

# Blueprint for halving obesity: rapid review

School-based nutrition/dietary lessons  
as an intervention for reducing  
childhood obesity



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# Contents

<b>Summary table</b>	<b>2</b>
<b>Rapid umbrella review</b>	<b>4</b>
Background	4
Objective	4
Methods	4
Results	6
<b>Appendices</b>	<b>16</b>

## Summary table

<b>Title</b>	<a href="#">Interventions for preventing obesity in children (review)</a>	<a href="#">The effectiveness of school-based interventions on obesity-related behaviours in primary school children: A systematic review and meta-analysis of randomised controlled trials</a>
<b>Author and year</b>	Brown et al. (2019)	Nally et al. (2021)
<b>Type of study</b>	Cochrane Review (systematic review and meta-analysis)	Systematic review and meta-analysis of RCTs or cluster RCTs
<b>Outcome variable</b>	Body mass index (BMI); body mass index z-scores (zBMI)	Obesity-related behaviours (including physical activity behaviour and/or sedentary behaviour and/or nutrition behaviour) and/or body mass index (BMI)/body mass index z-scores (zBMI)
<b>Treatment</b>	Exposure to school-based nutrition education (either as standalone intervention, or combined with physical activity education)	Exposure to school-based nutrition interventions (either as standalone intervention, or combined with interventions to increase physical activity or decrease sedentary behaviour)  Duration of intervention: - Min: 12 weeks - Max: 4 years

<b>Control</b>	<p>Either:</p> <ul style="list-style-type: none"> <li>- no exposure to intervention</li> <li>- 'control' or usual care</li> <li>- exposure to physical activity (PA) intervention</li> <li>- exposure to combined nutrition and physical activity (N&amp;PA) intervention</li> </ul>	<p>Comparison or control arm that consisted of either:</p> <ul style="list-style-type: none"> <li>- no intervention</li> <li>- an alternative treatment condition</li> <li>- 'usual care', ie, existing physical education programme</li> </ul>
<b>Magnitude of effect (Children aged 5-12 years)</b>	Not applicable to this study	The effect from nutrition only interventions was not statistically significant and therefore should be taken as zero
<b>Magnitude of effect (Children aged 6-12 years)</b>	BMI mean difference: -0.02 kg/m <sup>2</sup> [95% CI: -0.10 kg/m <sup>2</sup> , 0.07 kg/m <sup>2</sup> ]	Not applicable to this study
<b>Magnitude of effect (Children aged 13-18 years)</b>	BMI mean difference -0.1 kg/m <sup>2</sup> [95% CI: -0.99 kg/m <sup>2</sup> , 0.79 kg/m <sup>2</sup> ]	Not applicable to this study
<b>Magnitude of effect (Adults)</b>	Not applicable to review question	Not applicable to review question
<b>Notes</b>	For modelling the impact of this policy, the review highlighted in the green column was used.	

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# Rapid umbrella review

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## Background

School-based education is a commonly used method to promote behaviour change in children and adolescents, particularly as it allows good coverage of children with diverse backgrounds. It has been identified as a potential method to reduce the prevalence of obesity and overweight via nutritional and physical activity lessons. Assessing the longer-term outcomes of children exposed to such education sessions offers an opportunity to identify if such interventions are effective in reducing obesity and overweight prevalence at a population level. This report covers school-based nutrition/dietary education (including standalone nutrition education and combined nutrition and physical activity education); however, school-based physical activity education alone is covered in a [separate report](#).

## Objective

To summarise the best available evidence on the impact of school-based nutrition education provision on energy intake or body weight of young people.

## Methods

We aimed to identify reviews that included quantitative research synthesis (ie, meta-analysis) of the effectiveness of school-based nutrition education provision outcomes relevant to calorie consumption, energy intake, weight loss or obesity. If more than one review was identified that answered our research question, we aimed to identify the review that was reflective of the best evidence, based on (a) year published and (b) best fit to the research question.

In addition, we decided to supplement findings with a paper recommended by our Expert Advisory Group (EAG) which was not identified through our searches. These results are reported separately in the section '[Supplementary results](#)' below. This paper was published more recently, thus providing more up-to-date coverage of

the topic and still used high quality evidence, so is likely to be the most appropriate for Blueprint modelling purposes.

## Eligibility criteria

*Types of review.* To be eligible for inclusion, articles were required to use systematic review methodology (ie, use of systematic search and inclusion strategy to identify all available studies) and include quantitative data synthesis (ie, meta-analysis) of multiple studies that examined the effect of school-based nutrition education on outcomes of interest. If the search did not identify any studies where a meta-analysis had been conducted due to heterogeneity of outcomes of interest, we intended to include reviews with narrative syntheses. We did not set inclusion criteria on the number or type of databases searched.

*Participants.* To be eligible for inclusion, articles had to examine the effect of interventions on children of school-age, including those with or without overweight or obesity.

*Intervention.* Reviews were required to synthesise interventions that provided nutrition education to children in a school setting. Interventions could involve other settings too (eg, home) but were required to take place at least in part at a school.

*Comparator.* No intervention or a different intervention (eg, school-based physical activity education lessons).

*Outcomes.* To be eligible for inclusion, reviews needed to include either clinical (eg, weight, BMI, % fat change, zBMI scores) or behavioural outcomes (including, but not limited to: eating behaviour, food diaries). Reviews that only included measures of intentions/plans for future behaviour were excluded due to evidence about the gap between intended and actual eating behaviour.

## Information sources and article selection

The search strategy was designed to identify syntheses of research evidence such as systematic reviews between the year 2010 and the date of search. Initial keywords were identified via a scoping review of relevant papers and reports as well as via PubMed using the MeSH function. A search was performed in PubMed and the

Cochrane Database of Systematic Reviews (see [appendix 1](#) for search strategy). The search was run in September 2023. The search strategy in appendix 1 slightly differs from the strategy published in the protocol; typos and database syntax were corrected to address issues when carrying out the search.

### Screening

Due to the rapid nature of the reviews, a single reviewer screened titles and abstracts and discussed any uncertainty with a second reviewer. For relevant titles/abstracts, the full text was retrieved for full text review. One reviewer reviewed the full texts and discussed uncertainties with a second reviewer.

### Data extraction

The JBI Data Extraction Form for Review for Systematic Reviews and Research Syntheses (see [appendix 2](#)) was used to inform data extraction for the final included review.

## Results

We identified a Cochrane Review on the topic of interventions to prevent obesity in children, which included school-based nutrition education. This review was published between 2010 and present and included a meta-analysis; this was selected as the most robust source of evidence on this topic. This Cochrane Review was an update of a previous review. [Brown et al. \(2019\)](#) examined the effectiveness of a range of interventions that included diet or physical activity components, or both, designed to prevent obesity in children. However, as our review was just concerned with nutrition education, and physical activity effects are explored in a separate review, we do not report results here if they do not include nutrition education. As such, sections of the Cochrane Review are not reported here. Physical activity interventions are only included here if they were combined with diet interventions, or if they were used as a comparator to diet interventions. We also do not report results from settings other than schools (though the report included other settings like healthcare settings, preschool etc). We include the intervention if school was the setting, but other settings were involved too (eg, school-based intervention with homework).

## What studies did the review include?

The review included articles if they:

- used randomised controlled trials (RCTs) and reported outcomes at a minimum of 12 weeks from baseline
- included young people aged 0-17
- tested the effect of diet or physical activity interventions, or combined diet and physical activity interventions, for preventing overweight or obesity in children.

Of note, they excluded RCTs of interventions designed specifically for the treatment of childhood obesity and RCTs designed to treat eating disorders such as anorexia and bulimia nervosa. They excluded any drug or surgery interventions, as these are treatment interventions. They excluded RCTs that were exclusively focused on breast or bottle feeding; for example, RCTs that solely evaluated the effect of various protein levels in infant formulas. They also excluded RCTs that focused solely on strength and fitness training (not aimed at obesity prevention).

For comparison, they included RCTs that compared diet or physical activity interventions, or both, with a non-intervention control group who received no treatment or usual care, or another active intervention (ie, head-to-head comparisons).

## What were the systematic review methods?

Brown et al. searched CENTRAL, MEDLINE, Embase, PsychINFO and CINAHL in June 2015. They re-ran the search from June 2015 to January 2018 and included a search of trial registers. Selection criteria were RCTs of diet or physical activity interventions, or combined diet and physical activity interventions, for preventing overweight or obesity in children (0-17 years) that reported outcomes at a minimum of 12 weeks from baseline.

Two authors independently extracted data, assessed risk-of-bias and evaluated overall certainty of the evidence using the GRADE tool. They extracted data on adiposity outcomes, sociodemographic characteristics, adverse events, intervention process and costs.



They then meta-analysed data as guided by the Cochrane Handbook for Systematic Reviews of Interventions and presented separate meta-analyses by age group for children 0-5 years, 6-12 years, and 13-18 years for zBMI and BMI.

## What did the review find?

This is a non-exhaustive summary of the review findings, and as noted above, this review excludes sections which did not include nutrition/diet education. Please see the [original article](#) for more details. The literature search identified 153 eligible RCTs (though not all were in schools as the Cochrane Review's scope was broader than ours); 90 or 91 (discrepant numbers reported in review abstract) were purely in schools and some others (n = unknown) had a mix of school-based and home-based; others were purely in other settings and thus excluded from the present report. Specifically, the authors categorised settings as 'school' including primary, middle and secondary schools (n = 91, 59%), 'community' (n = 23, 15%), 'healthcare' (n = 6, 4%), 'childcare' including nurseries; childcare centres; kindergartens and preschools (n = 22, 14%) and 'home' (n = 11, 7%). Twenty-two (14%) RCTs included more than one setting, for example school-based RCTs with homework or parental involvement were also classed as 'home-based'. For the purpose of meta-analyses, they put RCTs into subgroups according to the main setting, ie, the setting where most of the intervention was carried out.

With regards to country, it is not possible to separate out just the interventions relevant to this report (ie, involving school settings). However, of the total 153 RCTs in the Cochrane Review, most were conducted in North America (n = 77, 50%), with most of these in the USA (n = 69; 45%); the remainder were conducted in Europe (n = 45, 29%), Australasia (n = 15, 10%), Asia (n = 7, 5%), South America (n = 6, 4%); and the Middle East and North Africa (n = 3, 2%) (see Figure 1 below, which appeared as Figure 3 in the original paper). Authors state that, based on the World Bank classification of countries by income, most RCTs were conducted in high-income countries (n = 139; 91%) with 13 (8%) in upper-middle income countries, and one (1%) in a lower-middle-income country.

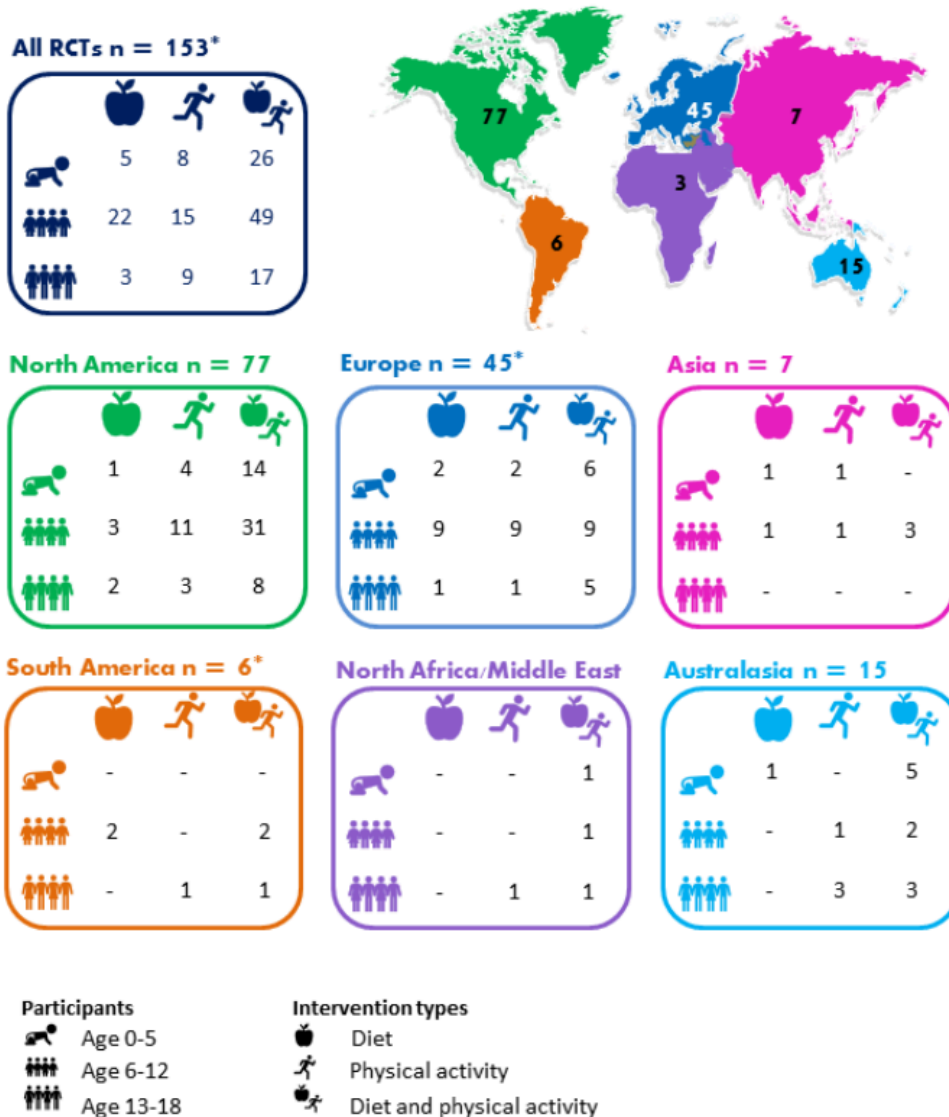


Figure 1: Distribution of studies by location, age of children and type of intervention. (\*Total number of locations is 154 and not 153 (number of studies) as one study, Lana 2014, was located in both Spain and Mexico. Papadaki 2010 was located in 7 countries across Europe). (Figure reproduced from [Brown et al., 2019](#))

In terms of methodological quality, Brown et al. presented a 'Risk of bias' graph (see Figure 2 below, which appeared as Figure 4 in the original paper) with review authors' judgements about each 'Risk of bias' item presented as percentages across all included RCTs. This covers all 153 RCTs included in the Cochrane Review, so not all will relate to school-based nutrition education.

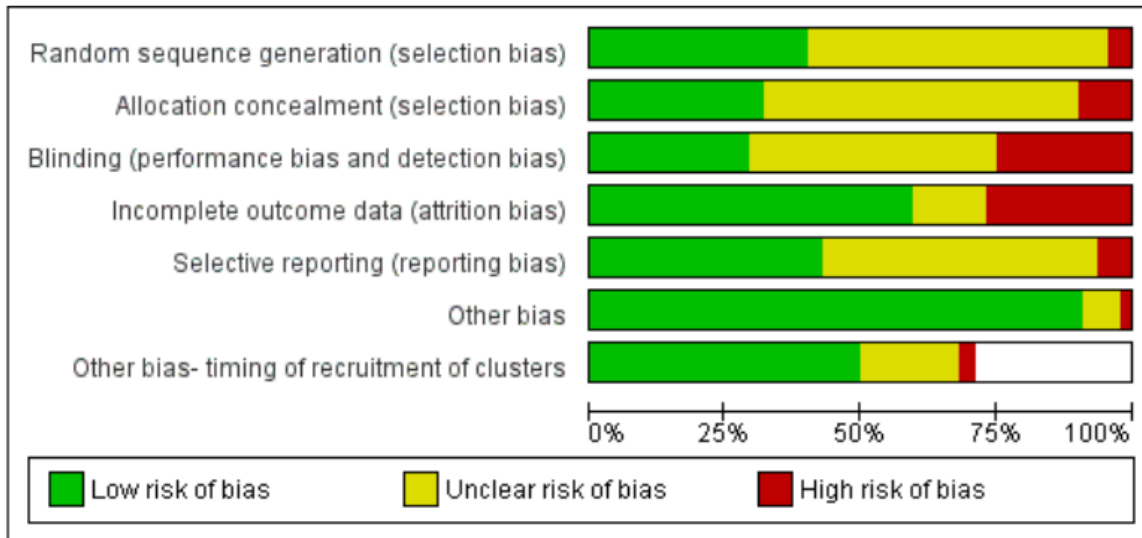


Figure 2: Risk of bias graph - review authors' judgements about each 'Risk of bias' item presented as percentages across all included studies (Figure reproduced from [Brown et al., 2019](#))

## Effect sizes from interventions

Of note, we do not report the results from 0-5 years because this age group predominantly falls into the preschool age, rather than school age. The paper authors describe the equivalent setting for this group as "childcare/preschool" instead of "school".

Results for each age group (ages 6-12 years and 13-18 years) are presented in the images below which are taken directly from the original paper. As well as being broken down by age group, the results are also broken down by intervention type ie, Diet vs Control; and Diet and Physical Activity vs Control.

1. Dietary interventions vs control: age 6-12 years

BMI and zBMI are both reported, but for modelling purposes we need BMI so **row 5; 2.1** (ie, BMI – setting: School) is only relevant here.

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 zBMI - setting	9	7231	Mean Difference (Random, 95% CI)	-0.03 [-0.06, 0.01]
1.1 School	8	6771	Mean Difference (Random, 95% CI)	-0.02 [-0.06, 0.01]
1.2 Wider community	1	460	Mean Difference (Random, 95% CI)	-0.16 [-0.35, 0.04]
2 BMI - setting	6	5061	Mean Difference (Random, 95% CI)	-0.02 [-0.11, 0.06]
2.1 School	5	4601	Mean Difference (Random, 95% CI)	-0.02 [-0.10, 0.07]
2.2 Wider community	1	460	Mean Difference (Random, 95% CI)	-0.74 [-1.68, 0.19]

Figure 3: Dietary interventions versus control: age 6-12 years (Figure reproduced from [Brown et al., 2019](#))

**Summary: Evidence from five RCTs (4,601 participants) indicated that dietary interventions vs control for preventing obesity do not affect BMI in children aged 6-12 years (MD -0.02 kg/m<sup>2</sup>, 95% CI -0.10 kg/m<sup>2</sup> to 0.07 kg/m<sup>2</sup>).**

2. Diet and physical activity interventions vs control: age 6-12 years

BMI and zBMI are both reported, but for modelling purposes we need BMI so **row 9; 3.1** (ie, BMI – Diet and physical activity vs control – setting: School) is only relevant here.

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 zBMI, Diet and physical activity vs control - setting	20	24043	Mean Difference (Random, 95% CI)	-0.05 [-0.10, -0.01]
1.1 Home	1	134	Mean Difference (Random, 95% CI)	0.03 [-0.04, 0.10]
1.2 Wider community	4	657	Mean Difference (Random, 95% CI)	-0.04 [-0.39, 0.31]
1.3 School	15	23252	Mean Difference (Random, 95% CI)	-0.04 [-0.08, -0.01]
2 zBMI, Diet and physical activity vs control - duration	20	24043	Mean Difference (Random, 95% CI)	-0.05 [-0.10, -0.01]
2.1 Duration of intervention > 12 months	8	11779	Mean Difference (Random, 95% CI)	-0.05 [-0.10, 0.00]
2.2 Duration of intervention ≤ 12 months	12	12264	Mean Difference (Random, 95% CI)	-0.06 [-0.12, 0.01]
3 BMI, Diet and physical activity vs control - setting	25	19498	Mean Difference (Random, 95% CI)	-0.05 [-0.11, 0.01]
3.1 School	16	18747	Mean Difference (Random, 95% CI)	-0.04 [-0.10, 0.02]
3.2 Wider community	9	751	Mean Difference (Random, 95% CI)	-0.08 [-0.29, 0.13]
4 BMI, Diet and physical activity vs control - duration	25	19498	Mean Difference (Random, 95% CI)	-0.05 [-0.11, 0.01]
4.1 Duration of intervention > 12 months	8	5704	Mean Difference (Random, 95% CI)	-0.08 [-0.18, 0.03]
4.2 Duration of intervention ≤ 12 months	17	13794	Mean Difference (Random, 95% CI)	-0.04 [-0.11, 0.04]

Figure 4: Diet and physical activity interventions versus control: age 6-12 years (Figure reproduced from [Brown et al., 2019](#))

**Summary: Evidence from 16 RCTs (18,747 participants) indicated that combined diet and physical activity interventions vs control for preventing obesity did not reduce BMI in children aged 6-12 years (MD -0.04kg/m<sup>2</sup>, 95% CI -0.10 kg/m<sup>2</sup> to 0.02 kg/m<sup>2</sup>).**

3. Diet interventions vs control: age 13-18 years

*BMI and zBMI are both reported, but for modelling purposes we need BMI so row 3; 1.2 (ie, BMI – setting: School) is only relevant here.*

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 BMI - setting	2	294	Mean Difference (Random, 95% CI)	-0.13 [-0.50, 0.23]
1.1 Home	1	103	Mean Difference (Random, 95% CI)	-0.14 [-0.54, 0.26]
1.2 School	1	191	Mean Difference (Random, 95% CI)	-0.1 [-0.99, 0.79]

Figure 5: Diet interventions versus control: age 13-18 years (Figure reproduced from [Brown et al., 2019](#))

**Summary: Evidence from one RCT (191 participants) indicated that dietary interventions vs control for preventing obesity do not affect BMI in children aged 13-18 years (MD -0.1 kg/m<sup>2</sup>, 95% CI -0.99 kg/m<sup>2</sup> to 0.79 kg/m<sup>2</sup>).**

4. Diet and physical activity interventions vs control: age 13-18 years

*BMI and zBMI are both reported, but for modelling purposes we need BMI so row 8; 3.1 (ie, BMI – setting: School) is only relevant here.*

Outcome or subgroup title	No. of studies	No. of participants	Statistical method	Effect size
1 zBMI - setting	6	16543	Mean Difference (Random, 95% CI)	0.01 [-0.05, 0.07]
1.1 Home	1	75	Mean Difference (Random, 95% CI)	0.06 [-0.13, 0.26]
1.2 School	5	16468	Mean Difference (Random, 95% CI)	0.00 [-0.06, 0.06]
2 zBMI - duration	6	16543	Mean Difference (Random, 95% CI)	0.01 [-0.05, 0.07]
2.1 Duration of intervention ≤ 12 months	3	2525	Mean Difference (Random, 95% CI)	-0.09 [-0.18, 0.00]
2.2 Duration of intervention > 12 months	3	14018	Mean Difference (Random, 95% CI)	0.01 [-0.02, 0.04]
3 BMI - setting	8	16583	Mean Difference (Random, 95% CI)	-0.02 [-0.10, 0.05]
3.1 School	8	16583	Mean Difference (Random, 95% CI)	-0.02 [-0.10, 0.05]
4 BMI - duration	8	16583	Mean Difference (Random, 95% CI)	-0.02 [-0.10, 0.05]
4.1 Duration of intervention > 12 months	2	12904	Mean Difference (Random, 95% CI)	-0.04 [-0.17, 0.09]
4.2 Duration of intervention ≤ 12 months	6	3679	Mean Difference (Random, 95% CI)	-0.03 [-0.11, 0.05]

Figure 6: Diet and physical activity interventions versus control: age 13-18 years (Figure reproduced from [Brown et al., 2019](#))

**Summary: Evidence from eight RCTs (16,583 participants) indicated that combined dietary and physical activity interventions vs control for preventing obesity do not affect BMI in children aged 13-18 years (MD -0.02 kg/m<sup>2</sup>, 95% CI -0.10 kg/m<sup>2</sup> to 0.05 kg/m<sup>2</sup>).**

## Health inequalities and unintended consequences

Brown et al. looked to see if the strategies were likely to work fairly for all children, eg, girls and boys, children from wealthy or less wealthy backgrounds, children from different racial backgrounds. Not many RCTs reported this, but in those that did, there was no indication that the strategies increased inequalities. However, they could not find enough RCTs with this information to help us answer this question. They also explored whether children were harmed by any of the strategies, eg, by having injuries, losing too much weight, or developing damaging views about themselves and their weight. Not many RCTs reported this, but in those that did, none reported any harms from children who had been given strategies to change their diet or physical activity.

## Supplementary results from paper identified by Expert Advisory Group (EAG)

Following consultation with our EAG, in addition to the Brown et al. (2019) Cochrane Review discussed above, we also included an additional paper: [Nally et al. \(2021\)](#) – a systematic review and meta-analysis of randomised controlled trials (RCTs) and cluster RCTs (cRCTs). Methods and findings are briefly reported below (for full details, see the original paper). This is the paper we used for Nesta's modelling work.

Table 1: PICOS – Who was included and what was done

<b>Participants (P)</b>	School students aged 5-12 years
<b>Interventions (I)</b>	School-based nutrition interventions (either as standalone intervention, or combined with interventions to increase physical activity or decrease sedentary behaviour)
<b>Comparators (C)</b>	Comparison or control arm that consisted of either: <ul style="list-style-type: none"> <li>• no intervention</li> <li>• an alternative treatment condition</li> <li>• 'usual care', ie, existing physical education programme</li> </ul>
<b>Outcomes (O)</b>	Obesity-related behaviours (including physical activity behaviour and/or sedentary behaviour and/or nutrition behaviour) and/or body mass index (BMI)/body mass index z-scores (zBMI)
<b>Study design (S)</b>	RCTs and cRCTs

What did the study find?

Forty-eight articles were included in Nally et al. (2021) narrative synthesis and 38 were eligible for inclusion in the meta-analysis.

**Participants:** Within the 48 included articles, 46,235 children were included at baseline. The number of children participating at baseline ranged from 51 to 3,135. Average age in each study ranged from 6.0 years to 10.9 years.

**Interventions:** Duration ranged from 12 weeks to four years. 19% (n = 9) of interventions lasted less than six months and 81% (n = 39) of interventions lasted over six months. Of relevance for the present review on nutrition lessons: “Of the 48 articles included in the qualitative synthesis, 43 (90%) articles targeted a change in PA, 29 (64%) articles targeted a decrease in SB, and 30 (63%) articles targeted change in nutrition behaviour.” [PA = physical activity; SB = sedentary behaviour]... “The mode of nutritional intervention delivery varied; however, the most used intervention strategy was health education classes and nutrition education programmes. One study used the board game ‘Kaledo’ as a strategy to improve nutrition knowledge to modify nutrition behaviour. There were 35 (71%) multi-component interventions, while others adopted single component and 21 (48%) multi-component interventions targeted a change in PA, SB and nutrition behaviour. Eight (17%) interventions

targeted a change in PA and SB, and five (9%) interventions targeted a change in PA and nutrition behaviour. Intervention strategies included school environment adaptations, interactive drama activities, modified PE lessons, extracurricular PA sessions, gardening, cooking workshops, educational sessions, counselling sessions and provision of further opportunities to be physically active (eg, active homework, lunch and break time, PA clubs). Fourteen (30%) studies reported single-component interventions. Eight of these were targeting a change in PA by facilitating active academic lessons, activity breaks in the classroom, introducing additional brisk walking during school time, school environment adaptations and educational sessions. Six single-component interventions targeted a change in nutrition through workshops and modifications to the school canteen, allocating free fruit and educational sessions." [References removed from quotes for ease of reading.]

**Study design:** Most included studies were cRCTs (n = 35, 73%), with the school or class as the unit of randomisation. The remainder were RCTs (n = 13, 27%).

**Effectiveness:** It is important to note that it was not possible to separate out the isolated effectiveness of nutrition education alone from this study. The effect from nutrition only interventions was not statistically significant and therefore, for Nesta's modelling purposes, it should be taken as zero.



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## Appendices

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### Appendix 1: PubMed search strategy

#### **Concept 1: School**

"School" [tw] OR "school based" [tw] OR "school-based" OR "school based intervention\*" [tw] OR "elementary school" [tw] OR "secondary school" [tw] OR ("Schools" [Mesh])

#### **Concept 2: Education**

"Education" [tw] OR "lesson\*" [tw] OR "class\*" [tw] OR "tutorial" [tw] OR "session\*" [tw] OR "Education" [Mesh]

#### **Concept 3: Nutrition**

Nutrition\* [tw] OR Food\* [tw] OR Nutr\* [tw] OR Knowledge\* [tw] OR "Nutrition education" [tw] OR "healthy eating" [tw] OR "FNLI" [tw] OR "food and nutrition literacy" [tw] OR "food literacy" [tw] OR "Diet, Food, and Nutrition" [Mesh]

#### **Concept 4: Obesity**

"obesity"[tw] OR "overweight"[tw] OR "over-weight"[tw] OR "BMI"[tw] OR "body weight"[tw] OR "bodyweight"[tw] OR "Body mass index"[tw] OR "Body Mass Index" [Mesh] OR "Obesity"[Mesh] OR "Overweight" [Mesh]

#### **Concept 5: Systematic review**

"systematic review"[tiab] OR "systematic\*" [tiab] OR "meta-analys\*" [tiab] OR "narrative synthes\*" [tiab]

#### **Search query:**

"School" [tw] OR "school based" [tw] OR "school-based" OR "school based intervention\*" [tw] OR "elementary school" [tw] OR "secondary school" [tw] OR ("Schools" [Mesh])

AND

"Education" [tw] OR "lesson\*" [tw] OR "class\*" [tw] OR "tutorial" [tw] OR "session\*" [tw]  
OR "Education" [Mesh]

AND

Nutrition\* [tw] OR Food\* [tw] OR Nutr\* [tw] OR Knowledge\* [tw] OR "Nutrition  
education" [tw] OR "healthy eating" [tw] OR "FNLI" [tw] OR "food and nutrition  
literacy" [tw] OR "food literacy" [tw] OR "Diet, Food, and Nutrition" [Mesh]

AND

"obesity"[tw] OR "overweight"[tw] OR "over-weight"[tw] OR "BMI"[tw] OR "body  
weight"[tw] OR "bodyweight"[tw] OR "Body mass index"[tw] OR "Body Mass Index"  
[Mesh] OR "Obesity"[Mesh] OR "Overweight" [Mesh]

AND

"systematic review"[tiab] OR "systematic\*" [tiab] OR "meta-analys\*" [tiab] OR "narrative  
synthes\*" [tiab]

Filter: from 2010-2023

## Appendix 2: JBI Data Extraction Form for Review for Systematic Reviews and Research Syntheses

Study details
Author/year
Objectives
Participants (characteristics/total number)
Setting/context
Description of interventions/phenomena of interest
Search details
Sources searched
Range (years) of included studies
Number of studies included <i>I</i>
Types of studies included
Country of origin of included studies
Appraisal
Appraisal instruments used
Appraisal rating
Analysis
Method of analysis
Outcome assessed
Results/findings
Significance/direction
Heterogeneity
Comments