

This is a repository copy of *Trials and tribulations : challenges and prospects for randomised controlled trials of social work with children*.

White Rose Research Online URL for this paper:  
<http://eprints.whiterose.ac.uk/81217/>

Version: Accepted Version

---

**Article:**

Dixon, Jo, Biehal, Nina [orcid.org/0000-0002-1341-2544](http://orcid.org/0000-0002-1341-2544), Green, Jonathan et al. (3 more authors) (2014) *Trials and tribulations : challenges and prospects for randomised controlled trials of social work with children*. *British Journal of Social Work*. pp. 1563-1581. ISSN 1468-263X

<https://doi.org/10.1093/bjsw/bct035>

---

**Reuse**

Items deposited in White Rose Research Online are protected by copyright, with all rights reserved unless indicated otherwise. They may be downloaded and/or printed for private study, or other acts as permitted by national copyright laws. The publisher or other rights holders may allow further reproduction and re-use of the full text version. This is indicated by the licence information on the White Rose Research Online record for the item.

**Takedown**

If you consider content in White Rose Research Online to be in breach of UK law, please notify us by emailing [eprints@whiterose.ac.uk](mailto:eprints@whiterose.ac.uk) including the URL of the record and the reason for the withdrawal request.

## **Trials and tribulations: challenges and prospects for randomised controlled trials of social work with children**

### Abstract

Randomised controlled trials (RCTs) have rarely been used in evaluations of social work interventions with children in the UK. This article discusses the use of an RCT in the national evaluation of Multi-dimensional Treatment Foster Care for adolescents (MTFC-A) in the English care system. A number of challenges were encountered in recruiting young people to the trial. These included professional anxieties about randomisation, concerns about accountability, a wish to maintain managerial control over allocations to expensive resources, and the small number of MTFC-A places available in each local area, which meant that new placements became available infrequently. We discuss the challenges to the trial and the strategies developed to address these, including the adaptation of the design to take account of both professional concerns and of the particular circumstances of the children involved. Thirty four children were eventually randomised either to an offer of an MTFC-A placement or to the 'treatment as usual,' an alternative placement selected by their social workers. A further 185 were included in the parallel observational arm of the study. Recommendations are made for the conduct of future trials in children's social care.

---

This is a pre-copyedited, author-produced PDF of an article accepted for publication in *British Journal of Social Work* following peer review. The version of record Dixon, J., Biehal, N., Green, J., Sinclair, I., Kay, C. and Parry, E. (2014) Trials and tribulations: challenges and prospects for randomised controlled trials of social work with children, *British Journal of Social Work*, 44, 1563-1581. is available online at: <http://bjsw.oxfordjournals.org/content/early/2013/03/04/bjsw.bct035.abstract>

## **Introduction**

Over the past twenty years, there have been calls for social work research to make more use of randomised control trials (RCTs) to assess the effectiveness of interventions (Macdonald, 1995, Newman and Roberts, 1997, Sheldon, 1986). RCTs are commonly viewed as the gold standard method of assessing the effectiveness of interventions in health and psychology (Guyatt et al., 2008, NICE, 2009, NICE, 2010). This is because the method of 'random allocation' into groups receiving different interventions proves to be the best way of allowing both known and unknown variables in the clients' backgrounds to be controlled. RCTs therefore, have the benefit of ensuring that groups are similar at baseline in respect of known and unknown variables that may influence outcomes, thus providing a clear test of the intervention from which clear conclusions can be drawn. Studies using alternative designs cannot rule out the possibility that unknown differences between intervention groups have led to an under or over-estimate of their effectiveness, or even to the suggestion that it is beneficial when there is actually a possibility of harm (Torgerson and Torgerson, 2008).

RCTs are, however, controversial within social work, seen by some as unethical, positivist, uncritically imported from other disciplines and unable to yield the certainty they promise (Frost, 2002, Trinder, 1996, Gibbs, 2001, Webb, 2001). RCTs in social work began in the USA before the war (Powers and Witmer, 1951) and in Britain in the 1970s (Goldberg et al., 1971, Sinclair et al., 1974). They are, however, rare in the UK and particularly in studies of social work with children, where the only recent examples are evaluations of parenting programmes for foster carers (Macdonald and Turner, 2005, Minnis et al., 2001) or adoptive parents (Rushton and Monck, 2010). There have also been a small number of trials of

evidenced-based parenting programmes for parents (Lindsay et al., 2011, Hutchings et al., 2007, Scott, 2002).

This paper draws on our experience as a multi-professional group of social work and mental health researchers undertaking the national evaluation of Multi-dimensional Treatment Foster Care (MTFC) in England, known as the Care Placements Evaluation (CaPE). The programme was targeted at looked after children aged 11-16 years who have complex needs and is known as the MTFC-Adolescents (MTFC-A) programme. A government department, the former Department for Children, Schools and Families (DCSF), provided pump-priming funding for 18 local authorities (LAs) to pilot MTFC-A projects and funded an RCT to evaluate the programme (for a description of MTFC see Biehal *et al.*, 2012). The evaluation received approval from anonymous university ethics committee and the Association of Directors of Social Services.

Even a 'pragmatic' RCT such as CaPE, that evaluates the effectiveness of an intervention under 'real life' conditions in everyday services, requires relatively controlled conditions, both in the selection of a pool of participants for randomisation and in the implementation of the intervention. The paper describes the somewhat messier reality of using an RCT to evaluate a highly complex social intervention delivered by 18 diverse LAs. It discusses the practical challenges encountered while trying to meet the requirements of an RCT in this setting and the more fundamental challenges posed by assumptions within professional cultures. It outlines the steps taken to counter these problems and the degree to which these seemed to succeed or fail.

## **Evidence base for MTFC**

MTFC was developed by the Oregon Social Learning Centre in the USA during the 1980s. Grounded in social learning theory (Bandura, 1977) and systemic theory, it aims to encourage and reinforce positive behaviours. Originally developed as an alternative to institutional placement, it is a wrap-around multi-modal intervention for children with challenging behaviour, involving individual therapy, social skills training and education support, delivered by a team of professionals during and after placement with a specially trained foster carer. Initially designed for adolescent boys with chronic criminal behaviour, it has also been successfully used with adolescent delinquent girls, as an early intervention with younger children at risk of long-term care and with young children in foster care (Chamberlain and Reid, 1998, Chamberlain and Reid, 1991, Fisher et al., 2005). A systematic review of five RCTs of MTFC identified clinically meaningful decreases in anti-social behaviour, criminal referrals, running away and days spent in locked settings (Macdonald and Turner, 2009).

However, with one exception, all published evaluations were conducted by the programme developers in the USA or, in Sweden, by the implementation team (Westermarck et al., 2011). The first independent evaluation, our earlier quasi-experimental study of MTFC as an alternative to custody for young offenders, sounded the only cautionary note (Biehal *et al.*, 2010, 2011).

### **Context for the UK trial**

Independent evaluations of evidence-based programmes in the new contexts into which they are rolled out is essential. For instance, in US developed interventions, common language may obscure the possible impact of different social and welfare contexts on programme results (Stevens et al., 2009). The context for the UK evaluation of MTFC-A was complex, with multiple interest groups involved. As the initiators and funders, a government

department (former DCSF) set the budget and time-scale for the research, which needed to fit that of the implementation and the timeframe for policy decisions regarding future funding of the programme. The national implementation team (NT), from Kings College, London, designed the research tender, including agreement with the DCSF that it should be an RCT. The NT worked closely with LAs, providing training and support to the MTFC-A teams. It was also responsible for ensuring treatment fidelity (i.e. whether the programme was delivered as intended) jointly with programme developers, who provided distance-supervision. Both the DCSF and NT encouraged LAs to participate.

While the initial DCSF contract with LAs specified the need for an evaluation, it did not specify that this should be an RCT. The critical absence of a contractual requirement specifically to undertake an RCT at the outset meant that local stakeholders had to be sufficiently convinced of its potential value to allow it to proceed or, at least, not to subvert it through inaction. Although LAs acknowledged the need for evaluation, their priority was generally the successful and economically viable introduction of MTFC-A and its long-term survival in their authority. In the event, the majority of LAs refused to participate in randomisation. A further issue at start-up was that the timescale and initial funding for the evaluation necessitated the evaluation beginning as soon as the first placements were made but before sufficient MTFC-A placements were available across the LAs and before the intervention had 'shaken down', which would have had an impact on the evaluation irrespective of whether it was an RCT.

## **The challenges**

The study used a two group pre-test post-test design with one-year follow up to evaluate the programme across 18 LAs. It originally set out to compare outcomes for 130 children, 50

randomly selected to MTFC-A and 80 randomly allocated to the usual placements in residential or foster care as decided by their social workers (Treatment As Usual (TAU) group). In anticipation of the potential difficulties of agreeing randomisation in all LAs and in all individual cases, the RCT was designed to be embedded within a quasi-experimental observational study. This involved comparing those who were receiving MTFC-A with similar children who met the criteria for MTFC-A, defined later, but who were in alternative placements, so that we could also evaluate outcomes for children not included in the RCT. We believe that this part of our strategy was well-founded and successful. However, the purpose of this paper is not to discuss the dual approach but rather to concentrate on practical difficulties of implementing the RCT.

The logic of the randomised trial of a service intervention or treatment necessitates the existence of certain service fundamentals, including:

- *Clear definition of the intervention to be evaluated*
- *Clear definition of a pool of clients eligible for the service*
- *Equal access of those in this pool to the service based on need*
- *Adequate numbers in this pool to allow randomisation*
- *Commitment to the study by the professionals involved*
- *Informed client consent to randomisation*
- *Adequate funding and resources.*

These requirements interact, e.g. the way the client pool is defined clearly affects its size. All, however, are necessary and are described along with the particular challenges we faced in meeting them.

### ***Clear definition of the intervention***

The *intervention must be defined* as an entity in its own right, which may be present or absent. This may seem like a straightforward task when, for example, comparing two different medicines. However, when interventions are complex, i.e. containing multiple, interacting elements, the conceptual task is greater. Such 'complex interventions' are typical of psychological or psychosocial interventions. Studies have shown that complex interventions can be successfully tested with RCTs (something that many in mental health had previously doubted) and that randomisation may indeed be particularly effective in these situations since it allows for multiple baseline confounds that are both known and unknown (Craig et al., 2008, Green, 2006).

If evidence-based interventions are to be repeatable in different settings, they must be standardised, hence the development of intervention protocols or manuals. MTFC-A is such a 'manualised' intervention, with the details of the treatment approach to be taken by MTFC-A teams and foster carers clearly specified. The LA teams were encouraged and supported by the NT to deliver the intervention as intended but in practice, some found the 'manualisation' requirement difficult; and for some teams, fidelity to the MTFC-A model varied over the course of the evaluation.

### ***Clear definition of a pool of clients***

The national eligibility criteria for MTFC-A were set by the DCSF and the NT. The programme was aimed at children aged 11-16 years who:

- had complex or severe emotional difficulties and/or challenging behaviour *and*



- were in a care placement which was unstable, at risk of breakdown or not meeting their needs, or were at risk of custody, secure care or becoming looked after long-term.

However, these criteria were sometimes adapted by LAs who, for example, used the programme with younger children. Arguably a key change in the model was also implicit in the definition of eligibility. The Oregon model was originally developed and tested with delinquents, not on older children with complex or severe emotional difficulties who are already in the care system.

### ***Equal access to the service in question***

The RCT design presupposes *a client pool or waiting list that has an equal and fair chance of accessing the service based on need*. Without this, selection bias is built in prior to randomisation itself and undermines the whole point of the exercise. In the case of looked after children, the implementation of an RCT of this kind means that all children with a similar need for MTFC-A at any one time should have an equal chance of being offered a placement and participating in the trial. Our referral procedure invited social workers to refer all children who met the MTFC-A criteria to the trial. The aim was to identify a waiting list of children considered by their LAs to be eligible for MTFC-A, so that any suitable children requiring placement could be randomised from this pool when MTFC-A placements became available. It was anticipated that some children might leave this waiting list prior to randomisation, if their circumstances changed or another suitable placement became available sooner. However, it became apparent that these assumptions were often far removed from the reality of social workers' and managers' day-to-day decision-making about placements. MTFC-A placements were costly and easier to justify for children who would in any event be placed in very expensive placements.

Aside from these financial considerations, some managers and programme staff preferred to rely on professional judgement when selecting children for the programme. In smaller authorities, in particular, staff knew the children very well and became convinced that some were particularly suitable for MTFC-A. Even in larger authorities most were convinced that an informed decision would be better than a 'throw of the dice'. The issue of professional preference is common in the implementation of RCTs, with professionals reluctant to agree to the view that evidence is the best guide to the development of practice and that RCTs are the best way to generate this evidence. Even though access to programmes is normally rationed, as they are rarely funded to levels whereby all who might benefit can be served, staff commonly prefer their own 'rationing strategies' to a random process (Gueron, 2008).

These considerations meant that many professionals were unwilling to give up their right to select children for MTFC-A in return for gaining robust knowledge about the types of placements that might be best able to help children in the future. Certain children became 'earmarked' for MTFC-A in advance of randomisation. Clearly practitioners need to be convinced of the value of knowledge generated by trials, for their future practice, and satisfied that involvement in a trial will not cause harm to participants, in order to accept randomisation. This is a professional shift that has largely happened in medicine but has taken some years to achieve (Everitt and Wessley, 2008).

### ***The pool of candidates for the intervention***

Another requirement is a *large enough pool of candidates* to ensure that the study has adequate statistical power and a reasonable chance of finding a meaningful effect, if one is there to be found. It also eases ethical problems if there are more candidates than places.

As will be seen later, a key problem in obtaining adequate numbers was that only six of the 18 LAs agreed to randomisation.

This problem of local authority 'opt out' was exacerbated and to some extent caused by lack of general demand for the intervention in all authorities. From the outset the MTFC-A schemes struggled to fill vacancies, whether in authorities randomising or not. In some areas this was because the group of children considered suitable for placement was defined more narrowly than in the original criteria. It was also because of objections to MTFC-A by children or social workers on the grounds that boundaries set by the programme were considered too restrictive. In part it reflected the volatile clientele whose behaviour frequently disrupted the plans that were made for them and in part it may have reflected widespread ignorance of MTFC-A among the referring social workers. Some social workers were reportedly reluctant to refer to the programme because most MTFC-A schemes provided fewer than six places, so they had little expectation of obtaining one or experience of what it would be like. These practices and attitudes conspired to reduce both the pool of potential candidates for MTFC-A and potential referrals to the trial.

The problem of low referrals to the programme and subsequently, to the evaluation, was made worse by a number of factors affecting availability of placements. These included:

- Difficulties in recruiting foster carers which meant that placements took longer than anticipated to become available
- Schemes starting up with just one or two foster carers and gradually building up to a full complement over time

- 'Silted,' where placements were blocked to new entrants. For example, some areas that were able to fill their vacancies, then experienced difficulties in moving the child on to a suitable new placement once they had completed the programme
- Carers moving on or taking a break from the programme also reduced the number of placements whilst new carers were recruited and trained
- Programmes were implemented in four rounds. Lengthy delays to programme start-up in the latter rounds delayed the availability of new placements.

Given the lack of sufficient demand, on the one hand, and the lack of places on the other, authorities were reluctant to randomise a child who might use an available place but be randomised to TAU thus leaving the placement unused. Once all placements were full, both vacancies and referrals to the schemes tended to occur at random intervals. The chance that two referrals would occur at the same time as one vacancy was in practice small. Managers concerned about high costs did not want to randomise single referrals for fear of wasting a vacancy if a child was randomised to TAU. They were also reluctant or unable to keep those randomised to MTFC-A waiting in a holding placement until an MTFC-A placement became available, although in practice this often occurs while social workers are searching for a more appropriate placement.

### ***Professional commitment to the trial***

A crucial requirement was the commitment of the numerous professionals involved in each MTFC-A scheme. Consent to the RCT had to be negotiated with multiple stakeholders including senior and middle managers within the LA, the multi-agency steering groups and the MTFC-A teams. In each authority, agreement from all stakeholders was necessary to be able to proceed with the RCT. Some MTFC-A teams more readily accepted the arguments for an RCT than others. Sometimes one manager, programme supervisor or group agreed to

the RCT only to change their minds or find that a more senior manager countermanded the decision. Even with managerial agreement, social workers had to be committed to recruiting children and supplying information on them, but managers are often more positively predisposed to testing a new approach than the social workers on whom recruitment depends (Rushton and Monck, 2010). None of these stakeholders was under any obligation to do as the researchers wished and without the commitment and involvement of all, the trial could not succeed.

Each stakeholder had their own views and concerns about RCTs. Many focused on issues already raised: a reluctance to give up professional responsibility for placement decisions; the ethics of randomising children and the resource implications of (potentially) randomising 'low cost' children to MTFC-A and 'high cost' ones to TAU. Some were concerned that randomisation failed to allow the 'matching' of child and carer. Although they freely admitted that resource shortages meant that many placements were, in effect, already allocated by chance, they were unconvinced by our argument that randomisation could make a virtue of this necessity. Other concerns focussed on accountability, with some managers anxious that legal proceedings might be mounted in the future by children, if decisions turned out badly. They were not reassured by the guidance of the DCSF that legal challenges would not succeed.

Social workers constituted a key stakeholder group. Social care researchers rely on social workers, as gatekeepers, to make the initial approach to children and families to request consent to a study and the release of names and contact details. The CaPE research team was reliant on them to present the research leaflet to the children in a neutral rather than a negative manner and, crucially, to pass on the leaflet at all.

These concerns were not balanced with a conviction of the value of RCTs and were difficult to confront in practice. The research team lacked the resources to extend the consultation process to the local social work teams. It would have been prohibitively costly, in time and money, to attend multiple team meetings in 18 LAs. Managers were asked to cascade information about the trial to local team managers and via them to social workers, using leaflets developed by the researchers. Unfortunately this did not always happen and where it did, it was often insufficient to allay social worker concerns about the trial and engage their full co-operation. On the positive side, some social workers were willing to embrace the RCT methodology and understood its potential value to the development of social service practice and research in the UK.

### ***Informed consent***

Another requirement was the *informed written consent of the child*. Unlike other recent RCTs in foster care or adoption, this one aimed to recruit looked after children to the trial rather than their adult carers. Many of the children were likely to have experienced rejection in the past and we were careful to ensure that involvement in the trial would not reproduce this. It was important that they were not given the impression that the MTFC-A placement would necessarily be better than the alternative placements, to prevent any children *not* randomised to MTFC-A perceiving the process as a rejection. Furthermore, for MTFC-A teams the process of assessing children and securing their agreement to MTFC-A could take several weeks. Randomising children to an alternative placement *after* teams had invested considerable time in assessment and engagement, could potentially lead to disappointment for the child and a waste of team resources.

Our own and others' experience suggests that research with children is often considerably delayed by the gatekeepers who can provide access to them, irrespective of whether the

study is an RCT. This may not only reduce sample sizes but also denies children the opportunity to have their views taken into account by researchers (Coyne, 2010). Gatekeeping access to looked after children may be particularly fierce due to their vulnerability. As discussed above, social workers were key gatekeepers but were inevitably hard pressed and had particular concerns. The heavy demands on social workers' time can pose barriers to recruitment (see also Monck and Rushton, 2009). Some saw themselves as too busy to mention participation in a study that would add to their own workload, or felt that children were too vulnerable to be burdened with decisions about research. This reluctance was found even in relation to the observational arm of the study, where the decision did not involve randomisation. Some feared that our attempts to recruit children to the trial at a time of transition to a new placement might unsettle them and perhaps put them off the intervention itself. Others accepted the need for the research and passed on our leaflets, but many failed to do so within a reasonable timescale, effectively blocking our attempts at recruitment. By the time we managed to contact the child, events had often moved on in such a way that they were no longer eligible for the study.

### **Funding and resources**

RCTs of social work interventions are complex and hard to deliver, but funding for research in social work has not matched expressed enthusiasm for the development of a strong evidence base. The costs of using scarce resources ineffectively are likely to dwarf the costs of funding high quality evaluations (Macdonald, 2008, Stevens et al., 2009). In social work 'R&D runs at about 0.3% of total spend, compared with 5.4% in health' (Marsh and Fisher, 2005: ix). The MTFC-A programme implementation cost around £15 million. By the end of the study, through the efforts of research champions in DCSF, the funding for CaPE did approach 5% of this total. The original allocation, however, was much smaller (1.7%) and limited the researchers capacity to work closely with 18 MTFC-A teams.

## **Our response to the challenges**

Some of these difficulties had been foreseen when the original proposal was presented.

### ***Professional opt-in to an RCT***

We anticipated the need to inform and often convince social work colleagues at all levels about the value of the RCT approach. Presentations of the on-going study were given at two national conferences with senior managers involved in the implementation and during countless meetings with local steering groups, social work teams and managers. We also undertook extensive consultation around the development of information documents for professionals and participants.

We involved the support of the mental health research network (MHRN), which provides important infrastructure and personnel support for clinical trial recruitment; as well as the commitment of social care leads in the relevant MHRN hubs. We and our funders recognised that the acceptance of the RCT approach might be a slow and incremental business; indeed it had taken around 15 years and many clinical trials to gain widespread acceptance within child mental health research. We encountered a range of reactions, from outright opposition to enthusiastic support. Most frustrating were instances of 'passive non-cooperation' without any spoken opposition, which were more difficult to address.

### ***Referral patterns***

We modelled our design to take account of anticipated difficulties in randomising children referred at unpredictable times to vacancies that were not always predictable. However,



we had not anticipated the very low number of referrals, indeed the criteria for inclusion in MTFC-A suggested that there should be ample numbers for the study.

The low numbers of referrals reflected almost all of the problems outlined above: the delays in getting the programme underway in LAs, the earmarking of high-cost and high priority children, the low rate of referrals into the project, the problems with randomisation, the lack of commitment from social workers and the outright refusal of some authorities to participate in the RCT. To deal with these problems, we modified the trial as follows:

- We negotiated two study extensions to allow more time for recruitment as delays in programme implementation and the low referral rates meant that it was unrealistic to expect to recruit adequate numbers within the original timescale.
- We agreed with the DCSF that contracts would be tightened with authorities who had yet to agree one. Originally authorities received pump-priming money irrespective of whether they agreed to an RCT but this became a condition of funding for the last four authorities to join the programme.
- We accepted that not all children would be included in the randomisation procedure but negotiated in return that some authorities would meet locally-agreed targets for the number of children to be randomised, which they considered realistic.

### ***Modifications to the design of the trial***

The RCT design was modified to deal with some of the ethical and professional concerns encountered and to minimise any disruption to programme implementation. We established a 'two-stage' consenting process whereby children were given a description of MTFC-A and asked if they were willing to be randomised between being *offered* MTFC-A and the usual placements that their social worker would find for them. Children consenting to MTFC-A and

randomised to it were then assessed by the MTFC-A team but were still able to withdraw once they learnt more about it. Those who did not consent to randomisation or who were randomised out were recruited, where possible, to the observational arm of the study. This avoided raising the expectations of children who would not be offered a place and wasting the time of MTFC-A teams on the assessment of children subsequently randomised to TAU.

Randomising to an *offer* of MTFC-A, rather than to a *placement*, could potentially create a waiting list of children for the next suitable MTFC-A placement and provide the opportunity for MTFC-A teams to match a child and MTFC-A carer and to manage the timing of assessment, introductions and placement. If the anticipated flows into MTFC-A modelled at the design phase had occurred, this procedure would have provided an elegant solution to many of the practical difficulties in implementation. In practice, however, demand for MTFC-A at all sites was generally less than anticipated, and it was difficult to implement the waiting list plan.

## **Outcomes**

The changes we made to our design had some success, as six LAs agreed to participate in the RCT. Those that accepted the RCT design welcomed the target quotas, their ability to exclude certain children from randomisation and the changes made to accommodate their ethical and practical concerns. If the initial contracts with authorities had been drawn as tightly as the last ones, all would have had to participate in the RCT and we would have had a reasonable expectation of achieving the originally intended sample of 130 for the RCT. In practice, however, the changes were, from the point of view of the RCT, too little and too late.

Two fundamental difficulties lasted throughout:

Twelve of the 18 LAs effectively or explicitly refused to take part in the RCT

The overall demand for MTFC-A remained far lower than originally anticipated by the researchers and the NT. An important consideration was whether it was the RCT method itself that reduced this flow. Data from the study suggested that this was not the case as the flow rate was low across the board, including in the observational as well as RCT arm.

We realised that these constraints would leave the RCT short of statistical power to find a significant difference between the interventions, whatever their real effects might be. In response we greatly increased our target for recruitment to the observational arm of the study, which became larger, therefore, than originally intended.

Overall we identified 523 children as potentially eligible for the project in that they were either (a) considered suitable by their social workers but not offered MTFC-A (b) actually received MTFC-A or (c) were included in the randomisation study. Of these, 57 (11%) were found to be ineligible, e.g. they fell outside the age-limits. A further 56 (11%) were unwilling to participate. Over one third, 191 (37%) were excluded for other reasons, most often because it proved impossible to contact social workers or because social workers did not pass on recruitment leaflets within the recruitment timescale, despite reminders by the research team.

Eventually, after three years of concentrated recruitment, 219 children were recruited to the evaluation (figure 1). Despite the massive effort expended on trying to increase the numbers, only 34 participated in the RCT arm of the trial, comprising 20 randomised to an offer of MTFC-A and 14 to TAU. The majority of the total sample (185) was recruited to the observational arm.

**Insert Figure1.**

Eight of those randomised to an offer of MTFC-A did not receive it, and one child randomised to TAU moved instead to an MTFC-A placement. The high number of cross-over cases was due, in all but one case, to LA placement decisions that overrode the randomisation. These cross-over cases greatly decreased the power of the analysis, which was based on comparing those randomised to MTFC-A with those randomised to TAU.

Most RCTs of this type are analysed on an 'Intention to Treat' (ITT) basis; meaning that all cases are analysed according to the group they were allocated to, whether or not they actually received the treatment. Although this sounds counter-intuitive, it proves to be the best way of ensuring that results are not confounded by events that happen after the trial begins, for instance drop-out of treatment or receipt of other treatment. Such events rarely happen at random and analysis that excluded them could lead to misleading impressions of the effectiveness of intervention (e.g. excluding everyone on whom the treatment didn't

work from analysis). Also, ITT is generally considered a fair test of the practical implementation of an intervention in the messy reality of services, “will this intervention work better overall in practice”. In an adequately sized RCT, the issue of cross-overs can be addressed with statistical techniques such as Complier Average Causal Effect and this was planned in CAPE, but, numbers proved too small for such analysis.

## **Conclusion**

We had anticipated some problems in gaining co-operation with an RCT at the outset, but under-estimated quite how extensive these would be. The inclusion of a parallel observational arm in the study design as insurance against the possibility of low recruitment to the RCT proved invaluable. Although we lacked the statistical power to detect a plausible effect size in analysis of the RCT due to the small RCT sample, and interpretation was made more difficult by the high number of cross-over cases, we were nevertheless able to compare outcomes for the total sample of 219 children, comparing outcomes for all those placed in MTFC-A (n=106) with those for others in alternative placements (n=113). These results will be presented in another paper.

Since the observational sample had not been randomly assigned to MTFC-A or TAU there were significant baseline differences between the groups, e.g. in age and on a measure of mental health. To adjust for these differences the sample was ‘trimmed’ using a propensity score method to reduce systematic bias. This method aims to achieve greater balance between groups. It selects a sub-sample from the control (TAU) group with similar characteristics to the MTFC-A group, creating a trimmed dataset where cases in both groups are as similar as possible on observed variables. Analysis of the trimmed sample also took account of factors in the children’s backgrounds that were known to influence outcome.

These allowed us to conduct a rigorous evaluation of the programme's effects despite our problems with the RCT. However, these methods cannot control for the impact of *unknown* variables that may confound results, so are less effective in minimising bias than RCTs.

Through random allocation to treatment groups, RCTs have the benefit of allowing greater confidence that group differences in outcome reflect actual differences in treatment effectiveness rather than other factors or characteristics. They are accepted as the best test of effectiveness in health sciences for this reason and have led to key advances in treatments and the overturning of conventional wisdoms (Everitt and Wessley, 2008).

In the field of social work, they have shown, for example, that the family preservation services in the USA, which had been positively evaluated in numerous quasi-experimental studies, did not have the advantages they claimed (Schuerman et al., 1994). Nevertheless, the difficulties must be acknowledged, as other recent RCTs in UK social care have encountered similar problems with recruitment (Minnis et al., 2001, Rushton and Monck, 2010).

## **Recommendations**

What then are the practical implications of our study for attempts to increase the rate of success? In our view they are as follows:

- Incentives should be provided for LAs and social workers to take part in all research, including RCTs. At present, many do not see it as in their interests or those of their clients to do so. Financial incentives, reports and individual feedback provide ways that this can be done and should be costed in proposals.

- Contractual agreements between funders and deliverers of implementation programmes of this kind should specify the type of research required from the outset. E.g. in our case, the RCT should have been a condition of participation in the MTFC-A pilot. Contracts should clearly specify what each will contribute and how each will benefit.
- The conditions necessary for an RCT are also, we would argue, those for an equitable and accessible service provision in any event; clear intervention options, clearly defined need in the population, and equitable access of the population in need to interventions available i.e. transparent referral procedures.
- RCTs are expensive. They should only be undertaken where there will be an adequate flow of cases or allocation can be applied to an existing cohort (e.g. a set of foster carers) and when there is enough evidence to show that the intervention is likely to work. Allowance should be made for the fact that new interventions often take longer to bed-down than their originators expected.
- There must be greater acknowledgement of the ethical dilemmas of RCTs and of the fact that in this field, preference (e.g. for a particular foster carer or for remaining at home rather than entering care) may play a part. Our solution of randomising to an 'offer' may provide some solution here particularly if allied with a CACE approach to analysis.

There are also wider issues. Suspicion of the RCT method among social work staff reflects similar suspicion in the academy (Trinder, 1996, Webb, 2001). Experimental methods in general, and RCTs in particular, have not been wholeheartedly embraced by social work academics in the UK, to some extent because much of the social work research undertaken over the past 40 years has been in the constructivist tradition and qualitative in nature. Experimental approaches have often been perceived as running counter to these

epistemological and methodological traditions, although they have had a small number of champions (Macdonald, 1996, Macdonald and Sheldon, 1992, Newman and Roberts, 1997). In this context, social work training may have done little to convince practitioners of the potential value of experimental studies.

In conclusion, we would call once again for a more open-minded approach to, and more use of, RCTs in social care research and indeed for a stronger research culture within social work. The view that social care research is too 'complex' for the application of this method is unfounded, as the RCT is a particularly powerful method with which to investigate complexity since it controls for variables we know to be confounding and also those that we don't know to be confounding. RCTs can investigate not only whether an intervention worked but can also be used to investigate complex questions about *who* it works best with and might be most usefully targeted at. However, as our experience demonstrates, to apply the method well certain preconditions need to be met. We have outlined some of these in this paper based on our experience of conducting a trial of an intervention for looked after children. We believe that in this trial we have made some progress in finding solutions to some of the practical barriers to implementing the method and that these solutions could be usefully applied in other RCTs in social care. We have also highlighted two other important barriers; first progress in the understanding and valuing of the method by practitioners and managers, and second aspects of the organisation of service provision in such a way as to support RCT evaluation. Both aspects involve wider consideration in the policy and professional system.

## References



- BIEHAL N., DIXON J., PARRY E., SINCLAIR I., GREEN J., ROBERTS C., KAY C., ROTHWELL J., KAPADIA D., ROBY A. The Care Placements Evaluation (CaPE) Evaluation of Multidimensional Treatment Foster Care for Adolescents (MTFC-A). London: Department for Education; 2012.
- BIEHAL N., ELLISON S., SINCLAIR I. Intensive fostering: An independent evaluation of MTFC in an English setting. *Children and Youth Services Review* 2011;33:2043-9.
- BIEHAL N., ., ELLISON S., SINCLAIR I, RANDERSON C., RICHARDS A., MALLON S., KAY C., GREEN J., BONIN E., BEECHAM J. Report on the Intensive Fostering Pilot Programme. London: Youth Justice Board; 2010.
- BANDURA, A. 1977. *Social Learning Theory*, New York, General Learning Press.
- CHAMBERLAIN, P. & REID, J. 1991. Using a Specialized Foster Care Community Treatment Model for Children and Adolescents Leaving the State Mental Hospital. *Journal of Community Psychology*, 19, 266-276.
- CHAMBERLAIN, P. & REID, J. 1998. Comparison of Two Community Alternatives to Incarceration for Chronic Juvenile Offenders. *Journal of Consulting and Clinical Psychology*, 66, 624-633.
- COYNE 2010. Accessing children as research participants: examining the role of gatekeepers. *Child: Care, Health and Development*, 34, 452-454.
- CRAIG, P., DIEPPE, P., MACINTYRE, S., MICHIE, S., NAZARETH, I. & PETTICREW, M. 2008. Developing and Evaluating Complex Interventions; the new Medical Research Council guidance.
- EVERITT, B. & WESSLEY, S. 2008. *Clinical Trials in Psychiatry* London John Wiley and Sons.
- FISHER, P., BURRASTON, B. & PEARS, K. 2005. The early intervention foster care program: permanent placement outcomes from a randomized trial. *Child Maltreatment*.
- FROST, N. 2002. A problematic relationship? Evidence and practice in the workplace. *Social Work and Social Sciences Review*, 10, 38-50.
- GIBBS, A. 2001. The changing nature and context of social work research. *British Journal of Social Work*, 31, 687-704.
- GOLDBERG, E. M., MORTIMER, A., WILLIAMS, B. & TITMUSS, R. 1971. *Helping the Aged: A Field Experiment in Social Work*, London, Allen and Unwin.
- GREEN, J. M. 2006. The evolving randomised controlled trial in mental health: studying complexity and treatment process. *Advances in Psychiatric Treatment* vol. 12, 268–279.
- GUERON, J. 2008. Challenges in doing RCTs. *Journal of Children's Services* 3, 9-13.
- GUYATT, G., OXMAN, A., KUNZ, R., VIST, G., FALCK-YTTER, Y. & SCHÜNEMANN, H. 2008. What is "quality of evidence" and why is it important to clinicians?, . *British Medical Journal* 995–8.
- HUTCHINGS, J., BYWATER, T., DALEY, D., GARDNER, F., WHITAKER, C., JONES, J., EAMES, C. & EDWARDS, R. 2007. Parenting intervention in Sure Start services for children at risk of developing conduct disorder: pragmatic randomised controlled trial. *British Medical Journal* 334.
- LINDSAY, G., STRAND, S., CULLEN, M., CULLEN, S., BAND, S., DAVIS, H., CONLON, G., BARLOW, J. & EVANS, R. 2011. *Parenting Early Intervention Programme Evaluation*, London, Department for Education.

- MACDONALD, G. 1996. Evaluating the effectiveness of social interventions. In: OAKLEY, A. & ROBERTS, H. (eds.) *Evaluating Social Interventions*. London: SSRU/Barnardo's.
- MACDONALD, G. 2008. Social work in the UK: a testing ground for triallists. *Journal of Children's Services*, 3, 27-39.
- MACDONALD, G. & SHELDON, B. 1992. Contemporary studies of the effectiveness of social work. *British Journal of Social Work*, 22, 615-643.
- MACDONALD, G. & TURNER, W. 2005. An experiment in helping foster carers manage challenging behaviour. *British Journal of Social Work*, 35, 18.
- MACDONALD, G. & TURNER, W. 2009. Treatment Foster Care for Improving Outcomes in Children and Young People (Review). <http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD005649.pub2/pdf/standard>: The Cochrane Collaboration/Wiley.
- MACDONALD, G. A. R., H. 1995. *What Works in the Early Years?*, Ilford, Barnardo's.
- MARSH, P. & FISHER, M. 2005. *Developing the Evidence Base for Social Work and Social Care Practice*, London, Social Care Institute for Excellence.
- MINNIS, H., PELOSI, A. J., KNAPP, M. & DUNN, J. 2001. Mental health and foster carer training. *Archive of Diseases of Childhood*, 84, 5.
- MONCK, E. & RUSHTON, A. 2009. Access to post-adoption services when the child has substantial problems. 4, 21-33.
- NEWMAN, T. & ROBERTS, H. 1997. Assessing social work effectiveness in child care practice: the contribution of randomized controlled trials. *Child Care Health and Development.*, 23, 287-296.
- NICE, N. I. F. H. A. C. E. 2009. *The Guidelines Manual*.
- NICE, N. I. O. C. E. 2010. *Promoting the quality of life of looked-after children and young people... Public health guidance 28*. London.
- POWERS, E. & WITMER, H. 1951. *An Experiment in the Prevention of Delinquency: The Cambridge Somerville Youth Study*, New York Columbia University Press.
- RUSHTON, A. & MONCK, E. 2010. A 'real world' evaluation of an adoptive parenting programme: reflections after conducting a randomized trial. *Clinical Child Psychology and Psychiatry*, 15, 1-12.
- SCHUERMAN, J., RZEPNICKI, T. & LITTELL, J. 1994. *Putting families first: an experiment in family preservation*, New York, Aldine de Gruyter.
- SCOTT, S. A. S., K. 2002. *The 'Spokes' project: Supporting Parents on Kids' Education*. Report to the Department of Health.
- SHELDON, B. 1986. Social work effectiveness experiments: review and implications. *British Journal of Social Work*, 16, 223-242.
- SINCLAIR, I. A. C., SHAW, M. J. & TROOP, J. 1974. The Relationship between Introversion and Response to Casework in a Prison Setting. *British Journal of Social and Clinical Psychology*, 13, 51-60.
- STEVENS, M., LIABO, K., WITHERSPOON, S. & ROBERTS, H. 2009. What do practitioners want from research, what do funders fund and what needs to be done to know more about what works in the new world on children's services? *Practice*, 5, 281-294.
- TORGERSON, D. & TORGERSON, C. 2008. Invited editorial. Randomised controlled trials in children's services. *Journal of Children's Services*, 3, 2-8.
- TRINDER, L. 1996. Social work research: the state of the art (or science). *Child and Family Social Work*, 1, 233-242.
- WEBB, S. 2001. Some considerations on the validity of evidence-based practice in social work. *British Journal of Social Work*, 31, 57-79.

WESTERMARK, P., HANSSON, K. & OLSSON, M. 2011. Multidimensional treatment foster care (MTFC): results from an independent replication. *Journal of Family Therapy*, 33, 20-41.