Functional Family Therapy (FFT)

Toolkit technical report

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This report is produced in collaboration with staff from the Campbell Collaboration Secretariat. It is a derivative product, which summarises information from Campbell systematic reviews, and other reviews, to support evidence-informed decision making'.

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Functional Family therapy (FFT): YEF Technical Report

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Summary

This technical report reviews the evidence on the effectiveness of Functional Family Therapy (FFT) for families of young people with behaviour problems. The report is based on the systematic review by Littell et al. (2023), which reviewed the effectiveness of FFT on children and young people's involvement in crime, violence, and substance abuse. It also looked into the effect on secondary outcomes such as parenting behaviours, parent-child relationship and overall family functioning.

FFT is a family-based manualised programme developed specifically for children and young people involved in, or at risk of being involved in, crime and violence. Some FFT participants have a history of substance use or abuse and are often referred by the court. The program is intended to be delivered by professional therapists with a master's degree in psychology, counselling, marriage and family therapy, social work, or a related area who has been certified to deliver the programme.

As the name suggests, the approach is to improve the functioning of the family, and so includes all family members not just the young person. The model is a phased approach in five stages: engagement, motivation, assessment, long-term behavioural change, and 'generalisation' to sustain changes over time. FFT is structured around 8-to-30-hour direct sessions between therapists and the young person and their families. An average of 12 such sessions are conducted over 1-3 months.

The current review evaluated the effectiveness of FFT on families of children and young people with behaviour problems based on findings from 20 studies - 14 randomised controlled trials (RCTs) and six quasi-experimental designs (QEDs). Most of the included studies were conducted in the USA. The review is assessed as having high confidence in study findings.

Overall, the findings show varied effects of FFT, based on low quality evidence. On average, the research suggests that FFT has a moderate impact on recidivism outcomes in comparison to treatment as usual, when recidivism is measured 6 to 12 months following implementation. However, this impact estimate is based on low quality evidence. The review brings together findings from evaluations of the impact of FFT on recidivism at various timepoints between six and 24 months. The studies show that results vary according to the timepoint when outcomes are measured. Furthermore, the largest effect

sizes were seen for studies involving developers in the United States, and the smallest effect sizes are from independent evaluations outside of the United States.

Implementation evidence from Step Change implemented in London found many positive features most notably a better relationship between parents and young people and the therapist than they were used to with social workers. But there were problems in management and design: procurement was rushed, the local authorities involved were not next to each other, a new system was used on top of existing systems, and the program was implemented alongside other interventions so the participants felt over-burdened and so may not attend sessions.

Objective and Approach

This technical report reviews the evidence on the effectiveness of Functional Family Therapy (FFT) for families of children and young people involved in crime and violence. The report is based on a recent systematic review and meta-analysis of the effectiveness of FFT by Littell et al. (2023).

The following inclusion and exclusion criteria were used to inform selection of systematic reviews.

Inclusion Criteria

This technical report included systematic reviews and/or meta-analyses that reviewed the effectiveness of FFT on youth behaviour and youth, parent and family functioning. Preference was given to reviews which reported on young people's criminal justice contact, with preference given to a review reporting children and young people's involvement in violence. Littell et al. (2023) met the inclusion criteria and is a recent review which reports on offending outcomes. The current technical report is also informed by a review that reported the impact of FFT on 'adolescent disruptive behaviour' and substance use (i.e., Hartnett et al., 2017). However, this review was not used to inform the impact estimate as no outcomes related to the involvement of children and young people were included.

Exclusion Criteria

Reviews were excluded for the following reasons:

- The review was published prior to 2010 and therefore does not report the most recent evidence on the effectiveness of FFT (e.g., Austin, 2005)
- The review was not specific to FFT did not report findings separately for FFT. (e.g., Baldwin et al., 2014).
- The review did not report any information on any behavioural or offending related outcomes (e.g., Filges et al., 2015 reported the effect of FFT on non-opioid drug use only).
- The review has been updated and so a more recent analysis is available (e.g., Littell et al., 2017).

Outcomes

Littell et al. (2023) examined the effectiveness of FFT on the involvement of children and young people in crime, violence, substance use as well as parent-child dynamics and the overall family functioning. Primary outcomes focused on the child who was the target of the intervention. For the purpose of the current technical report, the primary outcomes of interest were recidivism (i.e., a record of any offence committed following the index offence). However, Littell et al. (2023) also reported on the effectiveness of FFT on outcomes such as: placement in a restrictive or secure facility (incarceration, detention, residential treatment, psychiatric hospitalisation), internalising behaviour problems, externalising behaviour problems, self-reported delinquency (typically these are minor criminal offences) and drug and alcohol use. Secondary outcomes included peer relations, pro-social behaviour, self-esteem, parent symptoms and behaviour, family functioning, school attendance, and school performance (Littell et al., 2023).

Outcome measures were based on data drawn from multiple sources such as standardised instruments, administrative data from police, court and school records, drug tests, and reports prepared by parents, teachers, or the individuals themselves (Littell et al., 2023). These sources displayed reasonable reliability or validity (i.e.., Cronbach's alpha or kappa > 0.7).

Hartnett et al. (2017) reviewed the effectiveness of FFT on 'adolescent disruptive behaviour'[1] and substance use.

Description of Interventions

FFT interventions are implemented with children and adolescents aged 10-17 years old and aim to reduce a range of behaviours, including, antisocial behaviour and juvenile delinquency. FFT is an evidence-based approach for the treatment of adolescent behavioural problems and substance misuse (Hartnett et al., 2017) and was developed to target "highly conflicted" families (i.e., families in whom there is a lot of conflict between individuals).

[1] Hartnett et al. (2017) do not provide a clear definition of what is meant by 'adolescent disruptive behaviour'. We can assume that it is operationally similar to 'adolescent problem behaviour'.

The review by Littell et al., (2023) describes FFT as a family-based manualized program developed specifically for children and young people involved in or at risk of being involved in crime and violence. They are often children and young people who have previously been involved in crime and violence and since exiting state institutions, need help re-entering society. FFT has been a popular intervention program in the USA (Littell et al., 2023). It has been introduced in a home, school or clinical environment and has mostly been initiated within mental health, juvenile justice, and child welfare settings. FFT was developed in the early 1970s by clinical psychologist and family therapist, James Alexander.

The FFT model is designed to work in phases:

1. Engaging with the target young person and their family members, who may be resistant to treatment. Engagement involves maximising and minimising factors. Maximising factors are those that raise the credibility of the intervention (i.e., promotes the outlook that a change in the positive direction will occur). Minimising factors include poor program image, unfavourable location and insensitive referral. These bring down the perception of the intervention, often indicating insensitivity and/or unsuitable resources (Alexander,1998, p. 15).

2. Therapists push towards positively changing family members' motivations. The motivation phase is centred around the family. It is designed to improve the motivations of its members by working to modify negative emotions such as, hopelessness and blaming that function as intrafamily risk factors. Conversely, protective factors within the family are strengthened to prevent harm from unchangeable intrafamilial risk factors (Alexander 1998, p. 15).

3. An assessment of the family's strengths and problems by the FFT workers and family members themselves. Assessment doesn't focus on the diagnosis, but on intrafamilial functional problems. This process consists of multiple levels, dimensions and methods. It involves the target individual, their family as well as the behavioural, and contextual factors (Alexander 1998, p. 22).

4. Post assessment, FFT therapists try to initiate long term behavioural changes aimed at improving youth, parent, and family functioning. It should take into account the specific characteristics of each family member (Alexander 1998, p. 15).

5. Generalisation: a combined effort of therapists and family members to sustain changes over time and to ensure these changes are generalized across different settings and social systems. The attempt is to generalize the changes brought about through previous phases to other settings as well as social systems. This requires focused work on generating community support and the broken down family-system relationships (e.g., with schools, probation officers; Alexander 1998, p. 15; Littell et al. 2023).

The review (Littell et al. 2023) reports that the approach of most FFT therapists centred on family systems, communication, and behaviour modification. In a few cases use of token economies and bibliotherapy was also observed (e.g., Alexander 1973; Littell et al. 2023).

FFT has been evaluated across the world, including in Ireland (Graham et al., 2014) and in the United Kingdom (Humayun et al., 2016). Weisman and Montgomery (2019, p. 334) highlight many goals of FFT, including, "…to change the maladaptive behaviours of youth and families, especially those who at the outset may not be motivated or may not believe they can change". FFT also strives to reduce the consequences associated with antisocial behaviour and juvenile delinquency, particularly on the personal, societal, and economic level (Weisman & Montgomery, 2019).

An 'ecological multifactorial' model of risk and protective factors guides the intervention in FFT programmes, and treatments are based on family systems theory and cognitive-behavioural techniques (Hartnett et al., 2017; Weisman & Montgomery, 2019). This means that risk factors are identified on many different levels of the system (e.g., the individual, peer, family, community levels) and are assumed to interact with one another in many directions. FFT includes components such as reframing, interrupting of negativity or blame, redirection of focus, interpretations of patterns of maladaptive behaviour with links to emotions, a deepening understanding of actions, and communication training (Weisman & Montgomery, 2019).

Implementation Setting and Personnel

As the name suggests, the approach is to improve the functioning of the family, and so includes all family members not just the child. Implementation of FFT usually takes place in 'sites' which are

formed by groups of FFT trained professionals and support staff. Such groups hold weekly meetings with an FFT supervisor where the case and related clinical problems are deliberated upon.

FFT is intended to be delivered by professional therapists with a masters' degree in psychology, counselling, marriage and family therapy, social work, or a related area who has been certified to deliver the programme (Alexander 1998; Littell et al. 2023). Four levels of certification are available: Functional Family therapist, FFT Clinical Team leader, FFT Clinical Supervisor, and FFT Trainer.

Most evaluations of FFT included by Littell et al. (2023) in their review operated across study settings such as, youth justice, mental health, or child welfare. The meetings between FFT therapists and participants took place mostly in offices, university laboratories, or clinic settings.

Duration and Scale

The FFT programs analysed in the review by Littell et al., (2023) ranged between 29 to 115 days in duration**.** In general, FFT is described as a short-term intensive intervention and requires between 8 and 30 hours of direct service to young people and families over an average of 12 home visits in 90 days (Weisman & Montgomery, 2019).

The types of comparison groups were treatment as usual (TAU), or alternative services (such as individual, family, or group therapy), or no treatment. In addition to the regular certified FFT programs, the reviewers considered FFT exclusively targeting youth in danger of gang involvement (FFT-G). But programs developed for child welfare cases (FFT-CAN and FFT-TCM) were excluded as the age range of participants and their behavioural problems did not match the inclusion criteria.

Theory of change/presumed causal mechanisms

Littell et al. (2023) highlight that FFT is built on a few key theoretical principles. The central principle is that an individual's behaviour is a function of the family relational system. FFT addresses the functionality of the family. The assumption is that by targeting the child's behaviour, FFT can improve family interactions and relationship function. By bringing about such behavioural changes in children, young people and their families, FFT can prevent or reduce their involvement in crime and violence.

Based on this understanding, Littell et al., (2023) explain that the developers of FFT identified few broad-ranging goals to bring about a change in children and young people's behaviour. These are:

1. Bring about a change in children and young people involved in or at risk of being involved in crime, violence etc., and their families, particularly those who may not necessarily think they can change or be motivated to do so.

2. Minimise the personal, societal, and economic costs of such behaviour; and

3. Getting this done at a lesser cost, both in terms of money and time, as compared to other available treatments.

In contrast to other types of family therapy, such as Multisystemic Therapy (MST), which aim to affect change across all levels of a child or young person's social environment as an ecological intervention, FFT focusses more on the individual child or young person[2]. FFT assumes that behaviour serves a purpose for the child or young person. These functions may include the regulation of support or intimacy with family members and are assumed to be necessary for the young person. The theory of change therefore assumes that by changing communication patterns and improving family functioning, the problem behaviours can be addressed and ideally reduced or prevented. FFT uses a social learning approach and emphasises change in relationships.

Evidence base

Descriptive Review

The review by Littell et al. (2023) evaluated the effectiveness of FFT on families of young people with behaviour problems based on findings from 20 studies - 14 randomised controlled trials (RCTs) and six quasi-experimental designs (QEDs). These contained data from 12,129 families. Fifteen of these studies, representing 10,980 families, were included in the meta-analysis (Littell et al. 2023).

[2] We are grateful to Peter Fonagy for his expertise and input into the understanding of MST and FFT interventions.

Included studies were predominantly conducted in the USA—15 studies overall and 12 studies out of the 15 eligible for meta-analysis. Half of all the studies were conducted with developers of the FFT program, however it is not very clear how developers were involved (e.g., as sole evaluators, consultants, or implementers and evaluators).

The age of young people included in these studies averaged between 13.8 to 17.1 years old. Only one study (Gottfredson 2018) was conducted exclusively with males. The rest had a mixture of male and female children and young people. Around 10 studies provided, in a limited capacity, the racial/ethnic composition details of the samples analysed. The sample in Humayan (2010) was predominantly white, Robbins (2012) was largely Hispanic and a few other studies were mainly Black and Hispanic (Littell et al. 2023).

Assessment of the evidence rating

We have confidence that, at the time of writing, the review by Littell et al. (2023) represents the best available evidence on the effectiveness of FFT for families of children and young people involve in, or at-risk of involvement in crime and violence.

The review was critically appraised using a modified version of AMSTAR 2. The tool rated the review as 'high'. The results of this assessment are summarised in Annex 1. Our decision rule for determining the evidence rating is summarised in the technical guide.

The review adequately specified the research questions and the inclusion/exclusion criteria, clearly laying out all details regarding population, intervention, comparison group and outcome of interest (Littell et al., 2023, pp. 6-9). Studies included were restricted to randomised controlled trials (RCTs) and quasi-experimental designs (QEDs) that used parallel cohorts and statistical controls for between-group differences at baseline. These studies focused specifically on families of young people aged 11–18 years with behaviour problems, such as criminal offenses, delinquency, violent behaviour, anti-social behaviour, and substance abuse.

The inclusion criteria for Littell et al. (2023) did not require studies to evaluate outcomes within a specific time after FFT treatment. No data was analysed on outcomes for siblings or caregiver substance use.

The review published a study protocol in 2007 prior to conducting the research and provided a detailed account of how the final review differed from the initial protocol. Littell et al. (2023) also reported a comprehensive literature search strategy, covering different bibliographic databases, government policy databanks, professional websites, personal contacts and cross-referencing of bibliographies. Use of designated search terms and well-defined search strategies was part of the process.

Two independent reviewers completed the screening of studies. They excluded irrelevant studies, independently assessed each retrieved study to ensure they met the inclusion criteria and resolved disagreements through consensus or a third author. The exact reasons for excluding a sample of excluded studies was provided. Similarly, coding of each included study was done by two independent reviewers. Differences that emerged were taken up for discussion to refine the coding process.

The review conducted a risk of bias assessment of the included studies using a criteria adapted from Cochrane Risk of Bias tool. Littell et al. (2023) did not exclude studies from data synthesis based on the risk of bias assessment. A significant number of studies were marked for high risk of bias for baseline equivalence, selective reporting, or conflict of interest.

The authors gave a thorough account of synthesising the data using meta-analysis, computing the weighted effect sizes and evaluating the heterogeneity between studies. They used Cochrane's rev-man calculator to calculate missing standard deviations. In addition, the results of RCTs were reported separately from the results of QEDs. Potential differences in effect size estimates based on study design were explored using moderator analysis.

Littell et al. (2023) present multiple effect size estimates based on different outcomes, different timepoints when outcomes were measured and also different meta-analytical models. Using the decision tree outlined in our technical guide, the mean effect for recidivism measured at 6 to 12 month follow up was chosen as the headline impact estimate as it was determined this is the best representation of the 'immediate post intervention' effect. Therefore, this effect size is most comparable to other intervention strands included in the toolkit.

This estimate was based on 6 studies and the heterogeneity was categorised as high (I^2 = 74%). As such, the evidence rating was 2. Therefore, the headline impact estimate in the Toolkit shows that FFT has a moderate desirable impact on the involvement of children and young people in crime and

violence, however the estimate is statistically insignificant and has a low evidence rating (OR = 1.27; 95% CI 0.71, 2.22; p = 0.41; n = 6 studies; I^2 = 74%).

Impact

Littell et al. (2023) report the mean effect size from eight evaluations of the effect of FFT on recidivism, at four different time points. As shown in Table 1, the average effects at these time periods vary greatly, reflecting that these estimates mostly come from different studies rather than any clear 'impact trajectory'.

The effect sizes suggests that FFT had a desirable impact compared to the comparison condition, varying from a 4 to 12% reduction (and one period showing a 48% reduction but based on just one study). The evidence rating ranges from 1-3. Overall, we conclude that FFT has a moderate impact, with low evidence security, on children and young people's involvement in crime and violence.

Table 1

Mean effect sizes from Little et al. (2023) review

Outcome (timepoint)	*n studies*	*OR*	*95% CI (p)*	*% reduction*	*I^2*	*Evidence rating*
Recidivism* 6-12 months	6	OR = 1.27 *d* = 0.13	0.71, 2.22 *p* = 0.41	11.7%	74%	2
Recidivism 12 months	1	OR = 2.86 *d* = 0.58	0.69, 11.11	48.1%	n.a.	1
Recidivism 15-18 months	6	OR = 1.08 *d* = 0.04	0.90, 1.28 *p* = 0.42	3.6%	3%	3
Recidivism 24 months	2	OR = 1.27 *d* = 0.13	0.37, 16.67 *p* = 0.35	11.7%	92%	1

Note: ES = the weighted mean effect size; OR = odds ratio; d = Cohen's d, * = headline impact estimate; n.a. = not applicable; *p* = p-value as indication of statistical significance.

The estimate of the impact of FFT on recidivism outcomes measured 6 to 12 months post cessation of intervention most likely represents the impact of the programme in the immediate aftermath of participation, given that FFT is described as a short intensive intervention programme. As such, the results from the review by Littell et al. (2023) demonstrate that in the short term, FFT may have a desirable moderate impact on recidivism outcomes.

Littell et al. (2023) also reported the impact of FFT on a number of additional outcomes. The results are summarised here, focussing only on analyses reported with more than one evaluation. For a full outline of the results, the reader can consult the original report by Littell et al. (2023).

- FFT had a desirable but not statistically significant impact on out-of-home placements of participating children and young people, measured 15 to 18 months following cessation of the intervention (OR = 1.21; 95% CI 0.71, 2.04; I^2 = 0%; p = 0.49; n = 2 studies).
- FFT had an undesirable but not statistically significant impact on the number of days spent in out-of-home placements by participating children and young people, measured 6 to 12 months following cessation of the intervention (d = -0.07; 95% CI -0.35, 0.21; I^2 = 0%; p = 0.62; n = 2 studies). However, FFT had a small but desirable (and insignificant) impact on the number of days spent in out-of-home placements by participating children and young people, measured 15 to 18 months following cessation of the intervention (d = 0.04; 95% CI -0.53, 0.62; I^2 = 74%; p = 0.88; n = 2 studies).
- FFT had a small and desirable, but not statistically significant, impact on externalising behaviour outcomes measured 6 to 12 months following cessation of the intervention (d = 0.05; 95% CI -0.24, 0.35; I^2 = 0%; p = 0.72; n = 2 studies). This effect increased when externalising behaviour was measured at 15 to 18 months following cessation of the intervention (d = 0.17; 95% CI -0.27, 0.62; I^2 = 53%; p = 0.45; n = 2 studies).
- FFT had a null and statistically insignificant impact on internalising behaviour outcomes measured 6 to 12 months following cessation of the intervention (d = -0.01; 95% CI -0.31, 0.28; I^2 = 0%; p = 0.94; n = 2 studies). The effect on internalising behaviour outcomes was undesirable but still statistically insignificant increased when outcomes were measured at 15 to 18 months following cessation of the intervention (d = -0.11; 95% CI -0.41, 0.19; I^2 = 53%; p = 0.47; n = 2 studies).
- FFT had an undesirable but not statistically significant impact on delinquency outcomes measured 6 to 12 months following cessation of the intervention (d = -0.05; 95% CI -0.25, 0.15; I^2 = 14%; p = 0.61; n = 5 studies). This effect increased when delinquency was measured 15 to 18 months following cessation of the intervention (d = -0.09; 95% CI -0.43, 0.26; I^2 = 47%; p = 0.62; n = 3 studies).
- FFT had a relatively null and statistically insignificant impact on marijuana use by participating children and young people measured 6 to 12 months following cessation of the intervention (d = -0.02; 95% CI -0.26, 0.23; I^2 = 0%; p = 0.89; n = 3 studies).

Moderators and mediators

Littell et al. (2023) assessed the heterogeneity between primary evaluations of FFT using moderator analysis. Studies conducted in the USA by FFT developers produced the highest average effects and independent studies outside the US the lowest on recidivism outcomes. The mean effect sizes reported by Littell et al. (2023) for these moderators were g = 0.29 and g = 0.15, respectively.

The authors clarified that other planned moderator analysis could not be conducted because of lack of data.

Findings from the UK/Ireland

Littell et al. (2023) included an RCT by Humayun et al. (2017) evaluating the effectiveness of FFT as implemented in two counties in England. The study reported on primary outcomes such as offending, reoffending, breach of orders, delinquency, conduct disorder and antisocial behaviour. The protocol for the study was registered retrospectively. A total of 111 children and young people and their families participated in the study. These children and young people had either been sentenced to custody or were being provided agency intervention due to police contact following criminal justice contact. Participants were aged 10 to 18 years old and 90% were identified as white British. The effectiveness of FFT was compared against management as usual (MAU) control group (Humayun et al., 2017).

The authors described the FFT treatment as consisting of 12 sessions spread across 3 - 6 months and designed as five phases (engagement, motivation, assessment, behaviour change, generalisation). Systemic Family Psychotherapists with a master's level qualification and up to 10 years of experience working with families and youth with multiple problems implemented the program (Humayun et al., 2017). The control group receiving MAU were given additional casework services to stay in par with the time and attention FFT participants received. Effectiveness assessment was done at a baseline of 6 to 18 months post randomisation. MAU was implemented through a caseworker who offered help on several aspects including education, employment, substance misuse, anger management (Humayun et al. 2017). It also made use of reparation programs and victim awareness programs (Humayun et al. 2017).

Humayun et al. (2017) reported a moderate decline in offences committed at the 6-month follow-up stage (g = 0.133, 95% CI: 0.057, 0.314; z = -4.62; p < 0.001) and a small decline at the 18-month follow-up stage (g = 0.089, 95% CI: 0.034, 0.232; z = -4.95; p < 0.001; Humayun et al., 2017), but the difference between treatment and control groups was not statistically significant. Parental behaviour also did not see a statistically significant positive or negative change in the FFT group. Overall, the study found no significant difference between either group on outcomes such as self-reported delinquency, directly observed child negativity, official records of offence or parental family functioning.

Implementation evidence

Evidence on the implementation of FFT is informed by a process evaluation conducted in the UK (i.e., Blower et al., 2017). Blower et al. (2017) present an evaluation of the Step Change programme which was implemented in three local authorities (LAs) in London offering both MST and FFT.

Success factors and positive features of the programme were seen by practitioners as therapists being able to offer levels of support that they could not provide. And by parents the nature of the relationship, which was more collaborative, and offered, greater continuity than they were used to from social workers. Comments from parents included:

> *"If I want to pick up the phone, like I can just talk, I, I don't feel like, oh sorry to bother you, I just phone her, we text each other and she'll say, how's it going?"*

> *"At first I just looked at it as another part of Social Services…I didn't realise she was going to be there for me and my children, I thought she was just gonna be someone else that'd come in and say, right you've got to do this, you've got to…but not at all, totally just the way she worked, little things she did with you."* (Blower et al. 2017, pp. 31)

However, there are also many challenges were encountered, mainly in the administration of the programme.

These included the procurement process, which was seen to be too short so the programme was not properly thought through. And those implementing the programme were not necessarily those who

prepared the bid so ownership was weak. Funding for the programme was cut, so although two LAs would have liked to continue Step Change at least in part they were unable to do so.

The design of the program imposed a new system on top of existing systems which greatly increased the workload. And the chosen LAs were not adjacent which increased workload, with large travel times between LAs for cross-LA activities.

Some children and young people may already have many appointments or different activities, and so they questioned the contribution of yet another activity. One parent said:

> *"I thought it was too much, I was thinking [my child] is going through all this, does he need another thing? He's got YOT work twice a week, he's got to go to this, that…he's told me "I'm going to all these things, dad, it's not doing nothing for me."*
> (Blower et al. 2017, pp. 33)

For reasons such as this some children may simply refuse to participate.

Cost analysis

According to Littell et al. (2023), recent studies estimate average cost of FFT-G to be $2,417 USD per family ($154,718 for 64 families; Gottfredson 2018, p. 947). Further, they use a cost-benefit analysis to infer that FFT might produce a net savings of over $14,315 USD per young person served in Washington State and $26,216 USD per young person outside of Washington State(Aos 2001, Aos 2004). But, as noted by the reviewers, this analysis was limited by the narrow selection of outcomes and reliance solely on data from published reports, which were likely to show inflated estimates of treatment effects (Littell et al. 2023).

Blower et al. (2017) report cost data from the Step Change programme implemented in London. They report the cost of therapists per child for FFT to be £3,465 (compared to £9732 for MST as the latter is more intensive). These costs need to be set against the avoided costs of care and other services if the programme is successful. However, the cost-benefit analysis if not reported by the authors.

What do we need to know? What don't we know?

Overall, it is difficult to ascertain the effectiveness of FFT considering the low confidence in the results reported, and high variation in findings. There is not clear evidence to support the claim that effectiveness of FFT is consistent and positive across studies. There is very little evidence regarding implementation.

Most included studies suffered from incomplete and selective reporting of outcomes. Most studies on FFT were also located in the USA, and a large number involved the programme developer in some capacity (Littell et al., 2023).

More studies, evaluating both implementation and impact, are required in the UK to further our understanding of the effectiveness of these programmes to prevent and reduce the involvement of children and young people in crime and violence.

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Annex 1 AMSTAR Quality Rating

Modified AMSTAR item		Scoring guide	Functional Family Therapy
			Littell et al. (2023)
1	Did the research questions and inclusion criteria for the review include the components of the PICOS?	To score 'Yes' appraisers should be confident that the 5 elements of PICO are described somewhere in the report.	Yes
2	Did the review authors use a comprehensive literature search strategy?	At least two bibliographic databases should be searched (partial yes) plus at least one of website searches or snowballing (yes).	Yes
3	Did the review authors perform study selection in duplicate?	Score yes if double screening or single screening with independent check on at least 5-10%	Yes
4	Did the review authors perform data extraction in duplicate?	Score yes if double coding	Yes
5	Did the review authors describe the included studies in adequate detail?	Score yes if a tabular or narrative summary of included studies is provided.	Yes
6	Did the review authors use a satisfactory technique for assessing the risk of bias (RoB) in individual studies that were included in the review?	Score yes if there is any discussion of any source of bias such as attrition, and including publication bias.	Yes
7	Did the review authors provide a satisfactory	Yes if the authors report heterogeneity statistic. Partial yes	Yes

	explanation for, and discussion of, any heterogeneity observed in the results of the review?	if there is some discussion of heterogeneity.	
8	Did the review authors report any potential sources of conflict of interest, including any funding they received for conducting the review?	Yes if authors report funding and mention any conflict of interest.	Yes
	Overall		**High**

Appendix 2 Impact calculation

Effect size calculation

This annex shows the calculation based on the results and assumptions given in the text. We assume 200 youth, evenly divided between treatment and comparison groups. That means there are 100 youth in the control group and 100 youth in the treatment group. Assuming that 50% of youth in the control group reoffended, the mean effect sizes for Littell et al. (2023) can be easily transformed to a percentage reduction in reoffending.

If the odds ratio for recidivism is 1.27 (the effect for 6-12 months), then using the table below and the formula for an OR, we can estimate that the value of X. The odds ratio is calculated as: A*D/B*C, where A is the number of individuals who do not reoffend in the treatment group, B is the number of individuals who reoffend in the treatment group, C is the number of individuals who do not reoffend the control group, and D is the number of individuals who reoffend in the control group. An odds ratio less than 1 represents an undesirable impact of the intervention (i.e., a decrease in reoffending), while an odds ratio greater than 1 represents a desirable impact of the intervention (i.e., a decrease in reoffending).

	No reoffending	Reoffend	Total
Treatment	100-x	x	100
Control	50	50	100

The value of X is 44.1 in the case of recidivism at 6-12 month in the Littell et al. (2023) review. Therefore, the relative reduction in non-violent reoffending is (50 – 44.1/50) = 11.7%.

The prevalence of reoffending is likely to vary between studies and can be influenced greatly by the type of report (e.g., self-report or official crime data), the time period (e.g., reoffending over 12 months, 24 months or 48 months), and the types of crime included. If we were to adjust our assumption that 50% of the control group reoffend, the overall relative change in the intervention group is not greatly affected.

For example, if we assume that 40% of the control group reoffend, the 2x2 table would be as follows and the value of X is 45.8. Therefore, the relative reduction is 14.4% (i.e., (40 – 14.4)/40]*100).

	No reoffending	Reoffend	Total
Treatment	100-x	x	100
Control	60	40	100

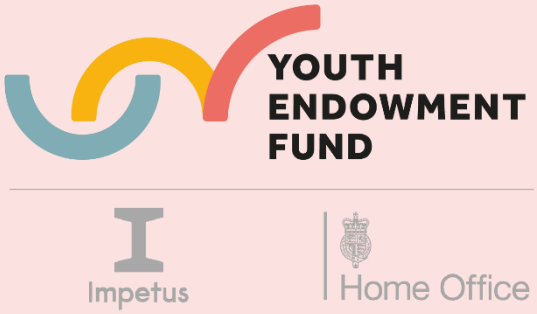
Similarly, if we assume that 60% of the control group reoffend, the value of X is 34.5 and the relative reduction in non-violent reoffending is 9.2%. Given, the significant difference in the assumed prevalence of reoffending, the percentage relative reduction does not vary in a similar fashion.

Appendix 3 Process evaluation evidence

Study/programme	Success factors	Barriers	Causal processes	What CYP, their families and practitioners say
Bowler et al. (2017) Step Change, London, UK	Good relationship with therapist	Bidding process rushed so programme not adequately thought through and weakened ownership as those who bid were not those implementing. Unequal power between implementing partners New system on top of existing system rather than working with those systems: greatly increased workload A three LA approach but LA not next to each other (and	Empowering families – making parents more confident - by a collaborative approach [The intervention] gave me an inner strength and a power…it has made me so much more confident…my confidence at the beginning was so low that even just...confronting [my child] over something she'd done… it was scary… saying 'hey this isn't ok'…but the more you do it then you realise that you can do it… (Parent)	Parent: There were no alternatives; that was what we were offered. Parent: The alternative, well they've already put my child in care…maybe they would have continued to threaten to remove my younger children Parent: At the beginning, I didn't think it was going to work…I just kept thinking…we need to have therapy...we've had therapy with CAMHS but they just can't help. Parent: more appointments"...and they was like "[the therapist will] come in for 6 months". I was like, "6 months, no [but]… from that day I met her…I was like, "yeah, I need her in my life".

		each LA had different approaches): cross-LA work very time consuming Conflicting commitments: CYP over-burdened with many meetings CYP refuses to engage Parent feels blamed for CYP's shortcomings Programme stopped when funding ran out. Insufficient time to properly implement and evaluate. Austerity meant would not be continued as an expensive program		Parent: It was a way of life, so to speak, and we were well beyond that [support] by the time we'd finished the therapy. [Improvements in his behaviour] were maintained, it was more consistent…quite a few changes, he's cut down on his cannabis use, which I didn't think was ever gonna happen, now he's talking about stopping. Parent: …the physical violence has stopped completely…. I still get the tantrums but nowhere near as bad so although she's still a moody teenager, it's the way that I deal with things. Young Person: …like I love [my therapist], she's good to work with, but then we had our social worker, it's like they're just annoying…

				Parent: If I want to pick up the phone, like I can just talk, I, I don't feel like, oh sorry to bother you, I just phone her, we text each other and she'll say, how's it going? Parent: At first I just looked at it as another part of Social Services…I didn't realise she was going to be there for me and my children, I thought she was just gonna be someone else that'd come in and say, right you've got to do this, you've got to…but not at all, totally just the way she worked, little things she did with you. Parent: I thought it was too much, I was thinking [my child] is going through all this, does he need another thing? He's got YOT work twice a week, he's got to go to this, that…he's told me "I'm going to all these things, dad, it's not doing nothing for me.



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