Preventing overweight and obesity – Interventions guide

Tool **16**

The information contained in this tool is a guide only and not a recommendation of what should definitely be included in a local overweight and obesity action plan. Local plans must reflect the needs of the local population and there is no one solution for all PCTs.

Source: Adapted from *Tackling obesity: a toolkit for local partnership action*, by A Maryon-Davis, A Giles and R Rona[1] and the NICE guideline on obesity.[2]

D

Resources

ACTION	INTERVENTION	PARTNERS	NICE REVIEW OF EVIDENCE
COMMUNITY			
Healthy eating			
Healthy eating campaigns	• Giving clear and simple healthy eating messages, building on existing campaigns such as 5 A DAY. • Simplifying what a portion of fruit and vegetables means for adults and children, for example using 'a handful'. • Evidence-based awareness-raising among parents of early years children, including the promotion of breastfeeding. • Evidence-based campaigns to encourage parents to make healthy choices for themselves and their children. • Messages to be delivered across the public sector and beyond, for example in schools and the workplace, through health professionals, and through wellbeing support programmes for people with severe mental illness.	• Creative media • Food industry • Consumer groups • Health professionals • Communities • A range of government departments	Interventions can result in improvements in various dietary outcomes, including a decrease in high fat consumption, an increase in fruit and vegetable intake, and a decrease in fried foods and snacking. For example: • The BBC's Fighting Fat, Fighting Fit campaign demonstrated statistically significant improvements in diet five months after the campaign in a random survey of people who registered for more information. Significant improvements were reported in fruit and vegetable intake, with a 13% increase in respondents eating the recommended five portions a day. There was also a 16% increase in participants eating fried food less than once a week. Significant improvements were also observed in consumption of fat spreads, consumption of lower fat milk, removal of fat from meat, snacking and consumption of starch-based meals. [3, 4] • One-year follow-up of the Department of Health's community-based 5 A DAY pilot projects demonstrated that the intervention had stemmed a fall in fruit and vegetable intake against the national trend. Overall the intervention had a positive effect on people with the lowest intakes. Those who ate fewer than five portions a day at baseline increased their intake by one portion over the course of the study. In contrast, those who ate five or more portions a day at baseline decreased intakes by about one portion per day.[5]

Continued on next page

			• A review by the Food Safety Promotion Board in Ireland reported that social marketing interventions were strongly and equally effective at influencing behaviour, knowledge and psychosocial variables such as self-efficacy, attitudes and perceptions of the benefits of eating more healthily. Social marketing interventions appeared to be moderately effective at influencing stage of change in relation to diet, and to have a more limited effect on diet-related physiological outcomes such as blood pressure, body mass index and cholesterol.[6]
Strategies to minimise barriers to healthy eating by improving availability and access	Making it easier for people, particularly those without the use of a car, to access affordable and healthy food is crucial in promoting healthy eating. Those involved in delivering health improvements should work with local transport authorities on producing accessibility strategies for their area.	• Local health commissioners • Local transport authorities • Health promotion specialists • Community groups • Local media • Local food retailers • Local restaurants and cafeterias • Local employers and businesses	Studies that looked at the effect of the opening of a supermarket in a deprived, poor-retail-access community in Leeds found that participants who switched to the new store increased their consumption of fruit and vegetables by 0.23 portions per day. The findings suggest that fundamental issues around cost, availability and taste are key considerations for future interventions. Twenty-eight per cent of those who did not switch to the new store were concerned about the expense. This was backed-up by qualitative work which found that, although the stores improved physical access, this did not fundamentally alter economic access.[7, 8]

Continued on next page

Healthy eating group work targeted at higher risk or disadvantaged groups	Specific action in each area will depend on local priorities, but might include initiatives such as boosting sales of fruit and vegetables through local retailers, food growing schemes, cooking skills development, food co-operatives and community lunches. Neighbourhood Renewal initiatives and programmes such as New Deal for Communities and Neighbourhood Management initiatives have an emphasis on partnership working and community involvement.	• Lay community leaders • Voluntary organisations • Health promotion specialists • Dietitians • Regeneration workers • Local retailers • Community groups	
Advocacy of nutritional policies at national and international level conducive to healthy eating	Lobbying of MPs, MEPs, ministers, commissioners and the Food Standards Agency regarding: • simplifying nutrition labelling • increasing the availability of healthier foods (including reducing the levels of salt, added sugars and fat in prepared and processed food and drinks, and increasing access to fruit and vegetables) • reversing the trend towards bigger portion sizes • adopting consistent and clear standards for information on food, including signposting • the promotion of healthy food to children • the promotion of healthy agricultural policy.	• Local health commissioners • Local authorities • Other local partner agencies • Local health networks • Local MPs and MEPs	
Physical activity			
Physical activity and fitness campaigns	Ensuring that everyone has the information they need to understand: • the links between activity and better health • the importance of achieving 30 minutes' moderate activity on at least five days of the week (for adults), and • where the opportunities exist in daily life to be active.	• Local and national media • Health promotion specialists • Leisure centre staff • Local employers and businesses • Voluntary groups • GPs and practice nurses • Sports clubs • Regeneration organisations and community groups	• The BBC's Fighting Fat, Fighting Fit campaign showed significant improvements in physical activity: overall 39% of the full sample and 74% of completers increased their activity levels and the proportion undertaking regular moderate exercise increased from 29% to 45% (from 29% to 60% for completers only).[3] • The US-based VERB campaign which aims to increase awareness of physical activity among 9-13 year olds, found that levels of activity increased in line with awareness of the campaign. Those 9-10 year olds who were aware of the campaign engaged in 34% more free-time physical activity sessions per week than those who were unaware. However, no overall effect

Continued on next page

			on free-time physical activity sessions was detected at the population level. Furthermore, 90% of children who were aware of VERB also demonstrated understanding of the messages. A significant positive relation was detected between the level of awareness of VERB and weekly average sessions of free-time physical activity.[9] • The Australian Walk Safely To School Day attributed a relative, short-term increase of 31% of children walking to school to the campaign; on a population level this equates to a 6.8% increase in walking to school.[10, 11]
Building more active communities	Providing a wide range of physical activity and sporting opportunities within the local community, close to where people live, together with creating cleaner, safer and more activity-friendly local environments will be at the heart of building more active communities. For example, the Local Exercise Action Pilots (LEAP) are evaluating a range of community approaches that aim to increase levels of activity across the community as a whole, as well as targeted work with specific groups such as older people and children. The pilots are being led by PCTs, who are working in innovative ways with many different partners such as leisure and social services and a range of voluntary organisations. The national evaluation will identify the most effective approaches, share best practice and make recommendations to inform future investment.	• Local authority planners • Leisure providers • PCTs • Regeneration organisations • Community and voluntary groups	
Local transport policies which encourage walking and cycling	Whole-town approaches to shifting travel from cars to walking, cycling and public transport built upon the evaluation of Sustainable Travel Towns pilots. Initiatives may include: • promotion of professional training for cycling and walking • upgrading of cycle-parking facilities • provision of safe, high-quality walking and cycling infrastructure • better street lighting • crossings for pedestrians and cyclists • new cycle lanes and cycle tracks.	• Local authority planners • Local transport providers	A systematic review of active travel versus car travel concluded that targeted behavioural change programmes with tailored advice can improve the travel behaviour of motivated subgroups (the largest study showing a 5% shift to active travel).[12]

Continued on next page

Other local planning to encourage physical activity	• Working to ensure everyone has access to well-maintained, safe, attractive, affordable leisure and sports facilities, playgrounds, parks and the countryside. • Promoting the links between well-planned, designed, managed and maintained streets, open spaces and buildings and opportunities for activity. • The Cleaner, Safer, Greener Communities programme engages local people in decisions about the services they get, empowers them to trigger action, makes service providers responsive to their needs and gives opportunities to drive improvements to local neighbourhoods. • Building partnerships with local planning authorities to meet the needs of local communities by providing new sporting facilities where they are needed and protecting existing ones unless they are in surplus.	• Local authority planners • Voluntary organisations • Regeneration organisations	A systematic review (of all US-based studies of varying designs) found strong evidence that the creation of space or enhanced access to places for physical activity combined with informational outreach activities is effective in increasing physical activity levels. Interventions increased the frequency of activity by between 21% and 84%. Interventions included access to fitness equipment, access to community centres and creation of walking trails.[13]
HOME (Pre-school)			
Advice about infant feeding and healthy eating for young families	• Awareness-raising among parents of early-years children about healthy choices, including the promotion of breastfeeding for the first six months of life. • Promotion of the National Breastfeeding Awareness Week. • Promotion of the Healthy Start scheme (which has replaced the Welfare Food Scheme). • Lobbying for an amendment to the EU Directive to restrict advertising of infant follow-on formula. • Encouraging parents to make healthy choices for themselves and their children.	• Infant feeding advisers • Health visitors • GPs • Local community groups • Local media • Voluntary organisations	A US-based study reported that a parent education programme focusing on nutrition-related behaviour resulted in the intervention group consuming significantly more fruits, vitamin-C-rich fruits, green vegetables, breads, rice/pasta and orange vegetables than the control group.[14] Another study reported that attending educational sessions significantly improved the frequency of parents offering their child water.[15] Furthermore, a systematic review reported beneficial effects on the nutritional content of day-care menus.[16]
Promotion of active lifestyles	• Provision of 'positive parenting' advice or classes. • Encouraging parents to engage in active play with their children and reduce sedentary behaviour. • Provision of safe play areas. • Training for childcare providers around active play.	• Parents • Early years providers • Health visitors • GPs • Caterers • Local media • Voluntary organisations	The UK-based MAGIC (Movement and Activity Glasgow Intervention in Children) pilot study reported that a nursery-based structured physical activity programme resulted in a significant improvement in children's physical activity levels. One study reported that attending educational sessions significantly improved the frequency of parents engaging in active play with their child.[15] A UK-based study was successful in significantly reducing television-viewing (the primary aim of the study) but did not show significant improvements in snacking or watching television during dinner.[17]

Continued on next page

SCHOOL			
Healthy eating			
Providing a whole-school health-promoting environment	• Promoting the National Healthy Schools Programme • Related policies in place. • A whole-school health-promoting environment. • The role of school nurses is being expanded and developed to help build public health expertise within schools and provide individual children, young people and families with access to individual support and advice to prevent obesity and promote healthier eating.	• Head teachers • School governors • Class teachers • School nurses • Caterers • Parents and pupils	One study reported that 7-11 year old children in schools adopting a whole-school approach were consuming significantly more vegetables at one-year follow-up.[18] Another multicomponent intervention study reported that 5-7 year old children in the intervention group consumed significantly more vegetables and fruit (girls only).[19] The two-year Planet Health programme among US 12 year olds – promoting physical activity, improved diet and reduction of sedentary behaviours (with a strong emphasis on reducing television-viewing) – resulted in a reduction in the prevalence of obesity in intervention girls (but not boys) compared with controls.[20, 21]
Teaching healthy eating	The Food in Schools programme (www.foodinschools.org) helps schools become healthy schools by promoting good practice throughout the school day in healthier breakfast clubs, tuck shops, lunch boxes, vending machines and cookery clubs, as well as through water provision, growing clubs and the dining room environment. There are many opportunities for promoting healthy eating throughout the National Curriculum including: • Design and Technology/Food Technology • Science • Personal, Social and Health Education • DfES Growing Schools programme – using the 'outdoor classroom' with an emphasis on fruit and vegetable growing and farming.	• Head teachers • School governors • Class teachers • Parents and pupils	A review of five UK school-based interventions concluded that all five interventions considered (fruit tuck shops, CD-ROM, art/play therapy, whole-school approach and a family-centred school-based activity) have the potential to be incorporated into a health-promoting school approach and could be more effective than stand-alone interventions. The authors highlighted the importance of actively engaging schools for the success of the intervention.[22]

Continued on next page

Teaching healthy cooking skills	• Making available slots for teaching healthy cooking skills. • Food in Schools programme.	• Head teachers • School governors • Class teachers • Parents and pupils	
Providing healthy school meals	• Nutritional standards for school meals provide minimum requirements for the main food groups. For nutrient-based standards see *Eating well at school*, a report by the Caroline Walker Trust and the National Heart Forum.[23] • School nutrition policy in place. • Healthy catering guidelines written into catering contract. • The School Fruit and Vegetable Scheme (SFVS), which forms part of the 5 A DAY programme, provides 4-6 year olds in participating LEA-maintained infant, primary and special schools in England with a free piece of fruit or vegetable each school day. • School milk subsidy scheme. • Free school meals. • Breakfast clubs. • Extended schools.	• Head teachers • School governors • Class teachers • Caterers • Parents and pupils	Three large-scale interventions aimed to modify school lunch provision: one significantly reduced children's total energy and fat intake; [24] one reduced children's fat intake but not total energy intake in school lunch observations;[25] and the last showed no difference in fat intake.[26] One additional study within the fruit and vegetable intervention review showed that reducing relative prices on low-fat snacks was effective in promoting lower-fat snack purchases from vending machines in adolescents over one year. [27] Analysis of the UK National School Fruit Scheme (now known as the School Fruit and Vegetable Scheme or SFVS) showed that 4-6 year old children receiving school fruit had a significantly higher daily intake than controls (117g/day compared to 67g/day, respectively) but this difference was not maintained two years after the intervention when free fruit was no longer available.[28]

Continued on next page

Physical activity			
Encouraging uptake of physical activity and sports	PE and school sport is an entitlement for all pupils whatever their own particular needs, preference or circumstances and is not limited to traditional team games which may not encourage an active lifestyle in some. Recent findings suggest that outdoor play makes a major contribution to children's overall level of physical activity. The national PE, School Sport and Club Links strategy has set ambitious targets to increase the amount of physical education and sport young people do. It is also helping bridge the gaps between school and community sport and opening up schools out of hours to provide additional sports opportunities for all children. A new national standard has been set for cycle training for children across England.	• PE teachers • Head teachers • School governors • Parents • Leisure services	• *Active play:* A 12-week, US-based intervention promoting active play supplementary to usual PE among 9-year-olds showed significant improvements in the intervention children compared with the controls, particularly among girls.[29] Another study reported that a small intervention over 14 months resulted in 5-7-year-old children in the intervention group being more active in the playground than the control group children.[19] • *PE classes:* One study reported significant increases in moderate physical activity among female adolescents, particularly 'lifestyle' activity, at four-month follow-up, following the promotion of 60-minute PE classes five days a week and associated education classes.[30]
Promoting active travel plans	The government's Travelling to School action plan outlines a series of measures for national and local government and for schools to promote more walking, cycling and bus use on the journey to and from school. School travel plans will set out measures to make walking, cycling and bus use safe and attractive alternatives for the journey to school. By 2010 all schools should have active travel plans.	• Parents • Pupils • Teachers • Head teachers • School governors • Local authorities	There is good corroborative evidence from the UK that 'safer routes to school' schemes can be effective.[31] A series of studies found that, when both school travel plans and safer routes to school programmes were in place, there was a 3% increase in walking, a 4% reduction in single-occupancy car use and a 1.5% increase in car sharing. Bus and cycle use remained largely static.[32] Conversely, a selected series of case studies found an overall increase in cycle use and a decrease in car travel whereas the effects on walking and bus travel were variable.[33] Another scheme also found a considerable increase in walking and cycling to and from school three years after the intervention.[34]

Continued on next page

Assessment			
Identifying children who are overweight	BMI measurement of school children by school nurses: • The Department of Health has developed guidance for PCTs on how to measure the height and weight of children aged between 4 and 11 years. All children in the Reception Year (ages 4-5 years) and Year 6 (ages 10-11 years) will be measured on an annual basis. The guidance is available at www.dh.gov.uk/obesity	• School nurses • Head teachers • Parents • School governors • Community trusts • GPs • Practice nurses • Health visitors	
WORKPLACE			
Encouraging increased physical activity	Employers, the government and trade unions all have a role to play in establishing environments that support healthy choices across a range of behaviours including better diet and increasing physical activity. Relatively low-cost, simple solutions have the potential to make a big difference – for example: in-house policies that encourage employees to integrate activity into their lives through flexible working practices; designing buildings to promote active choices such as the provision of secure cycle racks and showers; providing information on local facilities and walking maps; and simple changes such as signage to suggest using the stairs rather than the lift.	• Employers • Employees • Health promotion specialist support • Dietitians • Occupational therapist	A systematic review concluded that the use of workplace-based educational sessions and informative materials had significant effects on levels of physical activity.[35] Results from a systematic review support the implementation of worksite physical activity programmes.[36] The overall conclusion was that there was strong evidence for a positive effect of physical activity programmes on physical activity.
Active travel plans	• User-friendly implementation guidance on the tax-efficient Cycle to Work scheme has been developed and will increase the use of the scheme and promote cycling. • Walking and cycling travel plans will be developed to promote cycling and walking levels for journeys to work.	• Employees • Employers • Planners • Local businesses	There is evidence from a UK-based study[37] and a Finnish-based study[38] that workplace promotional strategies can increase the number of people travelling actively to work.
Encouraging a healthy diet	• Healthy options in staff canteens. • Promoting sustainable food procurement.	• Employees • Employers • Local businesses	• *Healthier food provision:* One systematic review concluded that worksite intervention studies targeting healthier food provision by information strategies such as labelling and/or changes in food availability or cost can encourage healthier eating.[39] • *Incentives:* One study concluded that, when prices of low-fat snacks in 55 vending machines were reduced by 10%, 25% and 50%, the total number of items sold increased by 9%, 39% and 93%, respectively.[40]

References

1 Maryon-Davis A, Giles A, Rona R (2000) *Tackling obesity: a toolkit for local partnership action*. London: Faculty of Public Health

2 National Institute for Health and Clinical Excellence (NICE) (2006) *Obesity: the prevention, identification, assessment and management of overweight and obesity in adults and children*. London: NICE. www.nice.org.uk/guidance/CG43

3 Wardle J, Rapoport L, Miles A et al (2001) Mass education for obesity prevention: the penetration of the BBC's 'Fighting Fat, Fighting Fit' campaign. *Health Education Research;* 16: 343-55

4 Miles A, Rapoport L, Wardle J et al (2001) Using the mass media to target obesity: an analysis of the characteristics and reported behaviour change of participants in the BBC's 'Fighting Fat, Fighting Fit' campaign. *Health Education Research;* 16: 357-72

5 Department of Health (2003) *Five-a-day pilot initiatives: Executive summary of the pilot initiatives evaluation study*. London: Department of Health

6 McDermott L (2006) Unpublished data.

7 Wrigley N, Warm D, Margetts B (2003) Deprivation, diet and food-retail access: findings from the Leeds 'food deserts' study. *Environment and Planning* A; 35: 151-88

8 Whelan A, Wrigley N, Warm D et al (2002) Life in a 'food desert'. *Urban Studies;* 39: 2083-100

9 Huhman M, Potter DL, Wong FL et al (2005) Effects of mass media campaign to increase physical activity among children: Year 1 results of the VERB campaign. *Pediatrics*; 116: 277-84

10 Merom D, Rissel C, Mahmic A, Bauman A (2005) Process evaluation of the New South Wales Walk Safely To School Day. *Health Promotion Journal of Australia;* 16: 100-06

11 Merom D, Bauman A, Vita P, Close G (2003) An environmental intervention to promote walking and cycling – The impact of a newly constructed Rail Trail in Western Sydney. *Preventive Medicine*; 36: 235-42

12 Ogilvie D, Egan M, Hamilton V, Petticrew M (2004) Promoting walking and cycling as an alternative to using cars: systematic review. *British Medical Journal*; 329: 763

13 Kahn EB, Ramsey LT, Brownson RC et al (2002) The effectiveness of interventions to increase physical activity. A systematic review. *American Journal of Preventive Medicine*; 22: 73-107

14 Koblinsky SA, Guthrie JL, Lynch L (1992) Evaluation of a Nutrition Education Program for Head Start Parents. *Society for Nutrition Education;* 24: 4-13

15 McGarvey E, Keller A, Forrester M et al (2004) Feasibility and benefits of a parent-focused preschool child obesity intervention. *American Journal of Public Health;* 94: 1490-95

16 Scottish Intercollegiate Guidelines Network (1996) *Obesity in Scotland: Integrating prevention with weight management.* Edinburgh: Scottish Intercollegiate Guidelines Network

17 Dennison BA, Russo TJ, Burdick PA, Jenkins PL (2004) An intervention to reduce television viewing by preschool children. *Archives of Pediatrics and Adolescent Medicine;* 158: 170-76

18 Sahota P, Rudolf MC, Dixey R et al (2001) Randomised controlled trial of primary school based intervention to reduce risk factors for obesity. *British Medical Journal;* 323: 1029-32

19 Warren JM, Henry CJ, Lightowler HJ et al (2003) Evaluation of a pilot school programme aimed at the prevention of obesity in children. *Health Promotion International*; 18: 287-96

20 Gortmaker SL, Peterson K, Wiecha J et al (1999) Reducing obesity via a school-based interdisciplinary intervention among youth: Planet Health. *Archives of Pediatrics and Adolescent Medicine;* 153: 409-18

21 Austin SB, Field AE, Wiecha J et al (2005) The impact of a school-based obesity prevention trial on disordered weight-control behaviors in early adolescent girls. *Archives of Pediatrics and Adolescent Medicine;* 159: 225-30

22 Woolfe J, Stockley L (2005) Nutrition health promotion in schools in the UK: Learning from Food Standards Agency funded schools research. *Health Education Journal;* 64: 218-28

23 Crawley H, on behalf of the Caroline Walker Trust and the National Heart Forum (2005) *Eating well at school. Nutritional and practical guidelines.* London: The Caroline Walker Trust

24 Luepker RV, Perry CL, McKinlay SM et al (1996) Outcomes of a field trial to improve children's dietary patterns and physical activity. The Child and Adolescent Trial for Cardiovascular Health. CATCH collaborative group. *Journal of the American Medical Association;* 275: 768-76

25 Caballero B, Clay T, Davis SM et al, Pathways Study Research Group (2003) Pathways: a school-based, randomized controlled trial for the prevention of obesity in American Indian schoolchildren. *American Journal of Clinical Nutrition;* 78: 1030-38

26 Donnelly JE, Jacobsen DJ, Whatley JE et al (1996) Nutrition and physical activity program to attenuate obesity and promote physical and metabolic fitness in elementary school children. *Obesity Research;* 4: 229-43

27 French SA, Wechsler H. (2004) School-based research and initiatives: fruit and vegetable environment, policy, and pricing workshop. *Preventive Medicine;* 39: S101-S107

28 Wells L, Nelson M (2005) The National School Fruit Scheme produces short-term but not longer-term increases in fruit consumption in primary school children. *British Journal of Nutrition*; 93: 537-42

29 Pangrazi RP, Beighle A, Vehige T, Vack C (2003) Impact of Promoting Lifestyle Activity for Youth (PLAY) on children's physical activity. *Journal of School Health;* 73: 317-21

30 Jamner MS, Spruijt-Metz D, Bassin S, Cooper DM (2004) A controlled evaluation of a school-based intervention to promote physical activity among sedentary adolescent females: project FAB. *Journal of Adolescent Health;* 34: 279-89

31 Rowland D, DiGiuseppi C, Gross M et al (2003) Randomised controlled trial of site specific advice on school travel patterns. *Archives of Disease in Childhood;* 88: 8-11

32 Parker J, Seddon J (2003) Back to school. *Surveyor*; 190: 14-6

33 Department for Environment, Transport and the Regions (2000) *School Travel Strategies and Plans: Case Study Reports*. London: DETR

34 Jones D (2001) Letting the kids decide. *Surveyor*; 188: 20-2

35 Janer G, Sala M, Kogevinas M (2002) Health promotion trials at worksites and risk factors for cancer. *Scandinavian Journal of Work, Environment and Health;* 28: 141-57

36 Proper KI, Koning M, Van der Beek AJ et al (2003) The effectiveness of worksite physical activity programs on physical activity, physical fitness, and health. *Clinical Journal of Sport Medicine;* 13: 106-17

37 Mutrie N (2002) 'Walk in to Work Out': A randomised controlled trial of a self help intervention to promote active commuting. *Journal of Epidemiology and Community Health*; 56: 407-12

38 Oja P, Paronen O, Manttari A et al (1991) Occurrence, effects and promotion of walking and cycling as forms of transportation during work commuting – a Finnish experience. Proceedings of the World Congress on Sport for All, 3-7 June 1990, Tampere, Finland

39 Seymour JD, Yaroch AL, Serdula M et al (2004) Impact of nutrition environmental interventions on point-of-purchase behavior in adults: A review. *Preventive Medicine*; 39: Supp 2: S108-S136

40 French SA, Jeffery RW, Story M et al (2001) Pricing and promotion effects on low-fat vending snack purchases: the CHIPS Study. *American Journal of Public Health;* 91: 112-17