Welcome to the third Annual Evidence Update on Obesity focusing on Childhood Obesity: Surveillance and Prevention.

This evidence update covers childhood obesity: surveillance and prevention. It is an update of the evidence from March 2009 to February 2010.

Introduction

The Foresight report predicted that by 2050, up to 50% of boys and 70% of girls could be overweight or obese, thus emphasising the urgent need for effective prevention interventions, building on current best practice and best available evidence.

Preventing childhood obesity through lifestyle change interventions - National Obesity Observatory (2010)

In 2010, a number of key organisations issued reports on the progress of various initiatives to improve the health of children and young people, and prevent the onset of obesity and overweight, which can lead to a lifetime of ill-health.

One of the biggest campaigns is the Department of Health Change4Life programme which has been extensively marketed through the NHS, local government, charities, and commercial partners. In the first year the programme targeted families with children 5-11 at high risk of becoming overweight or obese and surpassed its targets including reach, How are the Kids? survey, and sustained interest. Change4Life focuses on making changes in health behaviours such as health eating, making healthier food choices, building physical activity into day-to-day life by using active travel or participating in sport, and to value the long-term impact a healthy lifestyle can provide.

The Healthy Child Programme (formerly the Child Health Promotion Programme), also from the Department of Health, focuses on a much wider range of health outcomes in children and young people such as mental wellbeing, language and learning development, and preventing obesity. The programme assists parents in assessing their child’s development and promoting good health and health-related behaviours by encouraging good nutrition, active play, and healthy attitudes towards food and eating. The University of Leeds has also published a framework for action in support of the obesity agenda of the Healthy Child Programme.

Other schemes to prevent overweight and obesity include the school fruit and vegetable scheme, now in its third year, and Bike It from Sustrans. The fruit and vegetable scheme has found an increase in consumption of vegetables, but no change in consumption of fruit which may indicate unhealthy snacks are still being eaten. Bike It is in its fifth year and has been highly successful in getting young people to cycle to school. The most recent survey has found that 45% of children cycle to school on some occasions, up from 25%, and 8% of children are cycling daily, up from 4%.

In terms of surveillance, the Information Centre (IC) and the National Heart Forum (NHF) have released statistical reports on the prevalence of obesity. The IC released the results for the 2008/09 National Child Measurement Programme which continues to show high levels of overweight and obesity in young children. The NHF reports on trends from the Health Survey for England for years 1993-2007 and children and young people aged 2-19. These results show that levels of overweight and obesity may begin to level off and the trend reverses itself. The National Obesity Observatory (NOO) has a series of Data Briefings available which include an up-to-date roundup of key information and data around obesity and its determinants. NOO has also published two briefing papers to aid commissioners in treating and preventing childhood obesity via lifestyle change interventions.

The aims and methods used to develop the Childhood obesity annual evidence update 2010 are outlined below. It is hoped the information provided will be useful for clinicians, public health
practitioners, commissioners and the general public. If you have any comments or suggestions about this site please contact us, as the team are keen to learn from this experience to continue improving the contents and usage of this site.

**AIMS**

The *Childhood obesity: surveillance and protection Annual Evidence Update 2010* aims to provide a presentation of expert opinion, supported by high quality recent research evidence and relevant public documents, published from March 2009.

The National Library for Public Health has conducted this evidence update as part of the content development strategy, and will continue updating these topics annually, in order to highlight new evidence.

**METHODS**

Experts in the field of childhood obesity provided a thorough update in 2008 and 2009. In 2010 Dr Louisa Ells provided expert advice on the evidence published in the last year - [please click here to find out more about our contributors](#). The literature search started from March 2009 in order to identify systematic reviews, meta analyses and literature reviews published since the previous evidence update in 2009. In addition to published peer-reviewed literature, a list of relevant guidance and toolkits is also provided.

The Cochrane Database of Systematic Reviews, the Database of Abstracts of Reviews of Effectiveness (DARE), NHS Economic Evaluation Database (NHS EED), PubMed, EMBASE, and others were all systematically searched using terms relating to childhood overweight and obesity, surveillance, monitoring, and preventative measures, to source good quality systematic reviews from March 2009. [The full search strategy is available for viewing](#).

**REFERENCES**

Links to references can be found in the [citations section for guidance & toolkits](#).


**Expert editorial - surveillance**

**Childhood obesity surveillance - What's new? A guide to the 2010 Annual Evidence Update**

Dr Louisa Ells, Specialist Advisor, National Obesity Observatory (NOO), Obesity and Physical Activity Lead, North East Public Health Observatory (NEPHO)

The purpose of this commentary is to provide an update for the childhood obesity surveillance and prevention annual evidence update. Key findings have been drawn from the resulting literature that has arisen over the past year.
Surveillance Update

The global increases in childhood obesity accompany an increased risk of developing chronic disease. In England the National Child Measurement Programme is now in its fifth year and remains one of the largest surveillance programmes internationally. Currently 10.2% of boys and 8.9% of girls (average 9.6%) in Reception year (aged 4-5 years) and 20% of boys and 16.5% of girls (average 18.3%) in Year 6 (aged 10-11 years) are classified as obese according to the British 1990 population monitoring definition of obesity (>/=95th centile) (Information Centre 2008/09).

The 2010 surveillance search identified 6 papers included by the expert group. These final papers examined school based BMI screening1-2, parental perceptions of child overweight3-4 and different body fatness measures5-6.

The paper by Reilly, et al6 found no evidence to support the use of either high waist circumference or BMI interpreted using the International Obesity Task Force approach, in preference to using the UK BMI centiles for the identification of children and adolescents with excess body fat and adverse cardiometabolic risk profile. Olds5 examined secular trends in child and adolescent fatness through the analysis of a large number of skin fold thickness measures collected from 154 studies conducted between 1951 and 2003. The results demonstrated a trend towards an increase in the level of body fat in children, with an unfavourable shift in fat deposition towards central adiposity.

Research into parental perception of child overweight continues, with recent papers3-4 adding further evidence demonstrating parents misperception their child’s weight status, an issue that was found to be particular apparent in parents who were themselves overweight. Research also found that the child’s age, gender and ethnicity may also influence parental perception of overweight status.

References
Links to references can be found in the citations section for surveillance.


7. **Expert editorial - prevention**
8. **Childhood obesity surveillance and prevention - What’s new? A guide to the 2009 Annual Evidence Update**
9.
10. **Dr Louisa Ells,** Specialist Advisor, National Obesity Observatory (NOO), Obesity and Physical Activity Lead, North East Public Health Observatory (NEPHO)
11.
12. The purpose of this commentary is to provide an update for the childhood obesity surveillance and prevention annual evidence update. Key findings have been drawn from the resulting literature that has arisen over the past year.
13.
14. **Prevention Update**
15.
16. The 2010 prevention search identified 22 papers included by the expert group. These papers provide evidence across a number of different themes, which include reviews of school based interventions7-15, the influence of different foods15-17; preschooler interventions 18-19 and the influence of infant feeding practices18; lifestyle interventions19; use of pedometers
and elevated physical activity\textsuperscript{22-24}; the wider effects of the environment\textsuperscript{25-26}; parental perception to healthy behaviours\textsuperscript{27}; and a large review of the evidence examining the association between diet and physical activity and excess weight gain\textsuperscript{28}.

17. By far the predominant theme of the 2010 update was around school based interventions, perhaps unsurprising given the important role schools play in providing the social environment that can shape children’s eating and physical activity patterns. Most of these reviews broadly examined all school based interventions, providing evidence (predominantly from international studies) to suggest that whilst further robust evidence is still required, school based interventions have the potential to influence childhood obesity providing they are multi-component, carried out over the longer term and are tailored to the target population. The remaining three papers focused specifically on the school’s role in physical activity interventions. The review by Harris et al\textsuperscript{11}, was unable to identify a significant effect of school based physical activity interventions on BMI, although other health benefits were identified. Although reviews by Beets’ and Siedentop\textsuperscript{12} did identify some benefits to afterschool and school time activities, BMI was not reported in every study reviewed.

18. Although the evidence based around childhood obesity prevention continues to grow, it is not yet strong enough to construct a robust evidence based framework for childhood obesity interventions. However, given the magnitude of the problem, interventions are required, but must be thoroughly evaluated using realistic outcome measures. More information on the commissioning of child weight management programmes and a standard evaluation framework for weight management interventions can be found at: www.noo.org.uk.

19. 

20. 

21. 

22. References

23. Links to references can be found in the citations section for prevention.


46. Related links

47. The following are organisations and charities where more information regarding overweight and obesity, and interventions can be found.

48. British Dietetic Association (BDA)

49. British Heart Foundation (BHF)

50. British Nutrition Foundation (BNF)

51. Cycling England

52. Department for Culture, Media and Sports (DCMS)

53. Healthy Schools

54. National Heart Forum (NHF)

55. National Obesity Forum (NOF)

56. National Obesity Observatory (NOO)

57. Royal College of Paediatrics and Child Health (RCPCH)

58. School Food Trust

59. Sport England

60. Sustrans

61. Contributors

Dr Louisa Ells, Specialist Advisor, National Obesity Observatory (NOO), Obesity and Physical Activity Lead, North East Public Health Observatory (NEPHO)

Louisa specialises in obesity related public health, with a particular interest in paediatric and maternal obesity, and the role of body weight and physical activity in the aetiology of disease. She is actively involved with contributing to both the national and North East obesity agendas and works collaboratively with a number of organisations. Louisa is also a keen cyclist and is interested in the relationship between active transport and health.

Shannon Robalino, Lead Information Scientist, National Library for Public Health

Shannon is a qualified librarian with a focus on digital libraries. She has been working in the Public Health Observatories since October 2004 and has worked on a number of electronic public health repositories and networks. Shannon is currently the national lead for the Public Health Language, a controlled vocabulary used by a number of public health organisations throughout the United Kingdom and Ireland.

Rebecca McClen, Information Scientist, National Library for Public Health

Rebecca is a qualified librarian with experience of management of information services. Rebecca's background is in the management of legal and corporate information and knowledge. Prior to joining the National Library for Public Health in September 2009, she
was Information Manager at Eversheds LLP.

**Methodology overview**

As this is an update to the 2009 Childhood Obesity Annual Evidence Update there was no change to the search strategy and no guidance documents were used as a starting point. Relevant guidance, toolkits, and other key documents are displayed in the evidence section of this Annual Evidence Update -- these were identified through a hand search of key organisations.

**Search strategy**

Two extensive literature searches were conducted on Childhood Obesity - one on surveillance and one on prevention for this year's Annual Evidence Update (AEU). We searched for systematic reviews, meta analyses and literature reviews published from March 2009 through February 2010. Searches were carried out from the week commencing the 2nd of March 2010.

Search terms were gathered from NICE guidance, Cochrane systematic reviews, and other papers. A full list of keywords was submitted to the Expert Panel for approval.

Systematic review filters were not used, instead we searched for the key words: systematic review, meta analysis, meta analyses in title and abstract when the results were not manageable.

Once the databases were searched, the library team sifted through the results deleting duplicates and irrelevant documents and shortlisted the references selected to be sent to the expert panel. A table of the search results is below.

<table>
<thead>
<tr>
<th>Search results</th>
<th>Surveillance</th>
<th>Prevention</th>
</tr>
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<td><strong>Total retrieved (de-duplicated)</strong></td>
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<td>246</td>
</tr>
<tr>
<td>Sifted by Librarians</td>
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<td>43</td>
</tr>
<tr>
<td>Sifted by Experts</td>
<td>6</td>
<td>22</td>
</tr>
<tr>
<td><strong>Total included</strong></td>
<td>6</td>
<td>22</td>
</tr>
</tbody>
</table>

Some citations were retrieved by looking for related papers that were highlighted in our search results, but not included in the search results.

**Methodology for surveillance**

The number of results shown are the TOTAL numbers before de-duplication.

All databases searched 2 March 2010.

<table>
<thead>
<tr>
<th>ArticleFirst/ECO/MEDLINE</th>
<th>Embase</th>
</tr>
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<tbody>
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<td>British Nursing Index</td>
<td>Health Management Information Consortium</td>
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<td>CERUKplus</td>
<td>National Library of Guidelines</td>
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<tr>
<td>CINAHL</td>
<td>PubMed</td>
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<tr>
<td>Cochrane Library (CDSR, DARE, &amp; NHS EED)</td>
<td>Web of Science</td>
</tr>
<tr>
<td>Database of Promoting Health Effectiveness Reviews (DoPHER)</td>
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</tr>
</tbody>
</table>

**Individual database strategies**

**ArticleFirst/ECO/MEDLINE**


2. kw: Child OR kw: Children OR kw: Childhood OR kw: Infant OR kw: Toddler OR kw: Baby OR kw: Under w 5 OR kw: Under w 5s OR (kw: School and kw: age) OR kw: Youth OR kw: Youngster OR (kw: Young and kw: person) OR (kw: Young and kw: people) OR (kw: Young and kw: adult) OR kw: Teen OR kw: Teenager OR kw: Adolescen* OR kw: Preadolescen* OR kw: Early w adolescence OR
kw: Under w 18 OR kw: Under w 18s OR (kw: Primary and kw: school) OR (kw: Secondary and kw: school) OR (kw: Nursery and kw: school) OR kw: Pre-school OR kw: preschool OR kw: elementary OR kw: Kindergarten OR kw: Pediatric OR kw: Paediatric and yr: 2009-2010


4. #1 AND #2 AND #3 AND (kw: systematic w review OR kw: meta-analysis)

Results: ArticleFirst 1, ECO 13, MEDLINE 51

British Nursing Index (BNI) (National Library for Health)
1. (Obes* OR Overweight OR Over AND weight OR Body AND mass OR Body AND fat OR Body AND fatness OR Healthy AND weight OR Anthropo* OR BMI OR Height AND weight OR Adipos*).ti,ab [Limit to: Publication Year 2009-2010]

2. (Child OR Children OR Childhood OR Infant OR Toddler OR Baby OR "Under 5" OR "Under 5s" OR School AND age OR Youth OR Youngster OR Young person OR Young AND people OR Young AND adult OR Teen OR Teenager OR Adolescent* OR Preadolescent* OR "Early adolescence" OR "Under 18" OR "Under 18s" OR Primary AND school OR Secondary AND school OR Nursery and school OR Pre-school OR preschool OR elementary OR Kindergarten OR Pediatric OR Paediatric).ti,ab [Limit to: Publication Year 2009-2010]

3. (Surveillance OR Collection OR Systematic OR Epidemiolog* AND surveillance OR Gather OR Gathering OR Public AND health AND surveillance OR Monitor* OR Observe OR Observation OR Observational OR Surveyance OR Survey OR Audit OR Record OR Tracking OR Assess* OR Assessment OR Check OR Epidemiolog* OR Population AND surveillance OR prevalence OR record* OR track*).ti,ab [Limit to: Publication Year 2009-2010]

4. (Systematic* AND review OR meta AND analysis OR meta AND analyses).ti,ab [Limit to: Publication Year 2009-2010]

5. 1 AND 2 AND 3 AND 4
Results: 0

CERUKplus
For this database, the searches were conducted using limits for "Systematic Reviews" and "Current Research".
1. Obesity OR overweight
Results: 4
2. Height OR weight
Results: 1
3. Surveillance OR epidemiology
Results: 0

CINAHL (EBSCOHost at Durham University)
1. (Obes* OR Overweight OR Over AND weight OR Body AND mass OR Body AND fat OR Body AND fatness OR Healthy AND weight OR Anthropo* OR BMI OR Height AND weight OR Adipos*).ti,ab [Limit to: Publication Year 2009-2010]
2. (Child OR Children OR Childhood OR Infant OR Toddler OR Baby OR "Under 5" OR "Under 5s" OR School AND age OR Youth OR Youngster OR Young person OR Young AND people OR Young AND adult OR Teen OR Teenager OR Adolescent* OR Preadolescent* OR "Early adolescence" OR "Under 18" OR "Under 18s" OR Primary AND school OR Secondary AND school OR Nursery and school OR Pre-school OR preschool OR elementary OR Kindergarten OR Pediatric OR Paediatric).ti,ab [Limit to: Publication Year 2009-2010]
3. (Surveillance OR Collection OR Systematic OR Epidemiolog* AND surveillance OR Gather OR Gathering OR Public AND health AND surveillance OR Monitor* OR Observe OR Observation OR Observational OR Surveillance OR Survey OR Audit OR Record OR Tracking OR Assess* OR Assessment OR Check OR Epidemiolog* OR Population AND surveillance OR prevalence OR record* OR track*).ti,ab [Limit to: Publication Year 2009-2010]

4. (Systematic* AND review OR meta AND analysis OR meta AND analyses).ti,ab [Limit to: Publication Year 2009-2010]

5. 1 AND 2 AND 3 AND 4

Results: 66

Cochrane Library (includes Database of Systematic Reviews, DARE, and NHS EED)

Used Advanced Search in Title, Abstract, and Keyword. Reviews only (no Protocols).

#1 (Obes* OR Overweight OR Over weight OR Body mass OR Body fat OR Body fatness OR Healthy weight OR Anthropo* OR BMI OR Height and weight OR Adipos*):ti,ab,kw

#2 (Child OR Children OR Childhood OR Infant OR Toddler OR Baby OR "Under 5" OR "Under 5s" OR School age OR Youth OR Youngster OR Young person OR Young people OR Young adult OR Teen OR Teenager OR Adolescen* OR Preadolescen* OR "Early adolescence" OR "Under 18" OR "Under 18s" OR Primary school OR Secondary school OR Nursery school OR Pre-school OR preschool OR elementary OR Kindergarten OR Pediatric OR Paediatric):ti,ab,kw

#3 (Surveillance OR Collection OR Systematic OR Epidemiolog* surveillance OR Gather OR Gathering OR Public health surveillance OR Monitor* OR Observe OR Observation OR Observational OR Surveillance OR Survey OR Audit OR Record OR Tracking OR Assess* OR Assessment OR Check OR Epidemiolog* OR Population surveillance OR prevalence OR record* OR track*):ti,ab,kw

#4 (Systematic* review OR meta analysis OR meta analyses ):ti,ab,kw

#5 (#1 AND #2 AND #3 AND #4), from 2009 to 2010

Results: 45 CDSR, 4 DARE, 1 NHS EED

Database of Promoting Health Effectiveness Reviews (DoPHER) (EPPI-Centre)

Using the Keyword/Categorical search. Limits by year cannot be applied so results in bracket are the number of full results returned (all years available).

1. Focus of report > obesity
2. Characteristics of the study population > children OR young people
3. #1 AND #2

Results: 0 (99)

Embase (National Library for Health)

1. (Obes* OR Overweight OR Over AND weight OR Body AND mass OR Body AND fat OR Body AND fatness OR Healthy AND weight OR Anthropo* OR BMI OR Height AND weight OR Adipos*).ti,ab [Limit to: Publication Year 2009-2010]

2. (Child OR Children OR Childhood OR Infant OR Toddler OR Baby OR "Under 5" OR "Under 5s" OR School AND age OR Youth OR Youngster OR Young AND person OR Young AND people OR Young AND adult OR Teen OR Teenager OR Adolescen* OR Preadolescen* OR "Early adolescence" OR "Under 18" OR "Under 18s" OR Primary AND school OR Secondary AND school OR Nursery AND school OR Pre-school OR preschool OR elementary OR Kindergarten OR Pediatric OR Paediatric).ti,ab [Limit to: Publication Year 2009-2010]

3. (Surveillance OR Collection OR Systematic OR Epidemiolog* AND surveillance OR Gather OR Gathering OR Public AND health AND surveillance OR Monitor* OR Observe OR Observation OR Observational OR Surveillance OR Survey OR Audit OR Record OR Tracking OR Assess* OR Assessment OR Check OR Epidemiolog* OR Population AND surveillance OR prevalence OR record* OR track*).ti,ab [Limit to: Publication Year 2009-2010]

4. (Systematic* AND review OR meta AND analysis OR meta AND analyses).ti,ab [Limit to: Publication Year 2009-2010]

5. 1 AND 2 AND 3 AND 4
Health Management Information Consortium (HMIC) (National Library for Health)

1. (Obes* OR Overweight OR Over AND weight OR Body AND mass OR Body AND fat OR Body AND fatness OR Healthy AND weight OR Anthropo* OR BMI OR Height AND weight OR Adipos*).ti,ab [Limit to: Publication Year 2009-2010]

2. (Child OR Children OR Childhood OR Infant OR Toddler OR Baby OR "Under 5" OR "Under 5s" OR School AND age OR Youth OR Youngster OR Young AND person OR Young AND people OR Young AND adult OR Teen OR Teenager OR Adolescen* OR Preadolescen* OR "Early adolescence" OR "Under 18" OR "Under 18s" OR Primary AND school OR Secondary AND school OR Nursery AND school OR Pre-school OR preschool OR elementary OR Kindergarten OR Pediatric OR Paediatric).ti,ab [Limit to: Publication Year 2009-2010]

3. (Surveillance OR Collection OR Systematic OR Epidemiolog* AND surveillance OR Gather OR Gathering OR Public AND health AND surveillance OR Monitor* OR Observe OR Observation OR Observational OR Survey OR Survey OR Audit OR Record OR Tracking OR Assess* OR Assessment OR Check OR Epidemiolog* OR Population AND surveillance OR prevalence OR record* OR track*).ti,ab [Limit to: Publication Year 2009-2010]

4. (Systematic* AND review OR meta AND analysis OR meta AND analyses).ti,ab [Limit to: Publication Year 2009-2010]

5. 1 AND 2 AND 3 AND 4

Results: 0

National Library of Guidelines

(child OR childhood OR young) AND (obesity OR overweight)

Results: 13

PubMed

#1 Obes* OR Overweight OR Over weight OR Body mass OR Body fat OR Body fatness OR Healthy weight OR Anthropo* OR BMI OR Height and weight OR Adipos*

#2 Child OR Children OR Childhood OR Infant OR Toddler OR Baby OR “Under 5” OR “Under 5s” OR School age OR Youth OR Youngster OR Young person OR Young adult OR Teen OR Teenager OR Adolescen* OR Preadolescen* OR “Early adolescence” OR “Under 18” OR “Under 18s” OR Primary school OR Secondary school OR Nursery school OR Pre-school OR preschool OR elementary OR Kindergarten OR Pediatric OR Paediatric

#3 Surveillance OR Collection OR Systematic OR Epidemiolog* surveillance OR Gather OR Gathering OR Public health surveillance OR Monitor* OR Observe OR Observation OR Observational OR Survey OR Survey OR Audit OR Record OR Tracking OR Assess* OR Assessment OR Check OR Epidemiolog* OR Population surveillance OR prevalence OR record* OR track*

#4 Systematic* review OR meta analysis OR meta analyses

#5 #1 AND #2 AND #3 AND #4

#6 ("2009/03/01" [Publication Date] : "3000" [Publication Date]) AND (#5 )

Results: 134

Web of Science

Limited to 2009-2010

1. Topic=(Obes* OR Overweight OR Body mass OR Body fat* OR Healthy weight OR Anthropo* OR BMI OR Height and weight OR Adipos*)

2. Topic=(Child* OR Infant OR Toddler OR School age OR Youth OR Young person OR Young
people OR Young adult OR Teen* OR Adolescen* OR Preadolescen* OR Primary school OR Secondary school OR Nursery school OR preschool OR elementary OR Kindergarten)

3. Topic=(Surveillance OR Collection OR Systematic OR Epidemiolog* OR Gather* OR Monitor* OR Observ* OR Survey* OR Audit OR Record OR Track* OR Assess* OR Check OR prevalence OR record*)

4. #1 AND #2 AND #3

5. Topic=(Systematic* review OR meta analysis OR meta analyses)

6. #4 AND #5

Results: 99

Methodology for prevention
The number of results shown are the TOTAL numbers before de-duplication.
All databases searched 3-4 March 2010.

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<td>British Nursing Index</td>
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<td>Database of Promoting Health Effectiveness Reviews (DoPHER)</td>
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</table>

Individual database strategies

ArticleFirst/ECO/MEDLINE

#1 kw: Obesity OR kw: Obese OR kw: Overweight OR (kw: Over w kw: weight) OR (kw: Body w kw: mass) OR (kw: body w kw: fat) OR (kw: body w kw: fatness) OR (kw: body w kw: weight) OR (kw: Healthy w kw: weight) OR kw: Anthropo* OR kw: BMI OR( kw: Height w kw: weight) OR kw: Adipos* and yr: 2009-2010

#2 kw: Child OR kw: Children OR kw: Childhood OR kw: Infant OR kw: Toddler OR kw: Baby OR (kw: Under w kw: 5) OR (kw: Under w kw: 5s) OR (kw: School w kw: age) OR kw: Youth OR kw: Youngster OR (kw: Young w kw: person) OR (kw: Young w kw: people) OR (kw: Young w kw: adult) OR kw: Teen OR kw: Teenager OR kw: Adolescen* OR kw: Preadolescen* OR (kw: Early w kw: adolescence) OR (kw: Under w kw: 18) OR (kw: Under w kw: 18s) OR (kw: Primary w kw: school) OR (kw: Secondary w kw: school) OR (kw: Nursery w kw: school) OR kw: Pre-school OR kw: preschool OR kw: Elementary OR kw: Kindergarten OR kw: paediatric OR kw: pediatric and yr: 2009-2010

#3 #1 AND #2

#4 (kw: Physical w kw: activity) OR (kw: Physical w kw: fitness) OR (kw: Physical w kw: Education) OR kw: Exercise OR kw: Walking OR kw: Pedometer OR kw: bicycle OR kw: cycling OR kw: Swimming OR kw: Play OR kw: Playing OR kw: playground OR kw: playgroup OR kw: Leisure OR kw: Sport OR (kw: Active w kw: lifestyle) OR ( kw: Active w kw: transport) OR (kw: Active w kw: transportation) OR (kw: Active w kw: travel) OR (kw: Active w kw: commuting) OR (kw: Active w kw: school) and yr: 2009-2010

#5 (kw: sedentary w kw: behaviour) OR (kw: sedentary w kw: behaviour) and yr: 2009-2010

#6 kw: TV OR kw: Television OR kw: Media and yr: 2009-2010

#7 (kw: Nutrition w kw: Program*) OR( kw: School w kw: meal) OR (kw: School w kw: meals) OR (kw: Fresh w kw: food w kw: programme) OR (kw: 5 w1 kw: day) OR (kw: Dietary w kw: behavior w kw: change) OR (kw: dietary w kw: behaviour w kw: change) OR (kw: Healthy w kw: diet) OR (kw:
health w kw: diets) OR (kw: healthy w kw: eating) OR (kw: healthy w1 kw: habit) OR (kw: Weight w kw: maintenance) OR (kw: weight w kw: management) and yr: 2009-2010

#8 kw: Intervention OR kw: Promotion OR kw: Programme* OR kw: program OR kw: Scheme OR kw: Strategy OR kw: Service OR kw: Campaign OR kw: prevent* and yr: 2009-2010

#9 #4 OR #5 OR #6 OR #7 OR #8

#10 (kw: Systematic* w kw: review) OR (kw: meta w kw: analysis) OR (kw: meta w kw: analyses) and yr: 2009-2010

#11 #3 AND #9 AND #10

Results: ArticleFirst 2, ECO 9, MEDLINE 55

British Nursing Index (BNI) (National Library for Health)
1. (Obesity OR Obese OR Overweight OR "Over weight" OR Body AND mass OR body AND fat OR body AND fatness OR body AND weight*OR AND Healthy AND weight OR Anthropo* OR BMI OR Height AND weight OR Adipos*).ti,ab [Limit to: Publication Year 2009-2010]
2. (Child OR Children OR Childhood OR Infant OR Toddler OR Baby OR "Under 5" OR "Under 5s" OR School AND age OR Youth OR Youngster OR Young AND person OR Young AND people OR Young AND adult OR Teen OR Teenager OR Adolescen* OR Preadolescen* OR "Early adolescence" OR "Under 18" OR "Under 18s" OR Primary AND school OR Secondary AND school OR Nursery and school OR Pre-school OR preschool OR Elementary OR Kindergarten OR paediatric OR pediatric).ti,ab [Limit to: Publication Year 2009-2010]
3. 1 AND 2 [Limit to: Publication Year 2009-2010]
4. (Physical AND activity OR Physical AND fitness OR Physical AND Education OR Exercise OR Walking OR Pedometer OR bicycle OR cycling OR Swimming OR Play OR Playing OR playground OR playgroup OR Leisure OR Sport OR Active “life style” OR Active AND transport OR Active AND transportation OR Active AND travel OR Active AND commuting OR Active AND school).ti,ab [Limit to: Publication Year 2009-2010]
5. (sedentary AND behavior OR sedentary AND behaviour).ti,ab [Limit to: Publication Year 2009-2010]
6. (TV OR Television OR Media).ti,ab [Limit to: Publication Year 2009-2010]
7. (Nutrition AND Program* OR School AND meal* OR Fresh AND food AND program* OR "5 a day" OR Dietary AND behavior AND change OR dietary AND behaviour AND change OR Healthy AND diet* OR healthy AND eating OR healthy AND habit* OR Weight AND maintenance).ti,ab [Limit to: Publication Year 2009-2010]
8. (School OR Community OR Home OR Family OR Neighborhood OR neighbourhood OR "Day care centre" OR "day care center" OR "after school" OR preschool OR nursery OR elementary OR kindergarten).ti,ab [Limit to: Publication Year 2009-2010]
9. (Intervention OR Promotion OR Program* OR Scheme OR Strategy OR Service OR Campaign).ti,ab [Limit to: Publication Year 2009-2010]
10. 4 OR 5 OR 6 OR 7 OR 8 OR 9[Limit to: Publication Year 2009-2010]
11. Systematic AND review OR meta AND analysis OR meta AND analyses).ti,ab
12. 3 AND 10 AND 11[Limit to: Publication Year 2009-2010]

Results: 0

CERUKplus
For this database, the searches were conducted using limits for "Systematic Reviews" and "Current Research".
1. Child health (thesaurus)
Results: 4(1)
2. Obesity (thesaurus)
Results: 4(0)

CINAHL (EBSCOHost at Durham University)
Cochrane Library (includes Database of Systematic Reviews, DARE, and NHS EED)

Results: 16

1. Obesity OR Obese OR Overweight OR “Over weight” OR Body mass OR body fat OR body fatness OR body weight* OR Healthy weight OR Anthropo* OR BMI OR Height and weight OR Adipos*
2. Child OR Children OR Childhood OR Infant OR Toddler OR Baby OR “Under 5” OR “Under 5s” OR School age OR Youth OR Youngster OR Young AND person OR Young AND people OR Young AND adult OR Teen OR Teenager OR Adolescen* OR Preadolescen* OR Early adolescence OR Under 18 OR Under 18s OR Primary AND school OR Secondary AND school OR Nursery AND school OR Pre-school OR preschool OR elementary OR Kindergarten OR Pediatric OR Paediatric
3. #1 AND #2
4. Physical activity OR Physical fitness OR Physical Education OR Exercise OR Walking OR Pedometer OR bicycle OR cycling OR Swimming OR Play OR Playing OR playground OR playgroup OR Leisure OR Sport OR Active “life style” OR Active transport OR Active transportation OR Active travel OR Active commuting OR Active school
5. sedentary behavior OR sedentary behaviour
6. TV OR Television OR Media
7. Nutrition Program* OR School meal* OR Fresh food program* OR “5 a day” OR Dietary behavior change OR dietary behaviour change OR Healthy diet* OR healthy eating OR healthy habit* OR Weight maintenance OR weight management
8. Intervention OR Promotion OR Program* OR Scheme OR Strategy OR Service OR Campaign OR prevent*
9. #4 OR #5 OR #6 OR #7 OR #8 OR #9
10. Systematic* review OR meta analysis OR meta analyses

Results: 48 CDSR, 4 DARE, 1 NHS EED

**Database of Promoting Health Effectiveness Reviews (DoPHER) (EPPI-Centre)**

Using the Keyword/Categorical search. Limits by year cannot be applied so results in bracket are the number of full results returned (all years available).
1. Focus of the report: obesity OR healthy eating OR physical activity
2. Characteristics of the study population: children OR young people
3. 1 AND 2
4. Intervention site(s): community site OR day care centre OR educational institution OR home OR mass media OR preschool OR primary education OR secondary education
5. Type(s) of intervention: intervention type unspecified OR activity OR advice OR education OR parent training OR social support
6. 4 OR 5
7. What type of study does this report describe?: systematic review OR meta analysis
8. 3 AND 6 AND 7

Results: 21 (1)

**Education Resources Information Center (ERIC)**

1. Obesity OR Obese OR Overweight OR Over w weight OR Body w mass OR Body w fat OR body w fatness OR Healthy w weight OR Anthropo* OR BMI OR Height and weight OR Adipos*
2. Child OR Children OR Childhood OR Infant OR Toddler OR Baby OR Under w 5 OR Under w 5s OR School w age OR Youth OR Youngster OR Young w person OR Young w people OR Young w adult OR Teen OR Teenager OR Adolescen* OR Preadolescen* OR Early w adolescence OR Under w 18 OR Under w 18s OR Primary w school OR Secondary w school OR Nursery w school OR school OR preschool OR preschool OR Elementary OR Kindergarten OR paediatric OR pediatric
3. #1 AND #2
4. Physical w activity OR Physical w fitness OR Physical w Education OR Exercise OR Walking OR Pedometer OR bicycle OR cycling OR Swimming OR Play OR Playing OR playground OR playgroup OR Leisure OR Sport OR Active w travel OR Active w lifestyle OR Active w life w style
5. TV OR Television OR Media
6. Nutrition w Program OR School w nutrition w program OR School w meal* OR Healthy w eating OR Eating w habit* OR Fresh w food w program* OR 5 w a w day OR Dietary w behaviour w change OR Dietary w behavior w change OR Healthy w diet OR Weight w maintenance
7. Sedentary w behaviour OR Sedentary w behaviour
8. School OR Community OR Home OR Family OR Neighbourhood OR Neighborhood OR Day w care w centre OR day w care w center OR after w school OR preschool OR nursery OR elementary OR kindergarten
9. Intervention OR Promotion OR Program OR Scheme OR Strategy OR Service OR Campaign
10. #4 OR #5 OR #6 OR #7 OR #8 OR #9
11. Systematic* review OR meta analysis OR meta analyses
12. #3 AND #10 AND #11

Results: 0

**Embase (National Library for Health)**

1. (Obesity OR Obese OR Overweight OR "Over weight" OR Body AND mass OR body AND fat OR body AND fatness OR body AND weight*OR AND Healthy AND weight OR Anthropo* OR BMI OR Height AND weight OR Adipos*).ti,ab [Limit to: Publication Year 2009-2010]
2. (Child OR Children OR Childhood OR Infant OR Toddler OR Baby OR "Under 5" OR "Under 5s" OR School AND age OR Youth OR Youngster OR Young AND person OR Young AND people OR
Young AND adult OR Teen OR Teenager OR Adolescen* OR Preadolescen* OR "Early adolescence" OR "Under 18" OR "Under 18s" OR Primary AND school OR Secondary AND school OR Nursery AND school OR Pre-school OR preschool OR Elementary OR Kindergarten OR paediatric OR pediatric).ti,ab [Limit to: Publication Year 2009-2010]
3. 1 AND 2 [Limit to: Publication Year 2009-2010]
4. (Physical AND activity OR Physical AND fitness OR Physical AND Education OR Exercise OR Walking OR Pedometer OR bicycle OR cycling OR Swimming OR Play OR Playing OR playground OR playgroup OR Leisure OR Sport OR Active AND "life style" OR (Active AND (transport OR transportation OR travel OR commuting OR school))).ti,ab [Limit to: Publication Year 2009-2010]
5. (sedentary AND behavior OR sedentary AND behaviour).ti,ab [Limit to: Publication Year 2009-2010]
6. (TV OR Television OR Media).ti,ab [Limit to: Publication Year 2009-2010]
7. (Nutrition AND Program* OR School AND meal* OR Fresh AND food AND program* OR "5 a day" OR Dietary AND behavior AND change OR dietary AND behaviour AND change OR Healthy AND diet* OR healthy AND eating OR healthy AND habit* OR Weight AND maintenance).ti,ab [Limit to: Publication Year 2009-2010]
8. (School OR Community OR Home OR Family OR Neighborhood OR neighbourhood OR "Day care centre" OR "day care center" OR "after school" OR preschool OR nursery OR elementary OR kindergarten).ti,ab [Limit to: Publication Year 2009-2010]
9. (Intervention OR Promotion OR Program* OR Scheme OR Strategy OR Service OR Campaign).ti,ab [Limit to: Publication Year 2009-2010]
10. 4 OR 5 OR 6 OR 7 OR 8 OR 9[Limit to: Publication Year 2009-2010]
11. Systematic* AND review OR meta AND analysis OR meta AND analyses).ti,ab
12. 3 AND 10 AND 11[Limit to: Publication Year 2009-2010]

Results: 0

Health Management Information Consortium (HMIC) (National Library for Health)

1. (Obesity OR Obese OR Overweight OR "Over weight" OR Body AND mass OR body AND fat OR body AND fatness OR body AND weight*OR AND Healthy AND weight OR Anthropo* OR BMI OR Height AND weight OR Adipos*).ti,ab [Limit to: Publication Year 2009-2010]
2. (Child OR Children OR Childhood OR Infant OR Toddler OR Baby OR "Under 5" OR "Under 5s" OR School AND age OR Youth OR Youngster OR Young AND person OR Young AND people OR Young AND adult OR Teen OR Teenager OR Adolescen* OR Preadolescen* OR "Early adolescence" OR "Under 18" OR "Under 18s" OR Primary AND school OR Secondary AND school OR Nursery AND school OR Pre-school OR preschool OR Elementary OR Kindergarten OR paediatric OR pediatric).ti,ab [Limit to: Publication Year 2009-2010]
3. 1 AND 2 [Limit to: Publication Year 2009-2010]
4. (Physical AND activity OR Physical AND fitness OR Physical AND Education OR Exercise OR Walking OR Pedometer OR bicycle OR cycling OR Swimming OR Play OR Playing OR playground OR playgroup OR Leisure OR Sport OR Active AND "life style" OR Active AND transport OR Active AND transportation OR Active AND travel OR Active AND commuting OR Active AND school).ti,ab [Limit to: Publication Year 2009-2010]
5. (sedentary AND behavior OR sedentary AND behaviour).ti,ab [Limit to: Publication Year 2009-2010]
6. (TV OR Television OR Media).ti,ab [Limit to: Publication Year 2009-2010]
7. (Nutrition AND Program* OR School AND meal* OR Fresh AND food AND program* OR "5 a day" OR Dietary AND behavior AND change OR dietary AND behaviour AND change OR Healthy AND diet* OR healthy AND eating OR healthy AND habit* OR Weight AND maintenance).ti,ab [Limit to: Publication Year 2009-2010]
8. (School OR Community OR Home OR Family OR Neighborhood OR neighbourhood OR "Day care centre" OR "day care center" OR "after school" OR preschool OR nursery OR elementary OR kindergarten).ti,ab [Limit to: Publication Year 2009-2010]
9. (Intervention OR Promotion OR Program* OR Scheme OR Strategy OR Service OR Campaign).ti,ab [Limit to: Publication Year 2009-2010]
10. 4 OR 5 OR 6 OR 7 OR 8 OR 9[Limit to: Publication Year 2009-2010]
11. Systematic* AND review OR meta AND analysis OR meta AND analyses).ti,ab
12. 3 AND 10 AND 11[Limit to: Publication Year 2009-2010]

Results: 0
(child OR childhood OR young) AND (obesity OR overweight)

**Results:** 13

**PubMed**

#1 Obesity OR Obese OR Overweight OR “Over weight” OR Body mass OR body fat OR body fatness OR body weight* OR Healthy weight OR Anthropo* OR BMI OR Height and weight OR Adipos*

#2 Child OR Children OR Childhood OR Infant OR Toddler OR Baby OR “Under 5” OR “Under 5s” OR School age OR Youth OR Youngster OR Young person OR Young people OR Young adult OR Teen OR Teenager OR Adolescen* OR Preadolescen* OR “Early adolescence” OR “Under 18” OR “Under 18s” OR Primary school OR Secondary school OR Nursery school OR Pre-school OR preschool OR Elementary OR Kindergarten OR paediatric OR pediatric

#3 #1 AND #2

#4 Physical activity OR Physical fitness OR Physical Education OR Exercise OR Walking OR Pedometer OR bicycle OR cycling OR Swimming OR Play OR Playing OR playground OR playgroup OR Leisure OR Sport OR Active “life style” OR Active transport OR Active transportation OR Active travel OR Active commuting OR Active school

#5 sedentary behavior OR sedentary behaviour

#6 TV OR Television OR Media

#7 Nutrition Program* OR School meal* OR Fresh food program* OR “5 a day” OR Dietary behavior change OR dietary behaviour change OR Healthy diet* OR healthy eating OR healthy habit* OR Weight maintenance OR weight management

#8 Intervention OR Promotion OR Program* OR Scheme OR Strategy OR Service OR Campaign OR prevent*

#9 #4 OR #5 OR #6 OR #7 OR #8

#10 Systematic* review OR meta analysis OR meta analyses

#11 #3 AND #9 AND #10

#12 (#4 OR #5 OR #6 OR #7 OR #8) AND (#11)

**Results:** 101

**Web of Science**

Limited to 2009-2010

1. Topic= (Obes* OR Overweight OR Body mass OR Body fat* OR Healthy weight OR Anthropo* OR BMI OR Height and weight OR Adipos*)

2. Topic=(Child* OR Infant OR Toddler OR School age OR Youth OR Young person OR Young people OR Young adult OR Teen* OR Adolescen* OR Preadolescen* OR Primary school OR Secondary school OR Nursery school OR preschool OR elementary OR Kindergarten)

3. #1 AND #2

4. Topic = (Physical activity OR Physical fitness OR Physical Education OR Exercise OR Walking OR Pedometer OR bicycle OR cycling OR Swimming OR Play OR Playing OR playground OR playgroup OR Leisure OR Sport OR Active “life style” OR Active transport OR Active transportation OR Active travel OR Active commuting OR Active school)
Results: 144

**Guidance & toolkits**

The following are guidance, toolkits, and other key documents published since our last evidence update on obesity in April 2009. Where we can, a link to the full-text is provided.

This list of evidence will be reviewed and updated on an annual basis.

1. **BMJ Learning (2009).** Childhood obesity: a guide to diagnosis, management and prevention.* [full text]

2. **Department of Health (2009).** Healthy Child Programme: from 5 to 19 years old. [full text]

3. **Department of Health (2009).** Healthy Child Programme: pregnancy and the first five years of life. [full text]

4. **Department of Health (2009).** Healthy Child Programme: the two year review. [full text]

5. **Department of Health (2010).** Healthy weight, healthy lives: Change4Life one year on. [full text]

6. **Department of Health (2010).** Healthy weight, healthy lives: two years on. [full text]

7. **Department of Health (2010).** The third evaluation of the school fruit and vegetable scheme. [full text]


10. **National Institute for Clinical Health and Excellence (expected July 2010).** Weight management in pregnancy and after childbirth. [full text draft guidance]

11. **National Obesity Observatory (2010).** Key data briefings. [full text]

12. **National Obesity Observatory (2009).** Preventing childhood obesity through lifestyle change interventions. A briefing paper for commissioners. [full text]

Surveillance

The following papers have been selected by experts in the field of Obesity and cover the surveillance aspect of childhood obesity. Abstracts are linked via PubMed and a link to the full-text is provided where available.

This list of evidence will be reviewed and updated on an annual basis.


Prevention

The following papers have been selected by experts in the field of Obesity focussing on preventative measures. Abstracts are linked via PubMed and when available, a link to the full-text is provided.

This list of evidence will be reviewed and updated on an annual basis.


