffended yes/ no); type of reoffence; frequency of future offending; time to new offence; official records; convictions; charges and self-report. There are also various methods of data analysis and a particular challenge for this type of research can be the low recidivism base rates. Correlational analysis can be carried out but is potentially misleading in that the proportion of false positives and false negatives is not reported. One form of analysis where the outcome is dichotomous which has been recommended is receiver operating characteristics (ROC-Analysis) (Doyle, 2011). The Area under the curve (AUC) can be defined as the probability that a randomly selected recidivist had a higher score on the risk assessment tool than a randomly selected non-recidivist. Results can be interpreted as an index for the accuracy of the predictor where a value of 0 is perfect negative prediction, .50 represents chance and 1.0 is perfect positive prediction. Where reported the AUC values have been presented in Appendix 31 which provides information from a simple review of published research investigating the predictive validity of the YLS/CMI. An AUC value of .65 can be said to be of moderate effect and .71 a large effect (Rice & Harris, 2005).

In general, the YLS/CMI has demonstrated some promising utility in correctly predicting both general recidivism (as it was designed) with AUC values ranging from .60 to .74 but also violent recidivism (AUC values ranging from .61 to .75). It is of great advantage that the YLS/CMI has been investigated in varied, cross cultural and multiple samples ranging from detained youths, those referred for mental health assessments to community probation and offending samples and in both Western (United States, Canada & the UK) and Non Western cultures (Singapore). Very few adolescent risk assessment instruments have been validated in such multiple samples (Schwalbe, 2008). In one of the earlier studies which incorporated both a custody and community sample; the YLS/CMI was correct in almost 75% of its risk

classifications with a 15% false negative rate with low offenders and a 36% false positive rate with high risk offenders (Jung & Rawana, 1999). Furthermore Catchpole and Gretton (2003) found that none of the 21 youths classified as low or moderate risk levels violently reoffended. This is important as there could be potentially life changing decisions made for those adolescents who are wrongly identified as high risk; as well as detrimental effects for failing to accurately detect those who may persist in offending behaviour.

Attempts have been undertaken to investigate the predictive validity of the YLS/CMI total risk/need score, subcomponent scores and risk classifications with a wide range of outcome criteria including different offence types (general, violent, serious, and sexual), frequency of offending, time to first offence, programme completion and staff recorded violent incidents. In some ways this does, however, make it more complicated to make direct comparisons between studies. A further important point to consider is that the majority of research has relied on official statistics which is likely to significantly underestimate the real prevalence of re-offending due to both reporting and attrition rates in the youth justice system (McGuire, 2012; Bateman. 2015).

The longest follow up period was 10 years and the total risk/need score was large for male general recidivism (AUC .73) but only slightly better than chance for females (AUC .53) (Schmidt et al., 2011). By its very nature, the YLS/CMI is not designed for the long term as it is recommended that the assessment is completed every 6 months. This is in line with the significant developmental changes in adolescence as well as the emphasis on dynamic risk factors within the tool. Lipsey (2000) recommends a follow up period of 12 months as the vast majority of juvenile reoffending occurs within this time frame. The significant gender differences in the predictive validity in the aforementioned study are also worthy to note and there appears to be great variability on this matter with other studies finding that the YLS/CMI has good predictive validity for both males and females (e.g. Jung & Rawana, 1999; Olver et al., 2009). Recent research in Scotland also found that the YLS/CMI had good predictive validity for both the under 15years and 15-17 years subgroups (AUC. 75 and .71 for general recidivism respectively) (Vaswani & Merone, 2014).

Concurrent validity

A further form of validity which can be considered relevant for evaluating the YLS/CMI is concurrent validity. This refers to how well the measure correlates with other tests which

purport to measure the same construct, for example, risk of reoffending at the same time (Doyle, 2011). A number of studies have investigated the YLS/CMI with the SAVRY, PCL:YV, ERASOR and J-SOAP II and these are listed in Appendix 4. Where incremental validity was also examined; this is reported. This relates to how one measure improves the predictive validity of another (Doyle, 2011) which is useful in terms of considering whether a combination of tools provides a more accurate assessment of risk of recidivism.

There has been some variability in the findings when comparing the YLS/CMI with other risk assessment tools. Catchpole and Gretton (2003) found the YLS/CMI to perform equally as well as the SAVRY and PCL:YV in terms of predictive accuracy for general offending (SAVRY AUC .74; YLS/CMI AUC .74; PCL.YV .78) as well as violent offending (SAVRY AUC .73; YLS/CMI AUC .73; PCL.YV .73). This was supported in the UK by Marshall et al., (2006) who compared the YLS/CMI with the PCL:YV. However, Welsh et al. (2008) found that the SAVRY and PCL:YV were better predictors than the YLS/CMI for both general recidivism (SAVRY AUC .77; YLS/CMI AUC .60; PCL.YV .74) and violent recidivism (SAVRY AUC .81; YLS/CMI AUC .64; PCL.YV .73). Furthermore, the SAVRY appeared to offer the most incremental predictive accuracy for both general and violent recidivism. There have also been some more recent studies with samples of adolescent sex offenders and whilst the YLS/CMI total score significantly correlated with those of sex offender risk assessment instruments; the AUC values for the YLS/CMI in relation to sexual recidivism were really no better than chance (Viljoen, Elkovitch, Scalora & Ullman, 2009; Meng Chu, Ng, Fong & Teoh, 2012).

The purpose of these different risk assessment instruments do need consideration and one may expect that a tool for assessing risk of sexual recidivism would be superior to the YLS/CMI which was designed to predict general criminality. Furthermore, the nature of the various instruments also needs to be considered. This is particularly relevant in terms of the youth version of the psychopathy checklist. There are grave concerns about the possible misuse and implications of the construct of psychopathy applied to adolescents (Johnstone & Cooke, 2004). Firstly related to the stigma attached to psychopathy and mislabelling; but also the number of traits which are typically observed adolescent behaviours including need for stimulation, impulsivity and poor self-control (Marshall et al., 2006). Therefore a broad risk/needs assessment tool like the YLS/CMI may be preferable should comparable predicative validity be demonstrated.

Content validity

Finally, the content validity of the YLS/CMI can be considered which refers to the test being representative of the literature base for the subject being measured. The YLS/CMI was developed from extensive review of the scientific research. It includes those items which reflect both the full range of factors related to adolescent offending within the relevant domains and which have been found to be most strongly associated with prediction of risk of recidivism (Cottle, Lee & Heilbrun, 2001). On this basis, the YLS/CMI can be said to have good content validity.

Appropriate Norms / Normative base

When carrying out risk assessments, due consideration needs to be given to how representative the normative group is for the individual who is being assessed (Hoge & Andrews, 2009). Appropriate control group norms are essential for the interpretation of scores to be carried out as a score reflects the performance of a measure related to the performance of a group of respondents. Much of the research examining risk factors and the efficacy of the YLS/CMI have been based on data collected in the USA and Canada. The standardisation sample in the manual is American and the extent to which the norms reflect the cultural and ethnic differences of a UK population is questionable. The lack of peer reviewed validation research conducted in a British sample continues to be an issue.

The Scottish evaluation comparing the YLS/CMI and PCL:YV did indicate high internal reliability and good predictive validity (AUC .71 for charges and convictions) (Marshall et al., 2006). However, the mean YLS/CMI total score for the sample was 21.4 (SD = 7.5; range 6-42) compared with the normative sample in the manual (community: 11.0 for males and 10.27 for females; custody: 19.12 for males and 19.70 for females). The sample in the Scottish study included both a secure setting and a residential school, and this really underlines the complexities of making comparisons between different samples. A more recent Scottish evaluation involving a large sample (n= 1138 tests) revealed an unexpectedly high rate of recidivism (measured as charges within 12 months) among adolescents who had been assessed as “low” according to the risk classification (54%). It is possible that this may point to greater inaccuracy at the lower end of the scale or the need to consider re-norming risk and need classifications for British use. A final note on the normative scores provided in the latest version of the manual is that whilst an individual is scored according to gender

(male/female) and setting (secure/community); reoffending rates for the corresponding risk classifications have not been reported.

Despite these considerations, the YLS/CMI does feature empirically based items and is one of the most well researched adolescent risk assessment tools. Furthermore, in the UK there are very limited risk assessment tools for general recidivism among young people (Risk Management Authority, 2015). An adapted version of the YLS-CMI is available in Australia which involved the addition of five items; changes in the language to better reflect the Australian context as well as more specific item descriptions (Thompson & Putnins, 2003). AUC values of .65 were reported with a large sample (3568) of juvenile offenders providing preliminary data for the psychometric properties of this adapted tool (Thompson & McGrath, 2012).

Clinical and research utility

The YLS/CMI 2.0 has a number of strengths with regard to clinical utility. Firstly, it not only provides a total risk/need score and risk classification; but is based on well-established criminogenic needs which help to directly identify the relevant area to target interventions. It is broad based covering pragmatic needs including employment, peer relations and recreation rather than personality traits (Marshall et al., 2006). Furthermore it provides an opportunity to consider responsivity factors and areas of strength. The YLS/CMI 2.0 records client information, supports case management, reduces levels of human bias, provides an indication of the required level of supervision, can help measure change and supports consistent decision making. The YLS/CMI is quick and simple; there are 42 items and average time for completion is about 65 minutes (Flores, Travis & Letessa, 2004). It has however been reported that there are occasions where not all of the necessary information is available to complete the tool and that this can be a tiresome task (Flores et al., 2004). As with other broad risk assessment tools; it is further reliant on the quality of the information gathered both from clinical interview and other sources. Lastly, how the YLS/CMI is actually used in practice to inform decisions about levels of supervision and interventions would also be a useful area for future research

A critique of juvenile risk assessment tools in general involves the developmental changes that occur during adolescence which is a critical period for maturation and identity formation. One strength is that the YLS/CMI is designed to be updated every 6 months. Burman,

Armstrong, Batchelor, McNeill and Nicholson (2007) reported that the YLS/CMI was viewed as "systematic, tried and tested, quicker to complete than Asset and able to constructively inform the subsequent action plan." However, it was also reported that the tool does not allow for gathering young people's views, was seen as a tick box exercise on occasion due to its format, and did not allow for the type and severity of offences to be distinguished.

A further criticism comes from the "professional override" feature of the YLS/CMI 2.0. Moffat and Maurutto (2003, p.3) argue that this "includes a host of professionals or paraprofessionals with little or no professional training in risk assessment." Professionals using the YLS/CMI 2.0 should have sufficient knowledge of psychometric methods and clinical practice and theory which may be both costly and time consuming. It may be that future research could compare the predictive accuracy of the total risk/needs score in Part 2 with that in Part 4 to explore this issue further. This is further indicated from a recent study conducted in Scotland which revealed that of the cases in the sample where the professional override had been used resulting in a different risk classification (14%); the predictive power of the tool was lowered; especially for serious violent recidivism where the AUC value indicated the measure to be no better than chance in prediction (AUC value for serious violent recidivism was .68 for the YLS-CMI total score and .54 when the category was changed through the professional override).

The RNR model is also not without criticism and it has been argued that the incorporation of approach goals would help motivate offenders more effectively as well as thinking about the individual as an autonomous, self-directed agent who strives to achieve certain goods for personal life satisfaction (Ward & Brown, 2004). In particular, the wider systemic issues, contextual and ecological factors of offender rehabilitation are not fully recognised. The YLS/CMI 2.0 potentially contributes to this focus on risk profiles; thus limiting practitioners in considering how specific risk factors interact with each other to cause offending and with other contextual and system level factors, such as, neighbourhood crime rates. Furthermore, within the YLS / CMI there is little requirement for the assessor to carry out a case formulation, which is increasingly recognised as beneficial to good risk assessment (Sturmey & McMurran, 2011). Formulation can be thought of as an evidence-based explanation of a person's difficulties involving the form, origin, development and maintenance over time (Johnstone & Dallos, 2006). The risk factors in the YLS/CMI have been identified through group data and may not be applicable to individual cases. Case formulation is key to

identifying which known risk factors may apply in individual cases as well as making speculations about possible future risk scenarios underpinned by an explanation for such predictions (Hart, Sturmey, Logan & McMurran, 2011).

There are benefits for researchers as well as clinicians in that the YLS/CMI supports the systematic and broad collection of relevant information and dynamic risk factors. This helps to both advance understanding of the causes and correlates of adolescent offending as well as support treatment evaluation. This can further aid in the monitoring of service provision and help with collection of psychosocial epidemiological data.

Conclusion

In comparison to the adult literature; research investigating risk assessment with adolescents is limited (Bechtel et al., 2007). There is an ethical obligation to ensure that any evaluations of risk are comprehensive and thorough in order to support reliable and valid forensic decision making. One tool for assessing risk of general recidivism is the YLS/CMI 2.0. This review has provided an overview of the tool as well as consideration of its psychometric properties. The YLS/CMI 2.0 has been shown to have both good inter rater reliability and internal consistency. Furthermore, there have been a number of research studies investigating the predictive validity which is a critical feature of any risk assessment tool. Olver et al., (2009) in their recent meta-analysis of both published and unpublished research provided support for the YLS/CMI 2.0 as a well researched and promising risk assessment tool. Despite the many varied samples within which the tool has been investigated; there continues to be limited normative data in relation to the British population (e.g. Vaswani & Merone, 2014). Furthermore the different operational definitions of reoffending make it difficult to make comparisons between samples. Predictive validity with self reported reoffending would be a useful area of future research due to the significant limitations with relying on official data for accurate reoffence rates. An important part of risk assessment is concerned with reducing risk; and in this regard, the YLS/CMI 2.0 informs interventions which are directly related to criminogenic needs and this remains one of its greatest strengths.

Chapter 5

General Discussion

The thesis set out to provide a broad and diverse investigation into Multisystemic Therapy (MST, Henggeler & Borduin, 1990); a community and family based intervention for adolescents with serious antisocial behaviour. Crimes committed by adolescents continue to present as a significant societal problem and there is little doubt of the importance of research about interventions which may reduce adolescent antisocial behaviour. This thesis evaluated the most recent MST outcome research, reported on the lived experience of a sample of specifically selected therapists involved in delivering MST and provided a critical evaluation of a widely used measure for assessing adolescent risk of general recidivism. The aspects of some of the findings could be considered as not particularly positive or desirable; perhaps being all the more important since this thesis has identified some gaps in the existing literature and potentially also in practice. Throughout the chapters recommendations have been made regarding the clinical implications of the conclusions and directions for future research. The limitations identified of the investigations undertaken also need to be considered when interpreting the findings.

Summary of Findings and Implications

Chapter 2 presented the results of a review following systematic principles of the most recently conducted randomised controlled trials (RCTs) of MST updating a previous review by Littell et al., (2005). MST is very likely to be one of the most empirically investigated interventions for antisocial behaviour by adolescents. This review focused on RCTs, which despite being deemed by some to be unethical (based on the false assumption that the experimental treatment is confirmed to be a proven superior to the control); is considered the gold standard in the determination of intervention efficacy. Despite the rapid international expansion of MST; it would seem that the evidence base continues to present conflicting evidence. It is worthy to note that all of the studies have used comparison groups therefore any treatment effects of MST must be considered relative to those rather than absolute (Löfholm et al., 2013).

The variability in the findings obtained from the eleven included studies were examined in the context of previous research. Chapter 2 also highlighted a number of methodological flaws in the literature, which pose a challenge when attempting to interpret and draw conclusions. Most notably, the significant impact of the cultural and political differences across countries upon the usual treatment condition and measurement of outcomes. This was especially relevant for the Scandinavian counties where adolescents are typically managed through the child welfare system and the comparison condition involves features which could perhaps be considered similar to that of MST. This highlights both the importance of local areas fully understanding the effectiveness of usual services before adopting new interventions and the difficulties associated with synthesising data across international studies and drawing generalised conclusions.

A further confounding factor is that samples sizes continue to be relatively small (eight of the eleven included studies had just over 100 participant and this exceeded 200 in only two studies) resulting in a lack of power in findings in the literature. Four studies made some attempt to examine subgroups of participants (e.g. age, gender and ethnicity) which are all vital variables to explore who may benefit the most from MST; but subgroup sample sizes were very small. There was further limited consistency in information about referral pathways to MST, randomisation methods, concealment of allocation to treatment and researchers collecting outcomes being blind to the condition. These potential sources of bias may all impact the internal validity of studies and thus the estimates of treatment effect.

The review did demonstrate that outcomes across domains and multiple sources of information (caregiver, official, adolescent, teacher, social worker) are generally being considered by researchers. It was positive that the follow up period of all studies exceeded a year and the longest observation period was over 20 years. Some studies found that MST had a positive treatment effect on official measures of antisocial behaviour, self reported involvement in delinquency, caregiver report of externalising behaviour problems and affiliation with antisocial peers. However, these findings were neither consistent across studies or within studies on the various measures used to assess outcomes. The frequent use of rearrest data in the research, regardless of whether this actually led to a conviction is problematic and may well result in inflated reporting. Expanding measurement within the school domain in particular would further develop the clinical significance of findings as well as specific consideration of drug and alcohol use. How the outcomes measured link with the

system approach within MST; individual treatment targets and focus of clinical efforts does remain unexplored.

MST adopts an individualised approach to meet the needs of young people and families and as such there is no set treatment manual. Treatment length within and across studies varied considerably and the multicomponent nature of MST makes it difficult to know what exactly is being delivered, evaluated and how replicable this is in practice. The most widely cited measure to examine treatment integrity was the TAM which is arguably a poor indicator given that it is completed by family members, neglects to consider the competence with which interventions are being delivered and has not been established to be measuring any knowledge or clinical skill specific to MST. Therapists come from a range of backgrounds and it is not clear how their preferred therapeutic approach may influence decision making about which factors to prioritise or treatment strategies to select.

Chapter 3 presented a qualitative study examining therapist experience of delivering MST. The research study demonstrated the value in analysing the experiential accounts of therapists as a way of revealing meaning-making from their perspective. IPA does not readily enter into generalisability as more traditional scientific approaches and is more concerned with the cautious transferability of findings within context (Gil-Rodriguez & Hefferon, 2014; Smith et al. 2009). Whilst the particular sense making of the seven participants in Chapter 3 should be considered as temporally and circumstantially situated, the findings can improve understanding of the lived experience of delivering MST as well as prompt further investigation.

The value of Chapter 3 to clinical practitioners and researchers, like much qualitative research, is that the findings are attuned to issues which can be conveniently investigated in clinical practice. For many of the participants, the need for greater consideration of the intense nature of MST and how this impacted on the way in which therapist could organise their everyday lives was indicated. To what extent this is common amongst other MST therapist is a matter for further research. Words such as “envelop” “penetrate” and “bleed” were all used to describe the MST work life balance and provide some indication of the likely need to think about how therapists can be supported to have some periods of self care and respite from being persistent with and flexible to family needs.

This chapter also informed us of something interesting about how particular therapists might view the emotional support that is available to them. The persistence with which the therapists tried to engage with families, the flexibility of the model to accommodate for family needs and the intensity of the sometimes daily family contact were all apparent. The participants in one way or another believed they could not separate themselves from the families with which they were working; that they carried those families in their minds and that there was a pressure on them to persistently engage and achieve outcomes with families. The findings tentatively indicate that the supervisory processes within MST would benefit from further investigation to specifically consider incorporating the important restorative function.

Chapter 3 raised initial questions regarding what happens after MST. Recall that Sam said "you need to have regular check-ups" suggesting the benefits of booster sessions since time-bound treatment may well be insufficient for families with long standing and complex difficulties. Indeed, in a climate not so restricted by austerity, outpatient groups and drop-in centres would likely be a useful resource for families who have completed MST and request ongoing clinical support. It is difficult to position this finding with other MST research given that within the systematic review, the tracking of aftercare services was found to be a much neglected area and is one of the recommendations for future investigation.

Chapter 4 presented a critique of the Youth Level of Service / Case Management Inventory 2.0 (YLC/CMI Hoge & Andrews, 2011). The YLS/CMI was chosen as it is widely used within forensic settings as well as being a standardised risk assessment for general adolescent recidivism. The assessment and management of risk remains an area of importance in forensic psychology and to professionals from other disciplines. Those working with offenders have a duty to the public to prevent future incidents of crime being committed. There is also a duty to protect staff and offenders to assess and manage them appropriately so that they can access the interventions needed to prevent them from reoffending. Clinicians and practitioners working in the field of adolescent risk assessment have a moral and ethical duty to be aware of the limitations of the research in this field

The critique showed that the YLS /CMI appears to meet some of the criteria for reliability and validity. Consistently high levels of inter rater reliability and internal consistency of the YLS/CMI were demonstrated. The tool also showed predictive, concurrent and content

validity across a number of studies. Regarding its utility in forensic practice, the YLS-CMI allows for the broad assessment of those factors most likely to be associated with general recidivism and informs case management planning and matching service level to risk.

Future Directions

This thesis has highlighted several avenues that would benefit from being further explored by future research and a number of issues have been raised with the quality and clarity of research into MST effectiveness. The next step in MST outcome research is to investigate the mechanisms of change by which MST may exert its effects, particularly related to developing the underlying theory of change. This would help to increase understanding of who and under which conditions treatment may be more successful. Greater consistency in the accurate descriptions by authors of samples, the demographic factors and specific cultural information from which they are drawn is needed. For example, there is a large developmental gap in the target age range for MST. It is unlikely that models can be uniformly applied to this group as a whole. Greater use of split samples on the basis of participant age may support in identifying discrepancies between adolescents of differing ages. The interview data also provided some tentative support that there may be some possible discrepancy about the chance of successful outcomes for participants according to their various age. The important developmental variables that are specific to adolescents should not be overlooked.

Both the systematic review and interview data indicated a wide range in the population with whom MST is being targeted with regard to related to involvement in offending. The risk principle could be helpful to examine whether adolescents (and their families) are being provided with the treatment levels that are commensurate with their risk levels. This would help in ensuring that such an intensive intervention is not inappropriately applied which could potentially be more harmful than providing no intervention (Lowenkamp and Latessa, 2004). There was a lack of information on the use of standardised and objective risk assessment instruments in the referral pathway for MST. The application of the risk principle concept may well benefit the literature by introducing clarity in the target population and in the effective allocation of this intense service to higher risk adolescent offenders.

Perhaps a key issue pertinent to future research in this area is the measurement of outcomes that are clinically significant to families. The routinely collected measures may not present the whole picture or provide sufficient detail about prognosis. The therapists in this study described how increases in parental confidence to manage problematic behaviours and responding differently to their children's behaviour were indicators of success for them. Connected with this; MST works from the premise that those in the wider system are key to affecting change and monitoring/supporting the sustainability. How the adolescent develops a sense of responsibility for their own behaviour is however not clear.

In closing this thesis, it is argued that a broad variety of information has been provided which has been helpful in answering current questions in the MST field. However, this has also raised a number of further questions which need investigating and has also made a case for future changes. There is a considerable amount of research literature available on MST which perhaps leads some to erroneously presume that the empirical support has been consistently demonstrated and that those families for which MST may be more successful is well known. This thesis has demonstrated the complexity of comparing RCTs across international contexts and identified that there is much work to be done in terms of understanding why MST might work and under which conditions it may be most successful. Furthermore, the high level of support that therapists may well need when working with families frequently affected by trauma and where adolescents are at high risk of serious antisocial behaviour care has been highlighted. Placing future research efforts in this area may be advantageous given the implications for staff retention and well-being.

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* Primary studies and associated publications used in the review