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Background and review rationale

Poor school attendance is a significant problem in the UK and many other countries across the world. In 2019/20, it was reported as 4.9% overall, with special schools showing a higher rate equal to 10.5% and persistent absence at 13.1% in England (gov.uk 2020). Research has found that poor attendance is linked to poor academic attainment across all stages (Balfanz & Byrnes, 2012; London et al., 2016) as well as anti-social characteristics, delinquent activity and negative behavioural outcomes (Gottfried, 2014; Baker, Sigmon, & Nugent, 2001).

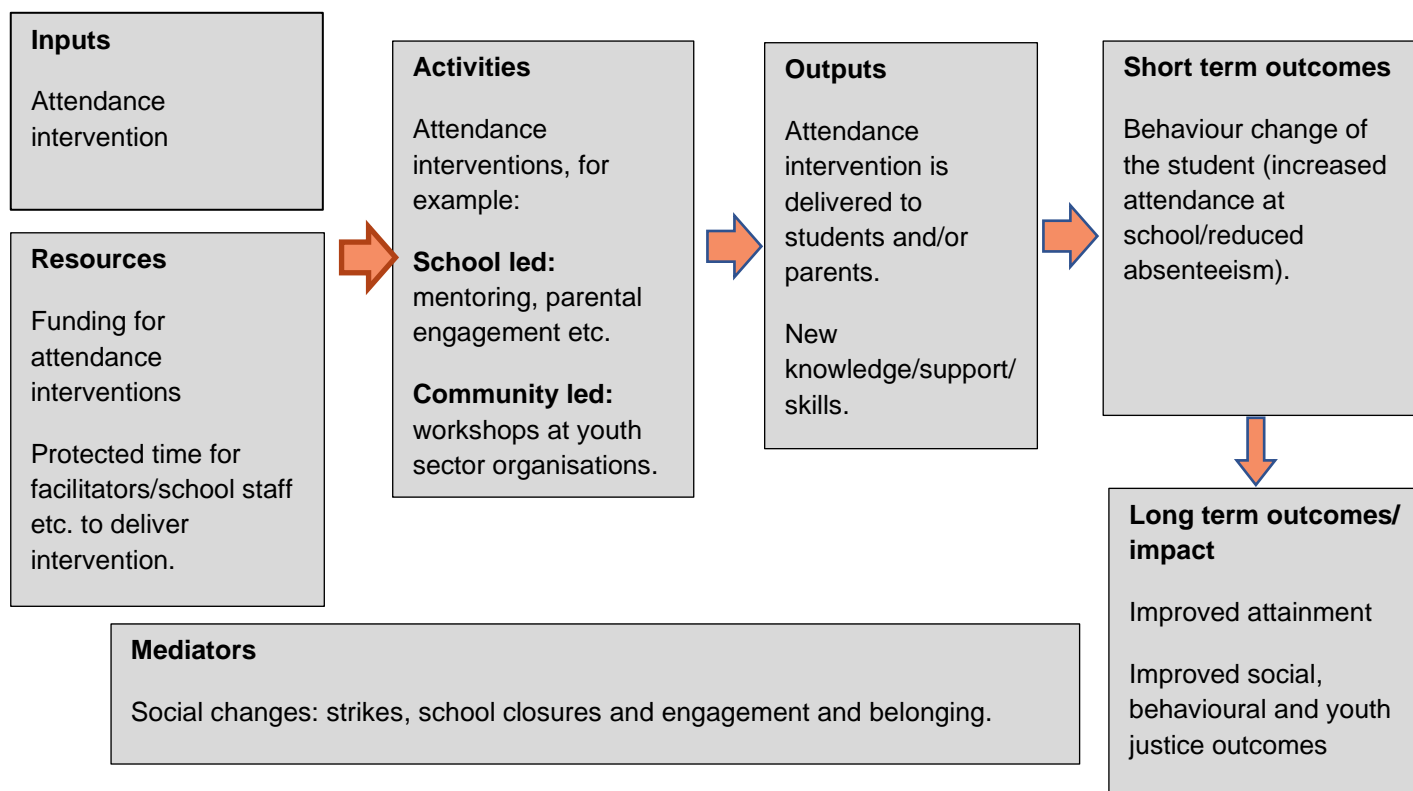
However, evidence suggests that small improvements in attendance can lead to meaningful impacts for these outcomes.

Several previous systematic reviews have addressed interventions for students who are chronically absent or truant and whole-school approaches. Maynard et al. (2012) examined empirical studies focused on improving attendance for chronically truant students. Sutphen et al. (2010) summarised promising truancy interventions and Freeman et al. (2019) summarised empirical research related to improving attendance or reducing tardiness in high schools.

While these reviews focused on specific areas of attendance and absence, this review aims to examine the evidence base to provide an overall picture of interventions that are being used to address attendance problems among school-aged children. This can include both overall absences as well as unauthorised absences. This review aims to be the basis for a report that provides an overview on the effectiveness of interventions on school attendance behaviours and the characteristics of these interventions.

We produced a simple theory of change (figure 1) in order to inform our inclusion criteria and extract the key elements of attendance interventions relevant for our purposes. While improvements in attendance can have long-term impacts on attainment and social and behavioural outcomes, we will be focusing primarily on activities, outputs and short-term outcomes, with scope to examine longer-term outcomes if these are explicitly included in our studies of interest.

Figure 1: Theory of Change



The aim of this review is to summarise the effects of interventions on school attendance behaviours, particularly the characteristics of these interventions and where evidence is available, examine which attendance intervention approaches are most likely to improve attendance among school-aged children. We will also look for evidence on characteristics of effective implementation of interventions that aim to improve school attendance. The findings will help inform wider thinking about attendance, exclusions and youth justice, particularly funding new programmes and interventions in this area in collaboration with the Youth Endowment Fund (YEF).

Research questions

We propose the following primary research question:

1. Do interventions that aim to increase pupil school attendance affect attendance behaviours of school-aged pupils?

In addition, we propose the following supplementary questions:

2. What are the common elements of interventions that improve primary and secondary student attendance?
3. Are certain types of interventions (e.g., school-based, community-based) more effective at improving primary and secondary student attendance?
4. What are the barriers and facilitators to effective implementation of attendance interventions?

5. Do studies examine the extent to which improvements in attendance act as a mediating variable for attainment and behavioural outcomes? If so, what are these outcomes? (e.g., substance misuse, bullying perpetration and victimisation, mental health and wellbeing)

Methodology

This review will be conducted in a short timescale and so we will undertake a rapid evidence assessment (REA) of the area. For this REA, we will draw on the Cochrane Rapid Reviews Methods Group's (RRMG) guidance for conducting rapid reviews (Garrity et al. 2021) and the Civil Service REA methodological guidance (Government Social Research Service, 2009). The scope of this review has been informed by the research questions, resources, and the timeframe. The following criteria will be used to determine whether a study will be included in the review.

Inclusion and exclusion criteria for the review

	Include	Exclude
Study design	<p>This study will include RCTs and quasi-experimental evaluations of interventions that aim to increase school attendance.</p> <p>Meta-analyses or systematic reviews will be drawn upon to look for individual studies that fit the inclusion criteria.</p>	<p>Single group pre/post-test studies, qualitative studies and narrative, non-systematic reviews.</p>
Population	<p>School-aged children – Primary and secondary school settings including alternative provision and special schools.</p> <p>Pupils that have an identified attendance problem or are truant and those who do not but receive a whole-school intervention.</p>	<p>Children outside of primary or secondary school age.</p> <p>Early childcare settings, post-16 education, Higher Education.</p>
Types of interventions	<p>Interventions with a stated primary goal of increasing student attendance (or decreasing absenteeism) among primary or secondary school students.</p> <p>The intervention can take place in any format (e.g., face-to-face, online, one-off, or multiple sessions) and can be targeted for specific pupils or for whole-school and be community based. Some examples of included interventions are:</p> <ul style="list-style-type: none">• Mentoring sessions	<p>Court-based interventions.</p>

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	<ul style="list-style-type: none">• Parental engagement workshops• Additional staff support• Peer tutoring	
Comparison	No treatment, or business as usual or another treatment, e.g., comparison of two attendance interventions.	Studies that do not include a comparison group.
Outcome measures	<p>The study must report on a measure of pupil attendance or absenteeism.</p> <p>If these studies collect other data on pupil attainment, engagement, and behavioural outcomes, we will extract and analyse this information.</p>	Studies that do not include pupil attendance as an outcome.
Other criteria	<p>Published since 2000</p> <p>Published in English</p> <p>Studies conducted in the United States, Canada, the United Kingdom, and Australia</p> <p>Journals or grey literature</p>	<p>Published before 2000</p> <p>Published in languages other than English</p>

Study design

We will include any studies utilising randomised controlled trial (RCT) or quasi-experimental designs (QED) with a comparison group that received no treatment or treatment as usual. We will exclude any study outside of this methodological approach, for example single group pre-post-test design. A RCT is a study where participants are randomly assigned to be in one of 2 (or more) groups to test a specific intervention. One group (the experimental group) has the intervention being tested while the other (the comparison or control group) has an alternative intervention or no intervention. The groups are followed to monitor the effectiveness of the intervention. We will include RCTs with assignment at individual, household, community, or school level. A QED is a study used to estimate the impact of an intervention on a target population with non-random assignment of those groups. QED studies vary in approaches and designs and are often given different names. However, through the scoping period we don't anticipate large numbers of studies in this area and therefore, for the purpose of screeners we will include all the following designs:

- Non-randomized studies with selection on unobservables:
 - Regression discontinuity designs, where assignment was done on a threshold measured at pre-test, and the study used prospective or retrospective approaches of analysis to control for unobservable confounding.

- Studies using design or methods to control for unobservable confounding, such as natural experiments with clearly defined intervention and comparison groups, which exploit natural randomness in implementation assignment by decision makers (e.g., public lottery) or random errors in implementation, and instrumental variables estimation.
- Non-randomized studies with pre-intervention and post-intervention outcomes data in intervention and comparisons groups, where data were individual level panel or pseudo-panels (repeated cross-sections), which used the following methods to control for confounding:
 - Studies controlling for time-invariant unobservable confounding, including difference-in-differences, or fixed- or random-effects models with an interaction term between time and intervention for pre-intervention and postintervention observations.
 - Studies assessing changes in trends in outcomes over a series of time points (interrupted time series, ITS), with or without contemporaneous comparison (controlled ITS), with sufficient observations to establish a trend and control for effects on outcomes due to factors other than the intervention.
- Non-randomized studies with control for observable confounding, including nonparametric approaches (e.g., statistical matching, covariate matching, coarsened exact matching, propensity score matching) and parametric approaches (e.g. propensity-weighted multiple regression analysis).

If we unexpectedly do identify a large number of QEDs, we will consider refining the definition. We will only include those RCTs and QEDs that address the effectiveness of attendance interventions and measure attendance as an outcome measure. We will also draw on information on implementation in the included RCTs and QEDs to answer question 5, rather than exploring broader literature.

Population

We will include only those RCTs and QEDs that use school-aged pupils in their population sample, that means pupil who attend primary and secondary schools (terminology may differ in those studies conducted in countries outside of England). Since, the review aims to capture both whole-school and targeted interventions, pupils who have significant attendance issues and those who may not but are involved in whole-school approaches will be included. The primary inclusion criteria will be interventions that aim to increase attendance among school-aged children.

Types of interventions

We will include any type of intervention that includes school-aged pupils and aims to increase attendance. These interventions can be both school-based such as mentoring and workshops or community-based such as programmes that take place in local youth sector organisations.

Outcomes

We will include studies that report on a measure of pupil attendance or decreasing absenteeism. If these studies also report on other outcomes such as attainment, engagement and behavioural outcomes, these will be extracted and analysed.

Other criteria

Adopting the approach of Maynard et al. (2012) and due to differences in educational systems, this review will only include those studies conducted in the United States, Canada, the United Kingdom, and Australia. They will be written in English and published post 2000. We will include studies published in journal articles or in grey literature.

We will include any follow-up duration, coding multiple outcomes where studies report multiple follow-ups.

Search strategy for identification of studies

Search systems and databases to be searched

Searches will be conducted using a combination of search systems and bibliographic databases, including ERIC, PsychInfo and Google Scholar, and hand searches of known sources of systematic reviews such as the Campbell Library. We will also screen studies for inclusion from known existing systematic reviews of attendance interventions (Maynard et al. 2012, Sutphen et al. 2010 and Freeman et al. 2019).

Search Systems and databases to be searched:

- ERIC
- PsychInfo
- Google Scholar¹
- Web of Science

Other sources:

- Review of Education Research: <https://journals.sagepub.com/home/rev>
- Education Research Review: <https://www.journals.elsevier.com/educational-research-review>
- EEF Teaching and Learning Toolkit
- YEF Evidence and Gap Map: <https://youthendowmentfund.org.uk/evidence-and-gap-map/>
- EIF Guidebook: <https://guidebook.eif.org.uk/>

Both toolkit resources are based on systematic reviews as well as including grey literature, adding to the comprehensiveness of the search for this rapid evidence assessment.

Search terms

¹ Google scholar has a 256 character limit and does not automatically search for truncations. We will look at the first 200 results in Google Scholar, in line with the recommendation of Haddaway et al. 2015.

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We have drawn on the search terms used in the Maynard et al. (2012), Sutphen et al. (2010) and Freeman et al. (2019) reviews, combined with new search terms to cover the wider scope of this current review. The terms will be used to search on titles and abstracts and adapted as necessary depending on the search functions of the search systems and databases.

Within the review timeframe we are working towards, we propose to limit the number of unique combinations of search terms to ensure adequate time to conduct the searches across peer reviewed and non-peer reviewed sources and review the search results to select material for inclusion. To this end, we propose the use of search strings that combine multiple terms and operators (e.g., AND, OR, and wildcards). Where it is possible to refine searches using filters such as categories on web of science, we will exclude categories that are not related to education and attendance. Where filters on sites correspond to inclusion criteria we will also filter during the search – for example, only searching studies published from 2000.

The table below lists the proposed search strings. Synonymous terms are grouped within parentheses and separated using 'OR'. Variants of words can be searched using wildcards, e.g., 'Evaluation*' will include 'evaluation', 'evaluate' and 'evaluations'. If searches return too few or too many results, search parameters can be adjusted as necessary to reduce results to a sufficient or more manageable number, e.g., by adding exclusion terms such as NOT. These search strings and operators work in both academic databases and Google search. As per PRISMA recommendations, we will record the numbers of search results, the criteria applied for filtering, and the number of excluded articles. These will be reported as a flow diagram (see PRISMA example here: <http://prisma-statement.org/PRISMAStatement/FlowDiagram>).

Category	Search terms
Targeted population AND	"High School" OR "Secondary school" OR "Primary School" OR "Elementary School" OR "Students" OR "Pupils" OR "Schools"
Intervention AND	"Evaluation" OR "Intervention" OR "Program" OR "Policy" OR "support" OR "Treatment" OR "Outcome" OR "Mentoring" OR "Parental engagement"
Targeted behaviour/out come	"Attendance" OR "Absence" OR "Truancy" OR "Absenteeism"

Selection of studies

The results of the search will be imported into EPPI reviewer and duplicates removed. Each search result will be screened twice, first on abstract and title only, then if needed, on the full text. After initial calibration, each screening stage will be completed by one reviewer only

due to the timeline for this project. However, we will take a “safety first” approach at both screening stages (Shemilt et al., 2016); that is, the reviewer will have the option of marking a search result as unclear for review by a second reviewer.

At the title and abstract and full-text stage, every reviewer will begin by screening the same 30 search results. The results of this screening will be compared to ensure that the inclusion and exclusion criteria are being interpreted and applied in the same way. The priority screening tool within EPPI-reviewer (Thomas et al., 2010) will be used for title and abstract screening to order results by probability of inclusion and stop screening once we reach a certain point when relevant studies are no longer being identified. The priority screening function orders the results based on the words in the title and abstract of the included and excluded papers from a training set of screening. It does this using machine learning text mining technology. We will screen a random set of 10 percent of the search results as the training set. Reviewers will stop screening after 100 studies are rejected in a row using the tool. As a check on this approach, we will randomly sample 30 of the unscreened titles to see if this approach has missed any relevant studies.

The results of this process will be documented using a PRISMA-style flow chart generated from EPPI-reviewer.

Data extraction and management

We will systematically extract data in Microsoft Excel using a data extraction tool. We will follow a similar approach to the Maynard et al. (2012) review and code on: 1) study descriptors 2) sample descriptors 3) intervention descriptors using Tidier² 4) research methods and quality descriptors and 5) effect size data. We will extract descriptive data about the type of intervention, and the comparator (that is- whether the participants who were usually getting ‘business as usual’ may have been receiving some other form of help), duration, method of delivery, reach, attrition figures, outcomes measured by the study, description of the effect sizes and any information about implementation of the attendance intervention. A team will be responsible for extracting information from the included studies using the data extraction tool. The core team will do double data extraction on 20% of studies (randomly selected).

Appraisal of included studies

Due to the quick turnaround of the rapid evidence assessment, we will not undertake a full risk of bias assessment. We will use an adapted approach of the Cochrane tool outlined in their handbook for systematic reviews of interventions³, to assess how much confidence to place in the findings from the included RCTs or QEDS. An addendum will be added to the protocol prior to the start of data extraction.

Data synthesis

In the main, we will undertake a narrative synthesis of the included studies to answer the review questions, but where appropriate we will aim to do a meta-analysis where studies are sufficiently similar based on the theory of change, presenting effect sizes and associated

² Better reporting of interventions: template for intervention description and replication (TIDieR) checklist and guide; [BMJ 2014;348:g1687](https://doi.org/10.1136/bmj-2017-021857)

³ <https://methods.cochrane.org/bias/resources/cochrane-handbook>

measures of uncertainty where studies present the necessary information to calculate effect sizes. The intervention outcome of interest for this review is attendance, which is likely to be reported as a continuous variable. That is, reported in terms of mean number of days attended or absent, mean number of classes absent, or mean percentage of days attended or absent. Therefore, we will use this to calculate standardised effect sizes.

There might be studies with multiple treatment arms with only one control group and several attendance outcomes are presented for the same study. We will not extract all effect sizes, and only include one effect estimate per study in our meta-analysis. Where we have several publications reporting on the same study we will use effect sizes from the key publication. For studies with outcome measures at different time points, we will synthesis on the outcome measured closest upon completion of the intervention.

To answer question 2 and 4, we will extract qualitative and quantitative information where available in the study on barriers and facilitators to effective implementation of attendance intervention. We will use thematic analysis to synthesise the results. Thomas and Harden (2008) outline the three stages of thematic synthesis: the coding of text 'line-by-line'; the development of descriptive themes and the generation of 'analytical themes'. Due to the tight turnaround of this review, we will not code line-by-line but extract the factors that seem to be barriers or facilitators or appear to mediate the effects from studies into descriptive themes. While the aim of developing descriptive themes remains close to the primary studies, the analytical themes is a stage where we will interpret and synthesise findings from all the studies.

To answer question 3, about whether certain types of interventions are more effective at improving attendance, we will use regression analysis to compare intervention type for moderating effects.

To answer question 5, we will extract data on other outcomes, if presented, for example academic attainment and behavioural outcomes (e.g., substance misuse, bullying perpetration and mental health and wellbeing).

Overall, this analysis will be supported by the data synthesis process that will also cover descriptive analysis by summarising characteristics of interventions and included studies. This will entail synthesising sample size, attrition, types of interventions, duration of intervention, setting of intervention delivery, participant characteristics and effect size of attendance.

Reporting

The technical report will use the EEF review reporting template for evidence reviews.

A school facing publication will summarise the evidence for different interventions that aim to improve attendance among pupils, describing the impact and implementation challenges and specific characteristics of those that appear to be effective programmes.

Peer review

This REA protocol will be peer reviewed by one reviewer. The REA will be peer reviewed by two peer reviewers.

Personnel

Core team:

- Jonathon Kay
- Rupal Patel
- Hannah Blausten
- Harry Madgwick

Conflicts of interest

No conflict of interest

Timeline

Task		Completion date
Protocol Development	Peer review protocol	10 th September
	Finalise protocol	20 th September
	Data extraction tool finalised	20 th September
Search	Academic search	15 th September
	Search grey literature and organisational websites	17 th September
	Citation tracking (checking included studies in the relevant systematic reviews and meta-analyses)	17 th September
Screening	Screening at title (and abstract)	1 st October
	Full text retrieval	6 th October
	Full text screening	29 th October
Data Extraction	Data extraction (descriptives, intervention, implementation, effect sizes), assuming 10 per day	19 th November
	Check data extraction	23 rd November
	Data extraction (critical appraisal of studies)	29 th November
Synthesis and write-up	Narrative synthesis	6 th December
	Write up of new synthesis	13 th December
	Review of findings by senior team	20 th December
	Write up draft technical report using REA template	End of December
Peer Review	Select and approach two peer reviewers	20 th December

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Task		Completion date
	Send to peer reviewer	5 th January
	Peer reviews complete	14 th January
	Integrate peer review comments	21 st January
	Publish report	February
Supportive resources for schools	Summary document	End of Jan
	Feedback from wider team	February
	Finalise school facing findings document	February

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