Efficacy randomised controlled trial of mentoring across multiple youth settings

Evaluation protocol

Evaluating institution: Centre for Evidence and Implementation, Centre for Youth Impact, and Bryson Purdon Social Research (BPSR)

Principal investigator: Jane Lewis

Project title[1]	**Impacts of a short-term mentoring model for young people: a multi-site randomised controlled trial**
Developer (Institution)	Centre for Evidence and Implementation (CEI), Centre for Youth Impact (CYI), and Bryson Purdon Social Research (BPSR) with seventeen youth agencies
Evaluator (Institution)	Centre for Evidence and Implementation (CEI), Centre for Youth Impact (CYI), and Bryson Purdon Social Research (BPSR)
Principal investigator(s)	Jane Lewis
Protocol author(s)	Jane Lewis, Jamie Rowland, Amy Hall, Bethia McNeil, Dr Susan Purdon, Caroline Bryson
Trial design	*Two-armed randomised waitlist controlled trial with random allocation at the individual level*
Trial type	Efficacy trial and implementation and process evaluation
Evaluation setting	Seventeen youth agencies delivering mentoring services in varied community contexts across the UK

[1] Please make sure the title matches that in the header and that it is identified as a randomised trial as per the CONSORT requirements (CONSORT 1a).

Target group	Primarily targeting 10-14-year-olds (with some 15-17-year-olds) with risk factors related to youth violence
Number of participants	17 youth organisations, N = 850 young people
Primary outcome and data source	SDQ (young person self-report)
Secondary outcome and data source	Selected Evaluation of National Citizen Service domains and individual items (young person self-report)

Protocol version history

Version	Date	Reason for revision
1.2 [*latest*]	09/10/2023	Changes to reduce the scope of the analysis.
1.1	31/07/2023	Reduced the frequency of mentee feedback survey to one time point (from two) and corrected an error in Table 4 where N(mentees) was stated incorrectly as 500 instead of 425.
1.0 [*original*]	13/12/2022	*[leave blank for the original version]*

Any changes to the design or methods need to be discussed with the YEF Evaluation Manager and the developer team prior to any change(s) being finalised. Describe in the table above any agreed changes made to the evaluation design. Please ensure that these changes are also reflected in the SAP (CONSORT 3b, 6b).

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1 Study rationale and background

1.1 Overview

This efficacy trial forms part of a wider study of multisite trials which is testing the feasibility of undertaking randomised controlled trials (RCT) of common, non-programmatic provision across multiple youth service sites.

The study of multisite trials consists of two parts: the feasibility trial completed in November 2022 and the efficacy trial described in this protocol. Seventeen youth agencies (referred to here as 'delivery partner organisations' or DPOs) were recruited to take part in the overall study. The small-scale feasibility RCT was successfully delivered by nine of these DPOs, using a shared practice model developed by the evaluation team with all 17 DPOs. A summary of the completed feasibility trial can be found below (section 1.5) and the full report will be published by the YEF. The second phase of this study was initially framed as a pilot trial, to explore the feasibility of delivering a shared model of practice and running an RCT with a larger number of organisations and participants. However, due to the success of the feasibility trial and the planned recruitment numbers, it was decided that the trial was well placed to explore impact. This protocol is for an efficacy trial and implementation and process evaluation (IPE) to be run with a larger sample of young people and all 17 youth agencies, to assess the impacts of short-term mentoring and to test the feasibility of the trial approach with a larger sample.

Most rigorous impact evaluations focus on well-defined manualised programmes or interventions with prior evidence of promise, delivered at a single site or by a single organisation. However, the core business of youth organisations tends to be delivered by small, local, and often voluntary organisations and consists of non-manualised, yet widespread, approaches such as mentoring and semi-structured group recreational activities. This means the evidence base does not fully reflect the actual work of youth agencies, and many well-evidenced interventions are not suitable for mainstream delivery in youth work. To address this imbalance, this study aims to test the feasibility of engaging multiple small youth organisations in a high-quality evaluation of a common and promising but under-evaluated provision: mentoring.

The aims of this trial are:

- To test whether it is possible to support a group of community-based youth organisations to deliver in a randomised controlled trial (RCT), and to understand the capacity and support needs of youth organisations to do so.
- To test whether it is feasible to develop, and support delivery of, a shared model of practice, which is described and applied with sufficient consistency for a trial and which aligns with existing youth agency practices.

- To test the impact of short-term mentoring on the social and emotional learning skills of young people at risk of youth violence

The study aims to generate important learning about how to undertake multi-site trials with youth organisations and of non-manualised practices.

Mentoring was chosen as the focus practice area for a number of reasons. It is a very common feature of youth provision, both as a stand-alone intervention and as an element of broader service offers. Mentoring is relatively well-understood by the sector, in terms of practices and approaches and provided crucial support to young people during the Covid pandemic[2]. There is consistent evidence of its effectiveness, including from several systematic reviews and meta-analyses[3,4,5] which have found mild to moderate impact across a range of youth outcomes (including academic achievement, social relationships, health, cognitive, psychological outcomes, attitudes, self-efficacy, and behaviour)[6,7]. Many of the studies included in these reviews were of manualised models with duration of mentoring 6-12 months or longer. However, several programmes have shown positive outcomes over 6-16 weeks, particularly on peer social skills and self-management ability[8,9].

In terms of what works, for whom and how, a recent meta-analysis[10] of 70 studies of youth mentoring suggests larger effect sizes for programmes that include a greater proportion of young males, services which employ a larger percentage of male mentors or those with a helping professional background (e.g., social worker, counsellor, psychotherapist), and initiatives designed with shorter meeting times. There is little rigorous research on the specific impacts of mentoring on young people of colour, but a recent systematic review[11] highlights that mentoring can support Black male youth with academic outcomes, reduce risky behaviour, and encourage positive internalised racial identity. However, the

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[2] Kaufman MR, Wright K, Simon J, Edwards G, Thrul J, DuBois DL. Mentoring in the Time of COVID-19: An Analysis of Online Focus Groups with Mentors to Youth. Am J Community Psychol. 2022 Mar;69(1-2):33-45. doi: 10.1002/ajcp.12543. Epub 2021 Jul 28. PMID: 34318506; PMCID: PMC8426756.

[3] Raposa, E.R., Rhodes, J., Stams, J.M., Card, N., Burton, S., Schwartz, S., Yoviene Sykes, L.A., Kanchewa, S., Kupersmidt, J. and Hussain, S. (2019) *The Effects of Youth Mentoring Programs: A Meta-analysis of Outcome Studies Journal of Youth and Adolescence*, 48:423-443

[4] DuBois, D.L., Portillo, N., Rhodes, J.E., Silverthorn, N. and Valentine, J.C. (2011) *How Effective Are Mentoring Programs for Youth? A Systematic Assessment of the Evidence,* Psychological Science, 12(2):57-91

[5] Edwards, P., Jarrett, C., Perkins, C., Beecher, D., Steinbach, R. and Roberts, I. (2015) *What Works: Crime Reduction Systematic Review Series. No 2 Mediation, Mentoring and Peer Support to Reduce Youth Violence: A Systematic Review. College of Policing*

[6] Lindsay, S., Kolne, K., & Cagliostro, E. (2018). Electronic Mentoring Programs and Interventions for Children and Youth With Disabilities: Systematic Review. *JMIR Pediatrics and Parenting*, *1*(2), e11679. https://doi.org/10.2196/11679

[7] Wood, S., & Mayo-Wilson, E. (2012). School-Based Mentoring for Adolescents. *Research on Social Work Practice*, *22*(3), 257–269. https://doi.org/10.1177/1049731511430836

[8] Wyman, P. A., Cross, W., Brown. K., Yu, Q., Tu, X., & Eberly, S. (2010). Intervention to strengthen emotional self-regulation in children with emerging mental health problems: Proximal impact on school behavior. Journal of Abnormal Child Psychology, 38(24), 707–720.

[9] Plourde, K. F., Thomas, R., & Nanda, G. (2020). Boys mentoring, gender norms, and reproductive health—Potential for transformation. Journal of Adolescent Health, 67(4), 479-494.

[10] Raposa et al. (2019) op. cit.

[11] Sánchez, B., Hurd, N. M., Neblett, E. W., & Vaclavik, D. (2018). *Mentoring for Black male youth: A systematic review of the research. Adolescent Research Review*, 3(3), 259-278.

effectiveness of mentoring for Black male youth is mediated by the cultural appropriateness of the programme, parental involvement, and the race of the mentor among others.

There are diverse forms of mentoring delivered across organisations, but the evidence suggests that various forms can be effective[12,13], providing it is of high quality[14,15,16,17]. This evidence supports the use of a shared practice model based on core components, rather than a single more tightly specified model of mentoring.

1.2 Evaluation design overview

The trial will be run as an RCT with 17 DPOs and with two arms per DPO: an intervention arm, and a wait-list control arm. The allocation will be in the ratio 50:50 per DPO. Each DPO will aim to recruit a minimum of 50 young people, with a total sample of approximately 850. Outcomes data will be collected at baseline and 12-week follow-up.

An implementation process evaluation (IPE) will also be undertaken. This will assess the feasibility and acceptability of both the trial arrangements and the shared practice model.

1.3 Recruitment of youth agencies

Youth agencies were recruited through a call for Expressions of Interest (EoI) issued through websites, social media, and direct approaches, with briefing papers, frequently asked questions (FAQs) and a pre-EoI checklist. All interested organisations were invited to attend an information session. Approximately 50 organisations submitted EoIs and 26 were shortlisted for interview by the study team. Interviews were scored and two 'assessment panel' meetings were held to select the final 18 youth agencies to be Delivery Partner Organisations (DPOs) in the study. One DPO withdrew at an early stage because of concerns about archiving of data.

1.4 Development of the shared practice model

The shared practice model was developed for the feasibility trial with all 17 DPOs. The aim was to develop a model of practice sufficiently consistent to be trial-able, but which does not obstruct the objective of evaluating mainstream, non-manualised youth provision. The model is described further below (section 2.1).

[12] Raposa et al. (2019) op. cit.
[13] DuBois et al. (2011) op. cit.
[14] Garringer, M., Kupersmidt, J. Rhodes, J., Stelter, R., and Tai, T. (2015) *Elements of Effective Practice for Mentoring. Boston: MENTOR: The National Mentoring Partnership*
[15] Podmore, B., Fonagy, P. and Munk, S. (2018) *Characterizing Mentoring Programs for Promoting Children and Young People's Wellbeing.* Anna Freud Centre https://www.annafreud.org/media/6019/characterising-mentoring-programmes.pdf
[16] Armitage, H. Heyes, K., O'Leary, C., Tarrega, M. and Taylor-Collins, E. (2020) *What Makes for Effective Youth Mentoring Programmes: A rapid evidence summary*. London, Nesta
[17] DuBois et al. (2011) op. cit.

1.5 Summary of the completed feasibility trial

The feasibility trial provided an initial small-scale test of the shared practice model and RCT. Nine of the 17 DPOs were randomly assigned to take part in the feasibility trial, with a view to all 17 participating in the efficacy trial. Our target was to recruit 100 young people to the feasibility trial (11 per DPO). The DPOs initially recruited 116 young people for the study, of which 93 were fully onboarded for the feasibility trial, while 23 were unable to participate as they either failed to provide consent or did not complete baseline outcome measures. 47 young people were then randomised to the control group and waited 12 weeks before receiving mentoring support while 46 young people were randomised into the intervention group and received mentoring immediately.

Data collection involved:

- Baseline and follow up surveys of young people, incorporating the Strengths and Difficulties Questionnaire (SDQ) and Youth Report of Socio-emotional Skills (YRSS)
- Programme administrative data
- A brief mentee quality feedback survey administered at three time points, at weeks 4, 8, and 12 of their mentoring
- A survey of mentors
- Qualitative interviews with DPO managers, mentors, and mentees.

Baseline and outcome measures were successfully completed. Of the 93 young people who participated in the trial (i.e., reached the point of randomisation) 79 (85%) went on to complete the follow up outcome measures. Seven of these young people left the trial before the completion of their 12 weeks of mentoring, and five young people in the control group left the trial before the end of their 12-week wait, i.e., before the beginning of their mentoring.

The trial arrangements and the shared practice model were overall considered feasible and acceptable to DPOs and young people. Recruitment of young people and the consent process was a key area of challenge and took longer than initially planned. The data collection processes were generally found to be acceptable. There was almost no evidence of contamination: just one young person in the control group received mentoring before the end of the waiting period. The eight criteria for progression to an efficacy trial were all met (see Appendix 1).

The evaluation team provided extensive support to DPOs during the feasibility trial:

- Workshops to co-design the shared practice model and trial approach and brief DPOs on the trial procedures.

- A set of guidance documents, brought together in a shared folder, involving:
    - a description of the shared practice model
    - a Delivery Handbook,
    - diagram of Theory of Change
    - a live Q&A document
    - a glossary of research terms
    - recordings of all key workshops and briefings.
- Short videos describing the trial requirements on key topics for DPO staff to review content and support the onboarding of new staff.
- A bespoke online data portal to manage consent, randomisation, and data collection.
- A Slack channel for all DPOs (an online instant messaging platform).
- Weekly one-to-one meetings with a named contact in the study team.
- Weekly drop-ins where they could share experiences with other DPOs.
- Weekly centralised update from a dedicated CYI email address, which covered key progress and actions required.

These DPO support methods were successful and will be replicated, with minor amendments, for the efficacy trial. The shared practice model and trial design will remain consistent in the efficacy trial. The only significant change proposed to the trial arrangements is to the outcome measures. The secondary measure used in the feasibility trial (the YRSS) has been replaced by selected items from the evaluation of the National Citizen Service. The feasibility trial and previous evaluations have shown that the YRSS is unlikely to detect change in social and emotional learning outcomes over three months. In the context of reframing this study as an efficacy evaluation, the NCS is more appropriate for detecting change. More details on the outcome measures can be found in section 4. Minor adjustments will be made to the recruitment of young people and operation of the data portal. These are set out in Appendix 2.

2 Intervention

2.1 Shared practice model of mentoring

The shared practice model was developed at an early stage, for the feasibility trial, with the 17 DPOs. The aim was to develop a model of mentoring practice sufficiently consistent for a trial but flexible enough to align with DPOs' usual practice and not obstruct the objective of evaluating mainstream, non-manualised youth provision. The shared practice model was developed by first conducting a rapid review of the literature to identify features of effective mentoring, followed by two development workshops for the DPOs during which the model was reviewed and the key dimensions of fidelity and quality (i.e., practice elements) were discussed. Through this process, we established core and flexible elements of practice that define the quality and intended impact of mentoring practice.

The shared practice model defines mentoring as a formal, supportive developmental relationship between a young person and an adult that is intended to support and intentionally target positive socio-emotional skill growth for the young person. Mentors should model positive socio-emotional behaviours and offer support, guidance, and concrete assistance to mentees.

The shared practice model is largely aligned with Garringer et al.'s (2015) *Elements of Effective Practice for Mentoring™* (4th Edition)[18] and brings together the most common, evidence-informed elements of similar models. The main structural features of the shared practice model (i.e., recruitment, screening, training, matching and initiation, support, & closure) were described by Garringer et al. as *evidence-based standards*. Within each of these standards are the specific elements, or *benchmarks*, by which the fidelity to (and quality of) the mentoring process can be assessed. The core programme structure for the shared practice model includes:

- a minimum of 12 weeks duration
- 12 sessions of at least 45 minutes over the course of 12 weeks
- adult (rather than peer) mentors who are paid (rather than volunteers)
- mentoring delivered on a one-to-one basis
- voluntary participation of the mentee
- mentees predominantly aged 10-14, with no more than 30% aged 15-17

[18] https://www.mentoring.org/resource/elements-of-effective-practice-for-mentoring/

- mentees, at the beginning of the study, exhibiting at least one of the YEF-listed risk factors for youth violence (Appendix 4)

A minimum duration of 12 weeks means that this model of mentoring is considerably shorter than many others. The duration of 12 weeks was selected for two main reasons. First, the initial aim of the overall study was to test the feasibility of running an RCT with multiple community-based youth agencies. Our early discussions with youth agencies suggested that a wait-list RCT model would be much more viable than a design in which the control group only receives other services. In discussion with the DPOs, it was agreed that 12 weeks was an appropriate length of time both to see an impact of mentoring[19,20], and to ask young people to wait before receiving mentoring. In addition, since many trials involve longer mentoring, there is value in testing the effectiveness of a short-term model that may be more aligned with available resources.

Table 1. shows how key practice elements are organised within the main structural features of the shared practice model: recruitment, screening, training, matching and initiation, support, and closure.

Table 1. Key practice elements

Recruitment	1. DPOs will recruit young people for mentoring through their existing work, relationships, and referral pathways that enable them to reach young people they believe to be eligible 2. DPOs will have written recruitment materials to advertise the mentoring offer including information about structure, eligibility and being part of a trial 3. A 'champion' will be appointed within each DPO, ideally at a senior level within the organisation, to oversee and support recruitment 4. DPOs will have a process for accepting referrals and registrations of interest to take part in mentoring
Screening	1. Written criteria for assessing young people's eligibility for the mentoring offer are used (for more details see section 3.4) 2. Young people are not to be disqualified on the basis of having complex needs, but those in need of immediate support will not be eligible

[19] Wyman, P. A., Cross, W., Brown. K., Yu, Q., Tu, X., & Eberly, S. (2010). Intervention to strengthen emotional self-regulation in children with emerging mental health problems: Proximal impact on school behavior. Journal of Abnormal Child Psychology, 38(24), 707–720.
[20] Plourde, K. F., Thomas, R., & Nanda, G. (2020). Boys mentoring, gender norms, and reproductive health—Potential for transformation. Journal of Adolescent Health, 67(4), 479-494.

	3. Onboarding to the programme will be formalised in writing following successful screening
Training	1. Mentors will have received a minimum of two hours of training, prior to starting relationships, which includes the DPO's mentoring approach, safeguarding policies and procedures and risk management processes
Matching and initiation	1. DPOs will have a process for reflecting on mentor-mentee matchings and considering the qualities of the match 2. An initial meeting will take place that includes relationship building and discussion of boundaries
Support	1. DPOs will have a written programme plan to guide the 12+ week mentoring relationship 2. Key quality dimensions are intentionally attended to through the mentoring relationship • Young people feel able to trust their mentor • Relationships between mentors and mentees are high-quality • Spaces where mentoring takes place are emotionally and physically safe • With the support of their mentor, young people set and review goals 3. Young people have the same mentor for the 12+ week period 4. A 'mentoring session' is a minimum of 45 minutes long and includes discussion relevant to the mentoring programme and young person's goals 5. Over the 12+ week period, there should be a minimum of twelve sessions 6. If the mentoring is extended beyond twelve weeks, reasons should be documented 7. Mentors will be supported throughout the mentoring programme by a line manager, for practice development and resolution of risks and issues 8. Mentoring will predominantly be delivered in face-to-face sessions although a minority of sessions can be delivered online where appropriate 9. Mentoring can take place in any setting, providing it is conducive to a minimum 45 duration mentoring session
Closure	1. DPOs will have a closure process that includes giving notice of closure to the young person and agreeing it in advance of the final session, and reviewing any scope and boundaries for post-mentoring contact

	2. Closing documentation is issued to the young person at the final session clearly communicating that mentoring has finished 3. Early withdrawal or exit is recorded along with any known reasons and relevant mentor reflections

2.2 Support provided to DPOs

Two workshops will be held before the trial begins to explain the shared practice model and trial procedures. In addition, the shared practice model sets out the requirement that mentors should have received at least two hours of training on the DPO's mentoring approach, safeguarding policies and procedures and risk management processes. Further support provided to DPOs to deliver mentoring for the trial, building on the support provided to the feasibility trial, includes a set of guidance documents, brought together in a shared folder, involving: a description of the shared practice model, a Delivery Handbook, the Theory of Change, a live Q&A document, a glossary of research terms, and recordings of all key workshops and briefings.

The Delivery Handbook provides detailed information about the mentee recruitment process, the measurement instruments, and procedures (including data collection timelines), and how to support mentees during the data collection process. The shared folder will also contain a 'data collection portal manual' describing, for example, how to set up the mentor and mentee profiles, complete the consent process, and enter the outcome and other survey data.

The evaluation team will also provide extensive support to DPOs during the trial:

- Short videos describing the trial requirements on key topics for DPO staff to review content and support the onboarding of new staff
- A bespoke online data portal to manage consent, randomisation, and data collection
- A Slack channel for all DPOs (an online instant messaging platform)
- Fortnightly one-to-one meetings with a named contact in the study team
- 'Buddy pods' of 3-4 DPOs to provide peer support and share successful approaches to trial delivery
- Weekly centralised update from a dedicated CYI email address, which covered key progress and actions required

2.3 Theory of Change

As noted, the Theory of Change was developed for the feasibility trial. A Theory of Change workshop was held in May 2022 for all DPOs participating in the feasibility study, during which we created and refined a collective theory of change for the shared practice model that was applicable to all delivery sites. The theory of change identifies several target outcomes,

including socio-emotional skill growth and a reduction in violent behaviours among others. The mechanisms of change expected to contribute to these outcomes include setting and monitoring goals, building a high-quality, trusting relationship with a mentor, and experiencing consistency of support. As shown in Appendix 3., the theory of change highlights the extent to which young people with unmet needs (or who are otherwise at risk for exposure to or involvement with violence) benefit from high quality supportive relationships with adults.

According to the theory of change, as reflected in similar work applied to youth provision in general[21], young people who experience high-quality mentoring practices are expected to develop positive relationships with mentors and show increases in wellbeing and growth in socio-emotional skills. The mechanisms of change associated with mentoring include high-quality relationships between mentor and mentee, building trust, consistency of support, goal setting, and meeting in a safe space, as well as support from parents and other structures. Together, this constellation of positive personal and social factors is expected to decrease young people's vulnerability to violence and increase their confidence, resilience and prosocial behaviour (e.g., improve school engagement and attainment).

Mentoring relationships are nested within organisations and the wider community. Consequently, mentors who receive the most support from their organisations (e.g., material resources, professional development training) are expected to implement the highest-quality mentoring practices and have the most powerful and enduring effects on young people's socio-emotional skill growth.

In summary, the theory of change outlines a chain of causal effects that cascade from mentoring practices, with organisational support, to young people's engagement, socio-emotional skill growth, prosocial behaviour and wellbeing. The shared practice model is designed to strengthen core links in the chain of causal effects promoting young people's skill growth.

2.4 Control group

The treatment received by young people in the control group consists of 'service as usual' i.e., the typical provision provided by the DPO or by an agency to which they refer a young person, including group sessions, sports, and trips, but excluding one-to-one support. The intervention group would similarly be expected to receive services as usual as well as mentoring.

[21] McNeil & Stuart (2022) https://www.youthimpact.uk/key-resources/outcomes-framework-21

3 Impact evaluation

3.1 Research questions or study objectives – impact evaluation

The primary question addressed by the efficacy trial will be: What is the impact of short-term mentoring on the social and emotional learning skills of young people at risk of youth violence, compared with services as usual?

The Strengths and Difficulties Questionnaire (SDQ) will provide the primary social and emotional learning outcome measure. Secondary social and emotional learning outcomes will be belief-based measures focusing on: (a) self-confidence (leadership and communication); (b) problem-solving and decision-making skills; (c) teamwork and social skills building; (d) resilience/emotional regulation. For full details of the outcome measures see section 4.

3.2 Design – impact evaluation

The efficacy trial will be run as a RCT within an expected 17 DPOs. The trial will have two arms per DPO: an intervention arm, and a wait-list control arm. Randomisation will occur on an individual basis and allocation will be in the ratio 50:50 per DPO. Table 2. provides a full summary of the trial design.

DPOs will be responsible for recruiting young people to the trial, with the target for each DPO being 50 young people. For those recruited and deemed eligible (see section 3.4), consent will be collected from both parent/carer and young person, and the young person will complete an online baseline questionnaire including the primary and secondary outcome measures prior to randomisation. The DPOs will complete basic demographic details (including age, ethnicity, gender and whether this is the same as sex assigned at birth) about the young person. Once the consent has been collected and the baseline questionnaire completed, the young person can enter the trial, with random allocation taking place at that point.

Those randomised to the intervention arm will start mentoring as soon after randomisation as is feasible; those allocated to the control arm will be eligible to start mentoring after 12 weeks, once they have completed their follow-up outcomes survey.

Data on outcomes will be collected at two points in time per young person: baseline and at, or soon after, 12 weeks post randomisation. Supporting data will be collected throughout the trial, described more fully below, and covering:

- demographics (baseline)
- number of sessions of mentoring (intervention arm only)
- receipt of other services during the trial (both arms)

- whether any control group member started mentoring before the 12-week outcome survey was completed

An online 'data portal' has been developed to capture all of the quantitative trial data. This includes an embedded randomisation tool.

Table 2. Trial design

Trial design, including number of arms		Two-arm randomised waitlist controlled trial
Unit of randomisation		Individual young person
Stratification variables (if applicable)		DPO
Primary outcome	variable	Social and emotional learning skills
	measure (instrument, scale, source)	Strengths and Difficulties Questionnaire, young people self-report (Goodman et al, 1998), fielded in online survey 12 weeks after randomisation.
Secondary outcome(s)	variable(s)	Self-confidence; problem-solving/decision-making; teamwork/social skills building; emotional regulation/resilience
	measure(s) (instrument, scale, source)	Self-report items from the Evaluation of the National Citizen Service (Fitzpatrick et al, 2021), fielded in online survey 12 weeks after randomisation
Baseline for primary outcome	variable	Social and emotional learning skills
	measure (instrument, scale, source)	Strengths and Difficulties Questionnaire, young people self-report (Goodman et al, 1998), fielded in online survey prior to randomisation
Baseline for secondary outcome	variable	Self-confidence; problem-solving/decision-making; teamwork/social skills building; emotional regulation/resilience

	measure (instrument, scale, source)	Self-report items from the Evaluation of the National Citizen Service (Fitzpatrick et al, 2021), fielded in online survey prior to randomisation

3.3 Randomisation

Randomisation will be built into the online data portal. Prior to the start of the trial a 'randomisation' column per DPO will be generated in Excel by the trial statistician. The columns will be added to the portal but hidden from all but a few members of the evaluation team. A copy of the Excel sheet will be archived before the start of the trial so that it is possible to check for any divergence from the randomisation once the trial has started.

The randomisation algorithm is to be based on a merged block randomisation procedure[22] which is appropriate for multi-site trials. It allows for randomisation to be undertaken over time, rather than in batches, but ensures good balance between the two arms both overall and over time.

From the perspective of DPOs, the randomisation button on the data portal will only be enabled once consent has been recorded as collected and the young person baseline questionnaire completed. Once 'clicked on' the randomisation is completed, and the allocation recorded. There is no possibility of it being changed or re-run and DPOs cannot influence the allocation.

3.4 Participants

DPO characteristics

The 17 DPOs are located in:

- Greater London – 3
- South East – 2
- Yorkshire – 4
- East Midlands – 1
- East Anglia – 2
- South West – 1
- West Midlands – 2
- South Wales – 1
- Pan-Wales – 1

[22] Merged block randomisation: A novel randomisation procedure for small clinical trials. Stephanie L van der Pas. Clinical Trials (2019) Vol 16(3) 246-252

The DPOs represent a range of youth work provision and work with a variety populations. For some DPOs , mentoring is their primary or only offer, for others it is their highest level of support available, while in others it is the lowest level of support available. DPOs also represent a mix of rural and urban populations. Most DPOs deliver mentoring from a central location or youth centre, while some deliver within schools or detached mentoring.

Young people

The eligibility criteria for recruitment of young people to the efficacy trial will be identical to those for the feasibility trial. DPOs will identify and approach young people for the trial who:

- are aged between 10 and 14 (or up to 17 by exception, with no more than 30% of young people aged 15 to 17 per DPO) and
- exhibit at least one of the YEF-listed risk factors for youth violence (shown in Appendix 4.) and
- DPO staff deem at a suitable level of need for 12-weeks of mentoring. The only exclusion criterion is that DPOs must exclude young people facing immediate risk or crisis, or for whom being on a waiting list would be potentially harmful. DPOs are responsible for determining the threshold of cases that they put forward for the trial.
- DPOs can use a range of referral routes (school, YOT, CAMHS, other health, social care, existing service user, delf-referral, friends or family referral or other) to identify potentially eligible young people.

The intervention (mentoring) will take place on site at DPOs, in schools, or other appropriate site in line with DPOs usual delivery, and a minority of sessions[23] may be delivered online as appropriate. The feasibility trial showed that online sessions are employed rarely so we will not enforce a limit, but the format of sessions will be recorded as part of the administrative data.

In order to take part in the trial, both young people and their parent/carers will be required to provide written consent. The process involved is:

- The DPO introduces the young person to the idea of mentoring and participation in the trial
- Young people are given a child-friendly information sheet explaining what their participation involves, and provided with opportunities to ask questions

[23] The shared practice model does not specify a limit to this, given the varying reasons for online sessions.

- Eligible young people are asked to sign a consent form which sets out the data that will be collected, how it will be used, plans for archiving, and seeks consent for participation in the trial and the qualitative interviews
- Parent/carer consent is also sought, DPO staff will explain participation in the trials to each young person's parent/carer then send them a consent form and information sheet by email or give them paper copies. This form also seeks consent to the young person taking part in a qualitative interview if the young person agrees to this when approached at the end of their mentoring
- DPOs will be encouraged to hold sessions for young people and parent/carers together to explain mentoring and participation in the trial, respond to queries and concerns, and collect consent

3.5 Sample size calculations

As shown in Table 3., each DPO will have a target of recruiting and randomising 50 young people and delivering mentoring to them, with 50 being set as a challenging, but achievable, number. The expectation is that, across all the DPOs, this will give a trial of around 850 young people, around 425 per arm. Assuming that follow-up data collection is achieved with around 90% this will give an analysis dataset with around 382 per arm. (Follow-up data collection was achieved for 85% of young people taking part in the feasibility trial, but for an efficacy trial we will aim to increase this to at least 90%.)

Table 3. Sample size calculations

		PARAMETER
Minimum Detectable Effect Size (MDES)		0.17sd
Pre-test/ post-test correlations	level 1 (participant)	0.5
	level 2 (cluster)	0
Intracluster correlations (ICCs)	level 1 (participant)	0
	level 2 (cluster)	0

		PARAMETER
Alpha[24]		0.05
Power		0.8
One-sided or two-sided?		Two
Number of participants	Intervention	425
	Control	425
	Total	850

4 Outcome measures

Outcomes data will be collected at two time points - baseline (prior to randomisation) and again 12 weeks later – focused on measuring the impact of mentoring on socio-emotional learning (SEL), using young people's self-report. SEL was selected as the appropriate short-term outcome measure, aligned with the mentoring approach outlined in the theory of change to improve prosocial behaviours, confidence, and self-efficacy.

4.1 Primary outcome

The primary outcome measure for the efficacy trial, as for the feasibility trial, will be the **Strengths and Difficulties Questionnaire (SDQ)**[25]**,** a core measure of SEL included in most YEF evaluations.

The SDQ is a validated scale with an established evidence base which measures behaviours, emotions, and relationships across 25 items. As with the feasibility trial, the efficacy trial will adopt the self-report version, suitable for 11- to 17-year-olds.[26] It includes five subscales, each with five items, that measure: 1. Emotional symptoms; 2. Conduct problems; 3. Hyperactivity/inattention; 4. Peer problems; 5. Prosocial behaviour. Young people score from

[24] Please adjust as necessary for trials with multiple primary outcomes, 3-arm trials, etc., when a Bonferroni correction is used to account for family-wise errors.
[25] Goodman, R (2001) *Psychometric properties of the strengths and difficulties questionnaire*. Am Acad Ch Adolesc Psychiatry 40 (11) 1337-45.
[26] Parent/carer and teacher versions are also available.

0 to 2 on each item using a scale 'not true', 'somewhat true' or 'certainly true', thus producing a score for each subscale from 0 to 10, where a lower score is a better outcome. The primary outcome in the analysis of the efficacy trial will be the mean of an overall 'difficulties' score (from 0 to 40), calculated by summing the first four subscales. Exploratory analysis will include the use of the SDQ four-group categorisation of need, the five subscales and internalising and externalising problems (based on combinations of different subscales, scored from 0 to 20), known to provide intermediate risk and protective factors of offending.

The findings from the feasibility trial suggests that the efficacy trial is highly unlikely to identify statistical significance impacts after 12 weeks on young people's SDQ score, with movement on the SDQ domains likely to take longer to achieve. However, its inclusion in the efficacy trial will allow for a test of the feasibility of fielding the YEF core measure within a multisite trial (including those which may have longer follow-up periods than 12 weeks).

4.2 Secondary outcomes

Four **secondary outcome measures will measure shorter-term SEL outcomes, with the questions being taken from previous evaluations of the National Citizen Service (NCS).**[27] These items have been chosen as likely to reflect changes in outcomes after 12 weeks of mentoring.

The decision to use the NCS items is based on (a) the face validity of the items, which speak directly to our Theory of Change and to the 12-week outcomes reported by mentors and mentees in the feasibility trial (including improved confidence, problem-solving, decision making, and emotional regulation), and (b) whilst not validated, their proven sensitivity in other studies to change over a three-month period.[28] We will include 21 NCS items which, between them, cover the following belief-based domains: (a) self-confidence: leadership and communication; (b) problem-solving and decision-making skills; (c) teamwork and social skills building; (d) resilience/emotional regulation. Seven items use a five-point confidence scale, from 'very confident' to 'not at all confident', while the others use a five-point Likert scale ('strongly agree' to 'strongly disagree'). Although the NCS evaluations have reported separately on the impact on each item, we will use factor analysis to produce three separate outcomes, one per domain. Exploratory analysis will include looking at the individual items. The full list of items is included in Appendix 5.

[27] The latest published report is Fitzpatrick et al (2021): https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1015222/NCS_2019_Evaluation_Report.pdf

[28] The NCS evaluations (adopting a quasi-experimental design) identified a range of statistically significant impacts across these domains three months after starting an NCS programme. A number of these items also identified significant impacts after 12 weeks in the QED evaluation of the Youth Investment Fund: https://npproduction.wpenginepowered.com/wp-content/uploads/2021/05/The-Youth-Investment-Fund-Learning-and-Insight-Paper-Seven.pdf

4.3 Services as usual

Data on the services received by the control group and the non-mentoring services received by the intervention group will be collected through an online form completed by mentors at the 12-week follow-up point. This will cover whether any of a list of service types was provided and the total number of hours of support provided.

4.4 Methods and data collection

An online data portal has been developed to capture all of the quantitative trial data.

The outcomes data will be collected via an online self-completion survey hosted by the evaluation team, with the baseline survey completed prior to randomisation and the follow-up survey completed 12 weeks later (with flexibility to 16 weeks to maximise response rates). For the control group, follow-up outcomes must be collected prior to them starting mentoring.

For each survey (baseline and follow-up), young people will be sent an email by the DPO with a link to the online survey. Depending on capability and/or internet access, this can be completed on a personal device (smartphone, computer, etc.) or at the DPO. To facilitate full and accurate data collection, we will recommend that DPO staff or a parent/carer provides support to any young people unable to complete the survey on their own. However, answers must be made independently and confidentially. Guidance for DPO staff on how to administer the young people's survey and to provide appropriate support is included in the Delivery Handbook provided. For the efficacy trial, the survey will be programmed to allow young people to skip any question they would prefer not to answer. Part of the evaluation of the efficacy trial will be to explore the acceptability of the measures based on the level of missing data.

DPOs will be responsible for monitoring whether a young person has completed the baseline and follow-up measures, using information on the portal about whether a survey has been completed and submitted. However, documentation provided to young people will make clear that DPOs have no access to their responses, which are only accessible to the research team for evaluation purposes. Because completion of the baseline measures is a prerequisite to entering the trial, there will be 100% completion of these (albeit with the potential for some missing data, as described above). At the follow-up stage, there is a target of at least 90% or completion in both arms of the trial. Experience from the feasibility stage suggests that achieving the baseline and follow-up completion rates will require a substantial amount of monitoring and chasing by DPOs (and monitoring and chasing of DPOs by the evaluation team).

Information about young people's demographic characteristics will be collected through an online form completed by the mentor at baseline. This includes age, gender, whether gender is the same as sex assigned at birth, LGBTQ+, ethnicity, looked after child status, FSM, SEND, and referral route.

Other programme administrative data collected includes adherence to trial procedures and the shared practice model, frequency and duration of mentoring sessions per young person, and other services received (for both intervention and control groups). This will be provided by DPOs at 12 weeks from randomisation for each young person. DPO managers will be given a framework of data types at the start of the evaluation to ensure this information is routinely collected.

Table 4. Methods overview

Research methods	Data collection methods	Participants/ data sources (type, number)	Data analysis methods	Research questions addressed
Baseline and follow-up outcomes survey	Online survey	Baseline n=850 young people entering the trial, follow-up minimum target n=765 (90%)	Regression-based assessments of impact	Data collection completeness and consistency; Estimates of effect sizes
Young person demographics	Collected and recorded on the portal by DPOs per young person at baseline	850	Descriptive analysis of the two trial arms; covariates in regression analysis	Data collection completeness and consistency; Adherence to randomisation
Programme administrative data	Recorded on the portal by DPOs per young person	850	Descriptive analysis	Adherence to randomisation Services as usual received

4.5 Compliance

DPOs' compliance with the trial requirements will be supported as described above, and particularly through regular one-to-one contacts between the evaluation team and each DPO. DPOs' recruitment of young people, consent processes and the completion of baseline data, mentoring sessions and outcomes data will be monitored through the data portal, with direct contact with each DPO to address any issues of non-compliance.

Fidelity will be assessed both quantitatively and qualitatively at an organisational level. We will collect data on five key criteria:

- Dosage
- adherence to target population
- quality relating to mentor (e.g., consistency of mentor, mentor training)
- quality relating to mentoring components (e.g., initial meeting, written plan, closure process)
- quality relating to interaction (e.g., trusting relationship, safe space, goal setting)

Specific fidelity criteria will be set and assessed, and these assessments combined in a composite fidelity score. DPOs scoring 60% or above will be rated as delivering with medium fidelity, and DPOs scoring 80% or above will be rated as delivering with high fidelity.

This scoring will rely on data from various sources of the evaluation:

- Administrative data: Each organisation will provide administrative data which will include the dates, number and duration of sessions delivered to each young person, consistency of mentor-mentee relationships, and initial meetings.
- Young person profile: We will use the young person profiles to establish whether the young people recruited are eligible for the trial.
- Mentor survey: Mentor survey data will provide information regarding the training that mentors receive.
- Mentee survey: Mentee surveys will be used to establish fidelity to several of the core practice elements of the shared practice model.
- Interviews with managers, mentors and mentees will provide further insight into the extent to which DPOs could deliver in line with the shared practice model, and the challenges they face while doing so.

Additionally, we will collect data on the services received by the control group while on the waiting list in order to establish whether there is extensive contamination between the groups.

4.6 Analysis – impact evaluation

The analysis of the trial data will be on an intention-to-treat basis. Estimates of impact per outcome will be regression-based, with baseline outcomes entered as covariates. Organisation will be entered as a fixed effect. The primary analysis will be based on aggregated data from across all sites. Impacts will be presented as Glass's Delta effect sizes.

We will include interaction terms (intervention by organisation) in the model to test whether impacts vary across organisations as an exploratory analysis. It is possible that we conclude from the analysis that there is between-organisation variation in effectiveness. If we find evidence of between DPO differences we will report the impact estimate for each DPO graphically, but not undertake pair-wise tests. It is possible that we conclude from the main analysis that there is between-organisation variation in effectiveness. If we do identify variation, we will undertake exploratory regression analysis to gain an understanding of what is driving those differences. These analyses will consider the following factors:

- location of provision (i.e., school-based v other)
- the profile of young people (in terms of demographics and baseline scores)
- attrition rates
- compliance amongst the intervention group

Exploratory analysis will be undertaken to establish whether there is evidence of sub-group differences in the efficacy of mentoring: by gender, and ethnic group. This will be a descriptive analysis without formal testing of differences (for which the trial is underpowered). The effect sizes per sub-group will be generated via a regression model with interaction terms (randomisation group by sub-group) added. This exploratory work will be presented alongside any qualitative research findings on sub-group differences.

5 Implementation and process evaluation

Having tested the shared practice model and RCT arrangements with 9 DPOs and small-scale recruitment in the feasibility trial, the efficacy trial will continue to test these elements with more DPOs (some new to the delivery model and trial), and with larger numbers of young people. The efficacy trial will therefore also be used to explore two overall objectives:

1. What is the feasibility of running a multi-site trial with the DPOs, including those who are new to the trial, and what support is required?
2. What is the feasibility of delivering the shared practice model across all 17 DPOs participating in the efficacy trial?

An implementation and process evaluation (IPE) will be included in the efficacy trial, to enable us to assess the feasibility, acceptability, and appropriateness of the trial arrangements and of the shared practice model for DPO staff and young people. Our approach will be informed by the Consolidated Framework for Implementation Research[29], a widely used and validated framework which identifies the determinants of effective implementation.

5.1 Research questions

The research questions are those addressed by the feasibility trial, to be addressed at greater scale and with new DPOs in the efficacy trial:

1. **Feasibility of intervention:** How feasible is the practice model? What barriers and enablers were encountered in working to the practice model, how were these addressed?
2. **Feasibility of trial arrangements:** How feasible are the requirements for recruitment, consents, randomisation, and data collection? What barriers and enablers were encountered, how were these addressed?
3. **Quality/fidelity:** Has the mentoring practice model been delivered as intended and as per the specified core components? What adaptations are made and why?
4. **Acceptability of intervention:** Is the model viewed as acceptable and an improvement on services as usual by the delivery partners, and is it acceptable to young people?
5. **Acceptability of trial arrangements:** Are the efficacy trial arrangements viewed as acceptable by DPO staff and by young people?

[29] Damschroder, L., Hall, C., Gillon, L., Reardon, C., Kelley, C., Sparks, J., & Lowery, J. (2015). The Consolidated Framework for Implementation Research (CFIR): progress to date, tools and resources, and plans for the future. In *Implementation science* (Vol. 10, No. 1, pp. 1-1). BioMed Central.

6. **Differentiation:** How does it differ from mentoring approach/es previously used by DPOs and from other services as usual?

In addition, we will specifically explore whether the feasibility and acceptability of the trial arrangements and practice model differ for young people from different cultural groups, and whether there is any difference in perceptions of the impacts or quality dimensions of mentoring.

5.2 Research methods – IPE

The IPE will involve the following data collection, also summarised in Table 5.:

Programme administrative data: DPOs will systematically record key delivery information, including: recruitment numbers, date of start of mentoring, attendance, mentor profiles, young person demographics, and other services accessed by young people. The demographic information that will be collected is: age at date of consent, gender, ethnicity, referral route, and whether the young person is LGBTQ+, a looked after CYP, on FSM, or has SEND.

This will be used to answer questions regarding the feasibility of the trial, fidelity to the trial requirements and quality of mentoring. It will also provide information about the reach of mentoring and the trial to minoritised ethnic groups and other young people with characteristics relevant to equity.

All administrative data will be collected online via the purpose-built portal.

Support data: The evaluation team will also systematically log the frequency and type of support provided the DPOs, to capture their activities and challenges, as well as the study team time required to support DPOs to deliver the evaluation.

Mentor survey: All mentors (number yet to be determined) will be invited to complete an online survey towards the end of the trial delivery period, to assess the feasibility, acceptability and appropriateness of the trial arrangements and the shared practice model. The survey will incorporate a validated psychometrically tested pragmatic measure of feasibility and acceptability[30], as well as questions relating to key quality and fidelity criteria defined by the shared practice model.

Mentee feedback survey: A short survey will be administered online at one time point, in week eight of mentoring via the purpose-build portal. All young people allocated to the intervention group will be asked to complete the survey in order to monitor fidelity to the

[30] Weiner, B.J., Lewis, C.C., Stanick, C. et al. Psychometric assessment of three newly developed implementation outcome measures. Implementation Sci 12, 108 (2017).

shared practice model, quality of mentoring, and acceptability of the trial and shared practice model to young people. The survey will be kept short and at an appropriate reading level, to enable full engagement from young people. Mentees will be able to complete the survey independently or with support from an adult but reassured that their responses are confidential.

In-depth interviews with DPO managers, mentors, and mentees: Interviews will be conducted by phone or online video platform and recorded on encrypted recording devices.

One manager from each DPO (total n=17) and 1-2 mentors from each DPO (total n=25) will be interviewed towards the end of the delivery period. We will select the mentor in organisation who has mentored the largest number of young people. In DPOs that did not take part in the feasibility trial we will additionally select the mentor who has mentored the next largest number in the trial.

Interviews will be used to assess the feasibility, acceptability, and appropriateness of the trial arrangements and shared practice model, as well as the key implementation barriers and facilitators faced by DPO staff. We will explore successes, challenges and mitigations faced in recruitment, young people's engagement, leadership, staff, and organisation buy-in, support required by DPOs, the shared practice model, and data collection procedures. Topic guides will be adapted from the feasibility study guides.

25 young people will be selected and interviewed shortly after completion of their mentoring to prevent interference in the mentoring relationship. We will recruit young people through their mentors. We will ask mentors to approach all mentored young people (excluding only those who they judge might be upset by such an approach and including young people who have been less engaged or stopped mentoring before 12 weeks) and invite them to indicate interest in being interviewed. We will develop a purposive sampling framework to inform our selection of young people for interviews, drawing on administrative data, although we anticipate there may be little scope for selection. Sampling criteria will include age, gender, ethnicity, care and SEN-D status, duration of mentoring and risk factors identified in screening.

The topic guide for interviews with young people will be that used in the feasibility study with some minor adaptations. In making the interviews accessible to young people, considerations will include interview duration, vocabulary, and incorporating engaging visual cues.

5.3 Analysis – IPE

Data from each element of the IPE will be analysed separately, then triangulated and integrated, identifying areas of difference and reinforcement, and using different data sources to substantiate and explain findings. Findings will be integrated in the final report to provide recommendations for future multi-site trials.

The mentor and mentee feedback surveys will be analysed with descriptive statistics to inform our assessment of the feasibility, acceptability, and appropriateness of the trial arrangements and practice model, and suitability of DPOs to go forward to the efficacy trial.

Quality of delivery and fidelity to the shared practice model and trial arrangements will be assessed by creating a set of criteria using items from the mentor survey, mentee survey, and programme data. Each DPO will be given a score against these criteria, reflecting high, medium, or low fidelity, based on quantitative data from these various sources.

Qualitative data will be digitally recorded and transcribed verbatim. Framework Analysis[31] will be undertaken to examine and interpret qualitative data, with themes developed both deductively and inductively to include unexpected issues. Our analysis will explore DPO staff and mentees descriptions of the impact of mentoring and their perceptions of the causal mechanisms leading to change.

We will use well documented dimensions of implementation science to understand how the trial was implemented, the barriers and facilitators to implementing as intended, and the perceived feasibility, acceptability, and appropriateness of the trial.

Table 5. IPE methods overview

Research methods	Data collection methods	Participants/ data sources (type, number)	Data analysis methods	Research questions addressed	Implementation dimension
Programme administrative data	Entered by DPOs	All DPOs	Descriptive quantitative analysis	3	Quality/fidelity

[31] Gale et al. BMC Medical Research Methodology 2013, 13:117 http://www.biomedcentral.com/1471-2288/13/117

Mentor survey	Online survey	All mentors n=unknown	Descriptive quantitative analysis	1, 2, 3, 4, 5, 6	Feasibility, acceptability, appropriateness, quality/fidelity
Mentee feedback survey	Online survey	Intervention group mentees, n=425	Descriptive quantitative analysis	3, 4, 5	Acceptability, quality/fidelity
In-depth interviews with DPO managers	Qualitative interview	1 per DPO n=17	Qualitative thematic analysis	1-6	Feasibility, acceptability and appropriateness of trial and intervention Implementation
In-depth interviews with mentors	Qualitative interview	1-2 mentors per DPO, n=25	Qualitative thematic analysis	1-6	Feasibility, acceptability and appropriateness of trial and intervention Implementation plus perceived impacts
In-depth interviews with mentees	Qualitative interview	1-2 mentees per DPO, n=25	Qualitative thematic analysis	1-5	Feasibility, acceptability and appropriateness of trial and intervention Implementation plus perceived impacts

6 Ethics and registration

Ethical approval for the RCT and IPE has been obtained through the University of Cumbria Research Ethics Committee (ref 22/32). We have registered the trial with the ISRCTN registry (ISRCTN76496069).[32]

[32] https://doi.org/10.1186/ISRCTN76496069

7 Data protection

A Data Protection Impact Assessment was undertaken for the feasibility trial and will be reviewed and updated for the efficacy trial.

CEI, BPSR and CYI will be joint data controllers. The lawful basis we will rely on for all data purposes is the legitimate interest of the Data Controller. Data is being collected and shared in order to conduct the efficacy trial. YEF has funded and commissioned CEI, BPSR and CYI to implement and run the study. The aim of the study is to test methods for undertaking RCTs across multiple youth service sites, using a shared practice model. The processing of data collected about the efficacy trial and mentoring delivery is expected to have clear social benefits for understanding how to undertake this type of research, with a limited privacy impact on the individual.

The only special category data collected will be racial or ethnic origin, sexual orientation and SEND status, as requested by YEF, to record the reach of the trial. The protected characteristics recorded will be sex, and age, to determine the eligibility and level of need of young people recruited to the study. Informed consent will be gathered for all participants in the research. Voluntary informed consent will be regarded as a sufficient safeguard for the processing of personal data up to the point of analysis, at which point participants can no longer withdraw consent.

Data will be processed during the recruitment, appraisal, and selection processes. This is so the evaluation team can communicate with prospective DPOs and carry out necessary due diligence checks. All organisations will consent to their data being processed and held for these purposes and signposted to a joint Privacy Notice, shared by the partners.

All survey information will be confidential and pseudonymised before it is seen by the study team for analysis, using a unique participant identification number assigned automatically by the portal.

Interviews will be conducted by CEI, and interview data will be stored securely, accessible only to the CEI evaluation team and not shared with any other partner.

A Data Privacy Notice will be made available in the young person's consent process, informing participants of their rights. DPNs will be made available to managers and mentors in the process of their consenting to interviews and surveys.

Data Sharing Agreements are already in place, between feasibility trial DPOs and the evaluation team, and within the evaluation team, and these cover both feasibility and efficacy trial arrangements. DSAs will be put in place between new efficacy trial DPOs and the evaluation team before the start of the study. Egress or similar secure system will be used for the transfer of personal and/or special category data.

Personal data will never be shared, stored, or accessed outside the UK or EU. The study team will collect the minimum necessary data required to carry out each task.

At the end of the project, the evaluation team will produce data sets to enable pseudonymised data to be archived, with the DfE pupil matching reference, in the YEF Data Archive. According to YEF's guidance, data will be stored for as long as necessary for the purpose of evaluating the long-term impact of YEF funded projects. Their approach is in line with GDPR on the principle of scientific research, archiving in the public interest or for statistical purposes. YEF review their data storage every five years to assess the continued benefit of data storage.

There may be scenarios where we are subject to a legal obligation to disclose or share personal data, such as with law enforcement agencies, regulatory bodies, or public authorities in order to prevent or detect crime. The study team will only ever disclose personal data to these third parties to the extent we are required to do so by law.

The evaluation team will securely destroy their data sets two years after completion of the final report.

8 Stakeholders and interests

Delivery Partner Organisations

The following are the lead contacts with each of the 17 DPOs, who have key responsibility for delivering the trial and the intervention within their organisation.

- Lea Misan, Executive Director, Act for Change
- Leila Irrobeh, Manager, Education and Skills Development Group (ESDEG)
- Heather Russo, Head of Service, The Enthusiasm Trust
- Emma Rush, Youth Work Coordinator, Mancroft Advice Project (MAP)
- Nick Corrigan, Director, Media Academy Cymru Ltd
- Donna Taylor, Director of Therapy, NAOS (Bristol) CIC
- Krishan Singh, Senior Manager, Positive Youth Foundation
- Sian Fitzpatrick, Head of Youth Engagement, Reaching Higher
- Adam Muirhead, Director of Youth Work, The Trust for Developing Communities (TDC)
- Andy Reid, CEO and Founder, Buddy Up
- Natalie Archer, Trusts and Grants Manager, Dame Kelly Holmes Trust
- Andy Sykes, CEO, Emerge
- Flavia Docherty, CEO, Getaway Girls
- Sam Broderick, Senior Development Manager, Power2
- James Plunket, Head of Fundraising, SOFEA
- Tim Wakefield, Chief Executive Officer, Switch Midlands CIC
- Matt Parry, Youth Work Researcher and Coordinator, The Welsh Association of Youth Clubs (Youth Cymru)

Centre for Evidence and Implementation (CEI)

- Jane Lewis – Director: principal investigator and project lead, supporting development of the mentoring practice model and support for DPOs, leading the implementation evaluation, and accountable for the project overall.
- Dr Stephanie Smith – Senior Advisor: responsible for the day-to-day project management and coordination of the evaluation, involved in all stages.
- Dr Sweta Gupta - responsible for the day-to-day project management and coordination of the evaluation during Dr Smith's maternity leave, involved in all stages

- Amy Hall – Advisor: undertaking the IPE and providing research support to the evaluation.
- Jamie Rowland – Advisor: undertaking the IPE and providing research support to the evaluation.

Centre for Youth Impact (CYI)

- Liz Lowther – Interim Director of Research and Evaluation: project lead for management of the DPOs and oversight of the mentoring practice model implementation.
- Sarah Tayleur – Interim Qualitative Research Lead: day-to-day project management and ongoing support to DPOs.
- Dr Stephen Peck – Quantitative Data Lead: supporting on fidelity and quality monitoring and analysis of outcomes data.
- Zunaira Mahmood – Research and Projects Assistant: providing logistical and communications support for managing DPOs
- Josef Fischer – Data Lead: supporting the management of DPOs and data analysis.

Bryson Purdon Social Research (BPSR)

- Dr Susan Purdon – Partner, statistician: jointly lead the design and implementation of the RCTs at the efficacy trial stage, covering designing the data collection tools, the randomisation procedures, and the analysis of the outcomes data.
- Caroline Bryson – Partner, social science researcher: jointly lead the design and implementation of the RCTs at the efficacy trial stage, covering designing the data collection tools, the randomisation procedures, and the analysis of the outcomes data.

9 Risks

Risk	Mitigation
Early withdrawal by DPOs (Likelihood: low; Impact: medium)	• 9 DPOs have been engaged throughout the feasibility trial, all 17 remain committed • Draw on extensive sector networks, and approach potentially suitable organisations if necessary • Adjust case numbers per DPO where feasible
Delay in DPO recruitment of young people and of mentoring delivery, leading to problems in following up participants during evaluation period (Likelihood: medium, Impact: medium)	• Consulting with youth organisations prior to recruitment to check timing of interventions in relation to school term • Appraisal and due diligence checks of DPOs to assess ability to recruit sufficient numbers of young people per the study timeline and deliver mentoring • Monitoring of set up and delivery to allow early additional support where necessary • Timelines allow DPOs to avoid delivery in school holidays if not part of their model • Study timelines will be adjusted and extended if needed and other mitigations have failed •
Reduction in DPO capacity because of Covid (e.g., lockdowns, furlough, sickness) (Likelihood: medium, Impact: medium)	• Adjustment of study timelines • Adjust case numbers per DPO where feasible
Reduction in capacity of evaluation team staff because of Covid or other reasons (Likelihood: medium, Impact: low)	• Constant monitoring of resource allocation against requirements • If staff becoming unavailable (due to leave, illness, or long-term absence), substitute staff from the evaluation organisations will be involved, with access to freelance consultants if necessary

Data breach by evaluation partners or DPOs (Likelihood: low, Impact: low)	• Data Sharing Agreement between DPOs and evaluation team • Data to be held securely in accordance with data policies • Egress or similar, to be used for transfer of data securely

10 Timeline

Table 6. below sets out the intended timetable. We anticipate that most DPOs will want to recruit young people in a rolling process, either individually or in small groups, with those randomised to the intervention group starting mentoring once entered into the trial, and their controls starting 12 weeks later. The 12-week delivery timeline may be slightly adjusted in individual DPOs to support those whose delivery is markedly affected by school summer holidays. We will work closely with the DPOs to establish their capacity constraints and how best to recruit young people to the trial and ensure that delivery takes place within the intended window. The recruitment period for the feasibility trial was extended as DPOs needed longer for recruitment than expected, and we have taken this into account in the timeline for the efficacy trial. We have allowed 11 months overall for recruitment and completion of mentoring for the intervention group (25 young people per DPO).

Table 6. Timeline of efficacy trial development, delivery and reporting

Dates	Activity	Staff responsible / leading
Phase 3: Efficacy trial development and briefing		
November 2022 - December 2022	Development of ethical approval application and all consent and data collection documentation	AH, JL, CB, SP, BmN
January 2023 - February 2023	Ethical approval application submitted DPO consultation, onboarding, and briefing	AH, JL, CB, SP, BmN LL, ST, CB, SP
Phase 4: Efficacy trial delivery		
February 2023 - August 2023	Rolling delivery period of efficacy trial including recruitment, baseline data collection, randomisation, mentoring provision and follow-up data collection Provision of support to DPOs and oversight of their progress IPE data collection	LL, SW/SS, CB, SP LL SW/SS, AH, JR
August 2023	Hard stop to recruitment	LL, CB, SP
August 2023 - November 2023	Final 12 weeks of support to intervention group mentees Final follow-up data collection Final IPE data collection Final 12 weeks of DPO support	LL, CB, SP SW/SS, AH, JR LL
Nov 2023 - January 24	Final 12 weeks of support to control group mentees	LL
Nov 2023 – January 2024	Data analysis and write up	All
January 2024	Draft trial learnings report delivered	All
February 2024	YEF comments received, draft report available for peer review	All

11 Appendices

Appendix 1. Feasibility trial criteria for progression to a larger trial

Criteria	Criteria detailed	Criteria met
PC1. Maintaining commitment from DPOs	At least 7 DPOs complete the FT	✓
	DPOs attend 75% of scheduled 121 support meetings during the FT trial period	✓
PC2. Acceptability of the shared practice model	75% of the mentors report the shared practice model to be acceptable	✓
PC3. Fidelity to the shared practice model	75% of the DPOs can deliver the practice model with high-medium fidelity	✓
PC4. Attendance to mentoring target	At least 75% of young people in the intervention group complete at least 8 sessions of mentoring	✓
PC5. Adherence to randomisation	No/minimal evidence of contamination	✓
PC6. Minimum recruitment target of young people for FT	75% DPOs recruit 10+ young people for the FT	✓
PC7. Data collection completeness target	75% of baseline and follow-up SDQ responses fall within the tolerance threshold for missing data* and can be analysed	✓
PC8. Data collection - follow up retention target	*Intervention group*: 75% of young people complete follow-up data collection for the SDQ and YRSS	✓
	Waiting list group: 75% of young people complete follow-up data collection for the SDQ and YRSS	✓

Appendix 2. Adaptations to trial delivery following feasibility stage

Recommendations for ongoing DPO support

Overall, the support we provided to feasibility trial DPOs was well received, and the evidence indicates that this support, and the trusting relationships established alongside, was central to the successful conduct of the feasibility trial. We propose to make a few changes for the efficacy trial. Our plans are:

- To hold a preparatory workshop with DPOs in January, before ethical approval has been secured, to introduce the mentoring practice model, provide a high-level overview of the trial, and set out the preparatory work that DPOs can undertake before the 'go live' date,
- To hold a second workshop with DPOs once ethical approval is secured, setting out the trial arrangements in detail,
- To continue to offer weekly individual support sessions where key data collection issues and timepoints can be discussed,
- To replace the weekly drop-in sessions with a small number of group DPO sessions, focusing on different aspects of delivery, which all DPOs will be expected to attend,
- Use of emails rather than Slack for communication with DPOs as the key point of centralised messaging, and
- To streamline and clearly signpost support materials so that they are accessible and useful to all delivery staff.

Recommendations for onboarding and recruitment activities

One of the more challenging areas in the feasibility trial was the initial recruitment of young people, and onboarding and consent gathering. Live amendments were made to the portal which significantly eased the issues DPOs faced. To address this, we plan:

- To significantly extend the onboarding, consent collecting and baseline measurement period,
- To diversify consent options so that DPOs can respond to their communities' needs, with modes of completion to include email, paper, and text,
- To promote collective trial onboarding sessions with parent/carers and young people, bringing them together to discuss mentoring and the trial and gather initial onboarding documents for multiple young people simultaneously,
- To encourage and facilitate DPOs to start shortlisting young people prior to the trial start date, and
- To provide clear guidance on how DPOs should approach recruitment and onboarding during the efficacy trial based on the learnings from the feasibility trial.

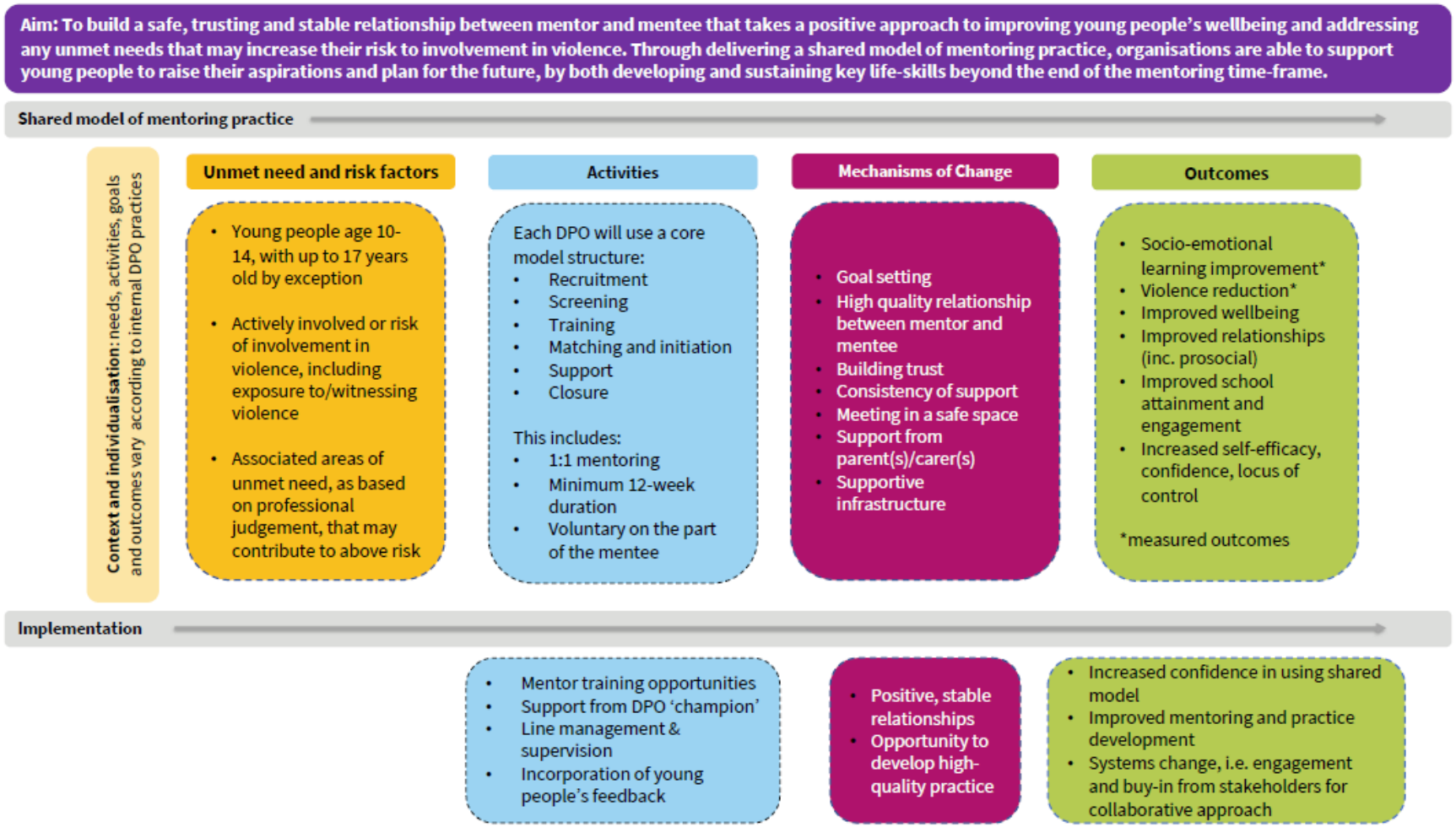
Recommendations for changes to the Portal

The portal, which was used as a centralised point of data collection, was of critical importance to the delivery of the trial. Not only did it provide a space for mentors and managers to keep

track of caseload requirements, but it was also a key resource supporting the study team to monitor the progress of DPOs. We adapted the portal in line with key learning throughout the feasibility trial and will strengthen it further for the efficacy trial:

- To embed priority task list for mentors to be set up highlighting key upcoming data completion tasks; and
- To enable integrated notifications so emails are not the primary point of communication around key data completion priorities.

Appendix 3. Theory of change developed for the feasibility trial



Appendix 4. YEF-listed risk factors for youth violence

- Young people who have had a criminal conviction
- Young people who are receiving services from a Youth Offending Team or similar
- Young people who are registered as a Child in Need
- Looked after children and young people
- Young people who have been excluded from school
- Young people who have been identified as at risk of exclusion from school
- Young people who are regularly absent from school
- Young people growing up in families where parents, carers or siblings have had a criminal conviction
- Young people who are unengaged at school/in formal education and have low levels of educational achievement
- Young people who have been diagnosed with mental health issues
- Young people who have suffered abuse / early childhood trauma
- Young people who have been a victim of crime
- Young people who have been involved in antisocial behaviour
- Young people who display high impulsivity/hyperactivity
- Young people who have a history of weapon possession (e.g., knife, gun)
- Young people who have a history of alcohol and/or substance use
- Other (please state)

Appendix 5. National Citizen Service (NCS) domains and individual items

Domain: self-confidence: leadership and communication

The next question is about how confident you feel about different areas of your life. How do you feel about the following things, even if you have never done them before...?

Scale: Very confident/confident/neither confident nor not confident/not very confident/not at all confident/don't know/prefer not to say

- Having a go at things that are new to me
- Speaking in public
- Meeting new people
- Working with others in a team
- Explaining ideas clearly
- Being the leader of a team
- Managing disagreement and conflict

Domain: problem-solving and decision-making skills

How much do you agree or disagree with the following statements?

Scale: Strongly agree/agree/neither agree nor disagree/disagree/strongly disagree/don't know/prefer not to say

- When solving a problem, I try to think of as many solutions as possible
- I usually make good decisions, even in difficult situations
- I think about the long term and short-term consequences when I work through problems
- I enjoy finding new ways to do things

Domain: teamwork and social skills building

How much do you agree or disagree with the following statements?

Scale: Strongly agree/agree/neither agree nor disagree/disagree/strongly disagree/don't know/prefer not to say

- I get along with other people easily
- I am able to see things from the other person's point of view
- I notice quickly if someone in a group is feeling awkward
- It is hard to say no to friends
- If I needed help, there are people who would be there for me
- I can usually tell when someone says one thing and means another

Domain: resilience and emotional regulation

How much do you agree or disagree with the following statements?

Scale: Strongly agree/agree/neither agree nor disagree/disagree/strongly disagree/don't know/prefer not to say

- When things go wrong I usually get over it quickly
- Setbacks don't normally discourage me
- I can usually handle whatever comes my way
- When I am faced with a stressful situation I am able to stay calm