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Learning from local authorities with downward trends in childhood obesity

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The main aim of this research was to investigate local authorities (LAs) in England who were identified to have significant downward trends in childhood obesity from 2006/07 to 2015/16, in order to identify common approaches or interventions that may have contributed to reductions in childhood obesity. Further aims were to highlight where future research would be beneficial to increase the evidence base for tackling childhood obesity and to inform and support LAs in their quest to reduce childhood obesity.

Methods

The researchers used data from a Public Health England (PHE) model for long-term trends (2006/07 to 2015/16) in childhood body-mass index (BMI) at the national and local authority level from National Child Measurement Programme (NCMP) data for boys and girls in reception and Year 6. LAs that had significant downward trends in BMI in at least 3 of the 4 cohorts (reception boys, reception girls, Year 6 boys, Year 6 girls) were identified and the Local Authority Director of Public Health or those responsible for the childhood obesity team were asked to participate. LAs with a significant downwards trends in the most deprived quintile in any of the 4 cohorts were also identified. Of these, 25 of 31 LAs agreed to participate.

Interviews were held by telephone using a standardised proforma by 2 researchers between October and December 2017. LAs were asked to agree on the record of the discussions. One LA (North Yorkshire) submitted the information via email without an interview. Common themes were identified using thematic analysis.

Results

Key themes identified through thematic analysis across the participating LAs included: valuation of the NCMP within the LA, linking local weight management programmes with the NCMP or schools, taking a whole systems approach, increasing parental engagement, having a published childhood obesity strategy, spatial planning, taking a whole schools approach, working with schools, broader partnerships, focus on food, active travel, intervention in the early years, increasing physical activity and linking obesity with mental health.

Conclusions

Although this research took place in 2017 it shows that LAs with small but significant downward 10-year trends in BMI z-score in children were using a highly diverse set of

approaches and initiatives to tackle childhood and all-age obesity. The most common approaches, reported by around three-quarters of LAs studied included 1) linkage across child and family weight management, the NCMP and schools; strong integration of the NCMP with elements of obesity prevention; 2) a focus on schools using in some instances 'whole school' approaches and 3) a strong focus on early years nutrition and exercise. Other common approaches reported by two-thirds of LAs included: 1) having an LA childhood obesity strategy and childhood obesity as a priority within the LA; 2) a focus on physical activity and 3) an openness to broader partnerships with other LAs and the third sector. Using a 'whole systems' approach was reported by just under half the LAs (48%).

The commonality of these approaches across LAs suggests that these may be important in preventing childhood obesity, however we note that the methods used do not allow the researchers to attribute causality. It is hoped that these findings serve to generate hypotheses about the approaches and interventions being used in LAs that are more successful in shifting the BMI distribution of their child populations and reducing childhood obesity, and therefore serve as the basis for future research.

Introduction

The Health and Social Care Act 2012 transferred responsibility for improving the health of local populations to Local Authorities (LAs) and it was implemented in 2013. Subsequently each Local Authority (LA) developed its own system for health protection, promotion and improvement.

The National Child Measurement Programme (NCMP) was instituted in 2006/07 to provide annual surveillance data on childhood obesity in England and is currently the responsibility of Public Health England (PHE). The NCMP annually provides high quality BMI data on all children in state-supported schools in England in reception (age 4-5 years) and Year 6 (age 10-11 years).

In 2017, PHE published data on long-run trends in BMI data by local authority from the NCMP from 2006/07 to 2015/16.[1] This provided the opportunity to take a positive deviance approach and examine interventions undertaken by LAs with downward trends in childhood BMI over the period. This report outlines findings from work undertaken to understand the strategies and approaches used by those LAs. Note that these strategies cannot be assumed to be related to the downward trends as the methods used cannot show causality nor even association. However, identification of work undertaken by LAs with downward trends provides the opportunity to generate hypotheses for further study.

Methods

The researchers used the 2017 PHE report on long-run trends in BMI from 2006/07 to 2015/16 local authority random effects from the national multilevel models for change in BMI z-score. These were used as the models accounted for clustering of children at the lower tier LA level. The PHE model identified national trends over the 10 years to be: 1) a significant upward overall trend in BMI z-score of 0.002 units of z-score per year in Year 6 girls; 2) a significant downward trend of 0.007 units of z-score per year in reception boys; and no significant trends that is a 'flat line' for BMI z-score trends in 3) reception girls and 4) Year 6 boys.

The data was used to identify LAs or lower tier LAs with a significant downward (negative) BMI z-score trend between 2006/07 and 2015/16 in each of the 4 cohorts; reception girls, reception boys, Year 6 girls and Year 6 boys. Note that for reception

[1] Copley VR, Bray CL. National Child Measurement Programme: Changes in children's body mass index between 2006/07 and 2015/16. London: Public Health England, 2017.

boys, given the overall downward national trend, this included a larger number of LAs. For all other cohorts, these groups were smaller as national trends were flat or increasing.

As each LA may have a different negative or non-negative trend in each of the 4 cohorts, the researchers elected to approach for inclusion in this study only those LAs with a negative BMI trend in 3 or more of the 4 cohorts. This was with the assumption that these LAs were those where it was most likely that these trends were real.

It is important to note that these downward trends were very small. The greatest annual local authority decrement in BMI z-score in reception boys was 0.06 z-score units with the greatest changes in other cohorts of a similar order, with the exception of Year 6 girls which was considerably smaller (0.02 z-score units per year). LAs included in this report had annual decrements between these levels and 0.0001 that is just significantly different to 0.

It is also important to note that the model from which the data was drawn took account of deprivation and ethnicity and of changes in deprivation and ethnic composition of LAs over the 10-year study period. This means that the resulting trends in BMI z-scores were not due to demographic change within the LA, for example 'gentrification'.

The LAs that were included are shown in Table 1, categorised by the number of cohorts with downward trends per local authority. The Table also shows those LAs that did not respond or withdrew from the study – these are shown with an asterisk.

Table 1: Local authorities included with downward trends in 3 or 4 of the 4 cohorts

Local Authority	Lower tier authority (where applicable)
LAs with a downward trend in all 4 cohorts	
1. Cambridgeshire	Cambridge
2. Cheshire East	
3. Hertfordshire	St Albans/Welwyn Hatfield
4. Lincolnshire***	West Lindsey
5. Nottinghamshire	Rushcliffe
6. Peterborough	
7. Portsmouth	
8. South Gloucestershire	
9. North Yorkshire	Scarborough
LAs with a downward trend in 3 of 4 cohorts	
10. Cambridgeshire	Fenland
11. Central Bedfordshire	
12. Coventry	
13. Derbyshire	South Derbyshire
14. Essex	Colchester/Harlow
15. Hertfordshire	Dacorum
16. Hounslow	
17. Luton	
18. Oxfordshire	West Oxfordshire
19. Redbridge	
20. Shropshire	
21. Somerset	Mendip
22. St Helens	
23. Surrey	Guildford/Woking
24. Wakefield	
25. West Sussex	Chichester/Horsham
26. Yorkshire East Riding	
27. Wirral*	
28. Thurrock*	
29. Rochdale*	
30. Kent*	Tonbridge/Malling*
31. Hampshire**	Gosport
32. North Yorkshire	Ryedale

*LAs not interviewed for this project
**Interviewed but data withdrawn
***Interviewed and included in thematic analysis but local practice example not published

The researchers also worked with PHE to re-run the long-run trend models for the most deprived children that is children in the lowest quintile of the Index of Multiple Deprivation (IMD), the standard measure of deprivation used in the NCMP. This was done in each of the 4 cohorts as above. The researchers identified few LAs with negative trends in reception and only 3 with downward trends in Year 6 in the most deprived quintile. Again, the actual yearly trends were very small, of a similar size to those noted above. Table 2 shows the LAs with a downward trend in at least 3 out of the 4 cohorts of children in the most deprived IMD quintile.

Table 2: Local authorities included with a downward trend in the most deprived quintile

Local Authority	Lower tier authority (where applicable)
33. Lewisham	
34. Lancashire*	Preston

*LAs not interviewed for this project

Note that there were 34 lower tier authorities across 31 LAs, as 3 LAs (Cambridgeshire, Hertfordshire and North Yorkshire) had more than one lower tier authority in our sample.

For each of the 31 LAs identified, the Director of Public Health or the most suitable member of the team, was approached by the researchers and asked to take part in a face-to-face or telephone interview. Of those who were asked 26 LAs agreed to participate and were interviewed between the 17th of October and the 6th of December 2017. All but 2 interviews were done by telephone; one was held in person and for the other questions were answered and sent to us by email. Follow-up emails and subsequent phone calls were made if there was further information to obtain. The researchers checked obtained data with the relevant LA team, if requested, to ensure accuracy.

One LA chose to withdraw their data before completion of the report leaving 25 interview transcripts as the final sample size for this study. Thematic analysis was done on 25 semi-structured interviews in January 2018. Local practice examples were completed for 24 LAs.

Results

Results from the 2017 interviews in the form of common themes are shown below. Appendix 1 summarises this information in a table. Supporting data including responses to the individual questions can be found in Appendix 2. Practice Examples for 24 of the LAs have also been published (see Appendix 3).

The researchers identified 13 common themes that characterised strategies used by LAs in this study. The themes are presented in order of commonality, placing first those occurring in the most LAs. This necessarily means that more systemic approaches (such as 'whole systems' approaches) are discussed after more discrete elements.

A. Engagement with and integration of the National Child Measurement Programme (NCMP)

The NCMP is a mandated service for LAs. The process of completing the NCMP and the subsequent follow-up letters to parents and referral process varied across participating LAs.

School nursing team
One common theme was the use of a School Nursing Team to undertake NCMP measurements, this occurred in 72% (18/25) of LAs. Many LAs had a childhood obesity lead within the School Nursing Team. Having a designated lead for childhood obesity was reported to be useful for following up and initiating contact after the first NCMP results letter was disseminated to parents. Attempting follow-up contact through additional letters, a telephone call or text messages were strategies reported to increase engagement with the local services initially signposted to within the first NCMP letter.

Twenty-four percent (6/25) of LAs mentioned the use of the School Nursing Team to follow up with phone contact as a result of the NCMP. Other LAs took a different approach; Oxfordshire for example, provided parents with the contact details for the School Health Nurse alongside an offer for an appointment, and it was the parent’s decision if they wished to make contact.

School feedback
Seventy-six percent (19/25) of LAs fed back the NCMP results to schools. How this feedback was provided on the other hand varied from three-year aggregated data (Central Bedfordshire and Surrey), to annual feedback (South Gloucestershire and Derbyshire) or in providing only whole school feedback as opposed to individual feedback (West Sussex). Redbridge printed results for individual schools and included deprivation information. Many of the LAs that were not providing NCMP feedback to schools said that they were interested in looking into this in the future.

Feedback to GPs

Few LAs fed back NCMP findings to GPs. Only 4 LAs (16%) provided feedback to GPs; other LAs provided only a proportion of information to GPs (for example Shropshire) and 1 LA provided information within a single district (Hertfordshire). Several LAs emphasised that GPs were aware of the issue and know all appropriate referral routes and pathways for children identified as very overweight or obese.

Methods of feedback

The PHE template for the NCMP feedback letter was the predominant method used to send NCMP results to parents; however, this was often amended to soften the language and include signposting for local services. In Hertfordshire, to reduce offence, local feedback was taken into consideration when adapting the letters. Portsmouth were about to undertake a small-scale study of one classroom within one school to explore how the children themselves feel about being weighed and measured. They also planned to table into account feedback from parents and teachers. Somerset had used a visual resource called the 'Map Me Tool' that allowed parents to see what a child looks like in each of the weight categories. This work was done as part of research by Newcastle University as many parents did not recognise that their child may be overweight.

Most LAs sent feedback letters only to parents of children identified as very overweight or obese; however, some LAs sent feedback to all children regardless of their weight category (for example Lewisham and Portsmouth).

Within Luton, there was a process whereby if parents of children identified as overweight or obese from the NCMP did not opt-out of a referral to weight management services (WMS) the WMS would attempt to contact parents through both a phone call, text and letter. Parents whose contact details had been checked to be correct and were still not responsive, had their child’s details and NCMP information forwarded to their GP with a recommendation that they were contacted to discuss the child’s weight. In addition, Luton had an NCMP working group which met on a 3-monthly basis.

Usefulness of NCMP data

Thirty-six percent (9/25) of LAs told us that the data generated from the NCMP was very useful. Coventry reported that the NCMP data was highly useful for creating an evidence base. The NCMP data was useful for monitoring trends over time and it was used strategically in Oxfordshire to monitor the prevalence of overweight and obesity. Luton responded that the NCMP data was extremely useful. The data obtained from the NCMP is the strongest in the world and cannot be questioned. They have high participation rates in the NCMP and used this data in reports and business plans to evidence the need for provision and investment. South Gloucestershire used this data to help inform the planning and delivery of interventions and making of commissioning decisions to tackle child obesity.

B. Working with schools and taking a 'whole schools' approach

Partnerships with schools
Almost all or 76% (19/25) of the LAs saw schools and partnerships with schools as an essential element of their approach to obesity.

The most common way LAs were doing this was through local Healthy Schools schemes, operative in 11 (42%) LAs (Peterborough, Derbyshire, Coventry, Wakefield, St Helens, Essex, Luton, South Gloucestershire, West Sussex, Lincolnshire and Lewisham). When the national healthy schools programme ended in 2011, several LAs continued it or instated a local version. Essex identified the use of a healthy schools scheme for more than 10 years as one reason for its success in tackling childhood obesity. Their scheme was well embedded, schools felt a sense of ownership and through their Healthy Schools Leads, were able to set their own priorities.

Other approaches included having physical activity and nutrition programmes delivered to schools or to targeted schools and working to make school meals healthier, as part of the Tier 1 offer. West Sussex school catering services reduced sugar in their school meals by over 2 kilograms per child across the school year. This work had reportedly won an award from PHE. Some LAs offered services tailored to individual schools, promoted school meals and delivered a healthy eating event for schools and students. In Yorkshire East Riding, a theatre put on a production to move primary school children from pre-contemplation to contemplation (in terms of theory of change) about health food choices and physical activity. This arose from discussions about where there were gaps in the council’s services.

Cambridgeshire and Peterborough commissioned the Soil Association’s Food for Life programme in about 30 primary schools, this takes a whole school approach to nutrition, education, working with children but also with the caterers. In Derbyshire, they reported transforming the whole school food culture by supporting schools to achieve the Food for Life school award and achieved a county-wide Food for Life Catering Market to provide healthy school meals, great lunch times and food education that had a positive impact on both pupils and the wider community. Food for Life in North Yorkshire supported schools to take a whole school approach that saw them grow their own food, organise trips to farms, provide cooking and growing clubs for pupils and their families.

West Sussex were working towards providing health-based workshops within primary schools, with an emphasis on healthy messages and education. Due to resource limitations, West Sussex reviewed what resources could be allocated to mirror what the school needed most. Within Essex, a School Meals Advisory Service had been implemented which was available to all schools. This provided a specialist team who looked at nutrition in schools’ menus.

LAs noted frequently that they did not have information about nor direct access to schools outside the LA's control for example academies, free school and children who are home schooled or not able to access these interventions.

Whole school approaches

Around a third of LAs, 33% (8/25), described taking a whole school approach or incorporated it as a focus within a larger whole systems approach. Although most of the LAs work was related to school food and physical activity and the extent to which these approaches were truly 'whole school' was unclear. A whole school approach is where schools take an organisational or whole systems approach with the aim of integrating health and well-being within the ethos, culture, routine life and core business of the school setting.

In St Helens, schools with high levels of obesity were targeted and a whole school approach award called the Chip Fryer award was being developed, based around physical activity and nutrition. A pilot was being run with 10 schools that hoped to increase collaboration by getting consistent healthy messages into schools, that are also promoted outside of schools. To receive the Chip Fryer award schools needed to sign up to the council's food and activity policy, which includes the Tasty Tuck award (healthy tuck shops). A Healthy Early Years award was also developed for early years settings, based on active play and messages on nutrition. St Helen's took this one step further, adapting and incorporating it to other areas of the community such as within childminders. This was described as useful in establishing healthy messages in the early years which are consistent to the messages children will then receive in school. Food for Life in North Yorkshire supported schools to take a whole school approach that saw them grow their own food, organise trips to farms, and provide cooking and growing clubs for pupils and their families.

C. Interventions in the early years

The majority of the LAs interviewed, 72% (18/25), were working on the early years in different ways as outlined below to combat obesity and promote healthy lifestyles. Key elements included:

Promoting and supporting breastfeeding

Eight LAs mentioned a focus on breastfeeding (Oxfordshire, St Helens, Luton, South Gloucestershire, Redbridge, Lewisham, Hounslow and Somerset). Additionally, several LAs had Baby Friendly Initiative recognition/ accreditation (Luton, Oxfordshire and Lewisham). In St Helen's, the midwives in the Healthy Living Team offered a seven-day service to provide breastfeeding support, and engaged in wards early on, which had increased initiation rates. They were also running a poster campaign to improve attitudes in teens regarding the choice to breastfeed. In Luton, the breastfeeding rates at 6-weeks had been consistently higher than the England average: an Infant Feeding Team provided information on breast feeding and supported mothers to establish

breastfeeding. They had run an antenatal education programme that included breastfeeding information since 2010. Oxfordshire had a focus and investment in breastfeeding as well with some excellent breast-feeding initiation rates at 6-8 weeks of approximately 60%.

Having an early-years strategy
Flying Start is Luton's early years strategy 2014-2024. It aimed to make a positive and systematic change to the lives and life chances of Luton's youngest children from pregnancy to 5 years of age for future generations. It had 3 key outcome areas: nutrition and diet, communication and language and social and emotional development. The nutrition and diet outcome were focused on improving nutrition and health behaviours and reducing childhood obesity. The strategy built on the strongest evidence base and had enhanced and developed effective preventive interventions. There was a strong emphasis on starting interventions early in Luton. Flying start also included a learning and development programme that involved raising the Health, Exercise and Nutrition for the Really Young (HENRY) Issue of weight (which reached over 200 staff in Luton) and developing healthy lifestyle behaviours in the Early Years.

Having healthy standards
St Helens had early years healthy eating standards. Accreditation programmes in Luton ensured settings met set standards that promoted healthy eating, physical activity and oral health. These included the Family Food First programme and the Healthy smiles programme (previously Healthy Under 5's).

Programmes for pregnant women above a healthy weight
Two LAs (Cheshire East and Lewisham) reported offering a programme for pregnant women above healthy weight.

Utilising children's centres
Several LAs used children's centres in various ways:

- Surrey, South Gloucestershire, Hounslow and Luton ran HENRY, and Redbridge used centres for focus groups
- Redbridge used children's centres for activities to promote healthy lifestyles for families such as cooking lessons in deprived areas
- Hertfordshire also utilised children's centres in areas of deprivation to run their healthy children's centre programme. A common evaluation from these demonstrated that the parents have the will to get children to eat healthily but felt overwhelmed by fast food and unhealthy options and therefore feel as though they have no choice
- Promoting healthy eating, increasing exercise and healthy lifestyles. Jumping Beans was a pre-school physical activity programme run in children's centres in Somerset. The children and family centres in West Sussex had a Healthy Families Programme where the aims were to increase physical activity and healthy eating. In Luton the

Children's centres were integral for delivery of the Flying Start Strategy through activities such as Take 5 cafes providing information on feeding and 5 to thrive messages. Luton Early Years Team and Active Luton worked in partnership to offer sessions within childcare settings and children's centres to provide physical activity sessions for children under 5 and their parents. In addition, within Luton, over 20 focus groups had been held in children's centres to inform the Food Plan, which had 3 streams: working to make healthier food options more available, 'getting house in order' for example school meals, vending offers and Grow Your Own. There were pockets of activity within children's centres across Lincolnshire, however, it was variable and low level for example the Grow Project, which involved children and families growing fruit and vegetables, Cook and Eat, Healthy Eating and increasing activity

- South Gloucestershire used centres to provide access to active play vouchers in areas of deprivation (also available from Health visitors), for activities such as soft play and swimming

Encouraging healthy lifestyles and messaging in pre-schoolers

The 'Better Move More' programme in Shropshire was aimed at pre-schoolers, including in nurseries and childminders. This was an accredited training scheme that highlighted what settings could do to encourage children to eat healthily and move more. HENRY was used at baseline; however, the LA preferred to use Better Move More.

Training health visitors

The Health visiting team in Luton received mandatory training on starting solids and oral health. Oxfordshire were up-skilling health visitors in healthy weight and healthy nutrition (training by the Institute of Health Visitors) so that they could identify where there might be a problem with a child's weight and intervene early. In North Yorkshire, Health Visitors and Assistant Practitioners from the 0-5 Healthy Child Service all received core training in the HENRY approach during 2017. In addition to the Core HENRY training, 14 staff received advanced HENRY training which allowed them to offer a one to one targeted intervention with families of babies and young children over the 91st centile.

Working with childminders

The Healthy Early Years status award in St Helen's was adapted for childminders at the end of 2016 and in 2017 as they were a group that was not well supported or monitored. There had been excellent engagement with this and over 50% of local childminders had taken it up. In Lewisham childminders joined the Sugar Smart campaign, along with leisure centres, restaurants, schools, school catering providers, Lewisham Hospital and Goldsmith's University.

Using early start

In South Gloucestershire the Early Start service was in place.

Using collaborations

Children's centres were part of the Healthy Weight Alliance in Somerset.
The Obesity Steering Group in Redbridge had representation from the NHS (GPs, Health Visitors and midwives) and the LA such as the leisure provider, Environmental Health and Transport teams, 0-19 contractor, children centres and midwives.

A version of the Eat Out Eat Well Scheme in Surrey was being developed for the early years settings. The Healthy Weight Network in Hertfordshire brought several agencies together to make sure they are all giving consistent messaging – education, catering, children's services, school nurses.

D. Linking across family weight management programmes, the NCMP and schools

Many LAs, 68% (17/25), linked family weight management services with the NCMP data or with schools. For some this was done simply through signposting parents to the local weight management services via the NCMP result letter (Hertfordshire, Cheshire East and Lewisham) and it was then the parent's decision as to whether or not to take up the services offered. For other LAs, the School Nursing team had an active role in contacting parents for referral to weight management following the NCMP results (for example Coventry).

An interaction team was developed in one LA (Nottinghamshire) as a School Health Hub, where the county council could interact with schools on all health issues for children and young people. Within this team there was a lead for childhood obesity, and part of this role was to link schools and parents to the NCMP. Similar strategies were adopted by other LAs whose weight management and NCMP health providers/School Nurse Teams were linked (Essex). In some cases, child/family weight management services and the NCMP were run by the same provider (Cambridgeshire, Shropshire and Somerset). Shropshire, for example, emphasised how using the same provider ensured a level of trust was built whereby parents are receiving consistent messaging and advice following the NCMP letter.

Some LAs used the NCMP data to target weight management services to the schools in greatest need (for example Yorkshire East Riding). This was seen as normalising weight management services within these schools in the hope they will be more readily taken up.

For other LAs like Oxfordshire, the lack of a LA weight management service negated the potential of linking with the NCMP or with schools.

E. Broader partnerships including academic links

Over two-thirds of LAs, or 68% (17/25), highlighted the importance of broader partnerships within the community. The importance of working in partnerships with other areas such as sports and environmental health teams to provide healthier food options was a re-occurring theme. Good relations, networks and/or support from other LAs were also described.

Academic links
Several LAs worked with universities, including Cambridgeshire, Luton, Somerset and South Gloucestershire. Cambridgeshire was working with academics based at Cambridge University's Centre for Diet and Activity Research as part of the Public Health Reference Group. By working together with the University of Bedfordshire, Luton was monitoring the HENRY programme in terms of maintaining healthy lifestyle changes over time and its suitability for the cultural diversity of the town. In South Gloucestershire, the LA was working with 2 universities: research with Bath University on the NCMP feedback letter and research in collaboration with the University of the West of England to explore South Gloucestershire mothers' infant feeding experience particularly around available breastfeeding support. In Somerset, working in collaboration with Newcastle University, a visual resource was being evaluated that allowed parents to see what a child looks like in each of the weight categories (the 'Map Me Tool').

Third sector partners
In Hertfordshire, the Healthy Weight Network brought several agencies together for a year, including education, catering, children's services and School Nurses, to ensure all were providing consistent messaging. A few LAs were working with charities such as Mind and Home Start (Shropshire and West Sussex). Several LAs collaborated with their libraries to disseminate information and hold events (Luton, South Gloucestershire and West Sussex). There was a collaboration in Hounslow with Transport for London called 'Play streets', this was an initiative where public streets are closed for a certain time period to allow children to play.

Several LAs were working in and with the community through community driven interventions (Wakefield and Shropshire), community led projects in targeted areas (Wakefield), creating children and young people community champions (St Helens and Shropshire) and encouraging community organisations to develop physical activity and healthy eating initiatives (Somerset).

F. Having a published childhood obesity strategy

A published childhood obesity strategy document was reported by 68% (16/25) of LAs to be an effective way for them to demonstrate that healthy weight was considered a priority. The sign off processes for a strategy document ensured that the topic was

discussed by the Council's Senior Leadership and buy-in at this level was highlighted by a third (8/25) of LAs as essential for being able to move from a strategy document to taking positive action towards tackling childhood obesity. Redbridge described its importance in tackling the tension between health and enterprise that can arise when policies aimed at reducing obesity are implemented, for example when restrictions are considered for fast food outlets.

Each authority took a slightly different approach to constructing their strategy. A third (8/25) of LAs authorities (Cambridgeshire, Peterborough, Nottinghamshire, Surrey, Coventry, Redbridge, St Helens and Lincolnshire) created a steering group. Redbridge, Oxfordshire and Central Bedfordshire had a steering group action plan. Steering groups were useful for ensuring consultation and participation across the authority's other departments. Around a quarter of LAs included public consultation in development of the strategy. Three of the LAs contained district councils with their own action plans (Cambridgeshire, Nottinghamshire and Essex). Portsmouth were creating a pathway for healthy weight. Other strategies noted to impact on obesity included the Cycling Strategy in Lewisham and the Physical Activity Strategy in Somerset and South Gloucestershire.

G. Increasing physical activity

A focus on physical activity was reported by 68% (17/25) of LAs. LA initiatives to increase physical activity included Girls Active, Daily Mile, junior park runs, active play, health walks, Fit Kids, Skip4life, Us Girls (a sports programme for teenage girls), Physical Activity clubs and provision of outdoor gyms in parks.

Through the Sports Premium Initiative, schools were given funds to improve their sports. In West Sussex, this was spent on increasing the number of sessions and developing sports clubs whereas other areas lost their sports development programme or moved them to private providers.

Some LAs worked in partnership with their leisure provider, libraries, schools, children's centres, transport planning and charities to increase physical activity. South Gloucestershire had a Physical Activity Strategic Partnership. In Derbyshire a 10-week personal, social, and health education (PSHE) programme was offered to all Derbyshire primary school settings aimed at school years 3, 4 and 5, which included core elements of physical activity, healthy eating, hydration, confidence building and behaviour change. It included the travel smart programme which encouraged walking and cycling and also covered road safety, so children could be safe doing these things. In Luton, the leisure provider offered subsidised activities (£1 per go) for families with children under 5 in their 5 most deprived wards. Families in South Gloucestershire who were disadvantaged were offered Active Play vouchers and had free access to some activities in local active centres.

Shropshire had a focus on increasing physical activity through partnerships with the Schools Sports Partnership. The variety of sports offered was increased and they run events utilising a local Olympic archer. Specific schools with low levels of physical activity were also targeted. Shropshire further collaborated with the community to assist them with coming up with their own solutions to encourage people to eat more healthily and do more physical activity. Shropshire also tried working with local charities to provide a focus point for healthy advice.

In North Yorkshire, the Youth Sport Trust delivered a Healthy Movers within Scarborough as a pilot scheme. Healthy Movers was an initiative that supported early year's settings and parents of two- to five-year olds to utilise training and resources in the childcare setting and at home. The aim of Healthy Movers was to increase the number of children aged 2 to 5 years achieving the recommendations for physical activity. Eleven early year's settings in Scarborough attended the Healthy Movers training and obtained teaching resources and home packs to engage children's families with their physical development journey.

In West Sussex, there was an emphasis on 'alternative' sports development to increase diversity of opportunities and encourage less naturally sporty and Special Educational Needs (SEN) children. RISE was a programme of agility, balance and coordination for children and young people with SEN in Yorkshire East Riding.

LAs were improving open spaces, footpaths and cycle routes (for example South Gloucestershire, West Sussex, Hounslow and Lewisham) to make the environment more conductive to physical activity. Hounslow worked to develop play areas in consultation with local residents.

A new website was developed in Lewisham to encourage and facilitate park activities for over 16 year olds called Lewishamparklife.co.uk (website no longer available).

H. Focus on food

Half or 52% (13/25) of the LAs interviewed had a focus on food. The LAs approached this in various ways. Redbridge and St Helens signed a healthy food and drink declaration. South Gloucestershire, Essex and Lewisham were working towards a healthy food offer. West Sussex and Lewisham signed up to the Sugar Smart campaign. Somerset had a field to fork programme, which incorporated outdoor learning, exercise and healthy eating. Lincolnshire had a 'Grow' project', where children and families grew their own fruit and vegetables. Yorkshire East Riding had healthy food provided on council properties or events. Derbyshire had a holiday food programme. Luton had a focus on oral health education and sugar swop workshops. In South Gloucestershire, good oral health was encouraged in pre-school settings. An oral health provision was offered at early years and primary school levels in Hounslow.

There was a Florida varnish programme piloted in 12 schools which ran through a dental practice and reached nearly 3000 children.

I. Active travel focus

Approximately half or 48% (12/25) of the LAs reported incorporating active travel into schemes or initiatives. Peterborough had an active travel plan and Lewisham had a good cycling strategy. A lot of work had gone into promoting cycling in Lewisham. This included Bikeability training and London's first quiet cycle way traversed Lewisham (cycling through areas with quiet roads). In Nottinghamshire work was undertaken with transport planning for sustainable transport, particularly cycling. In Lincolnshire there were active travel schemes such as bike hire.

Surrey also promoted active travel with a whole team behind it in the council; they were also a member of the Healthy Weight Alliance. The transport team in Redbridge offered various services to help businesses and organisations make active travel plans. St Helens embedded active travel into their partners' work and partners received staff training and access to the cycling hub. West Sussex County Council worked with a charity called 'Living Streets' and street audits were carried out to promote walking to school and improving the environment to encourage walking. Essex County Council had its own Active Travel team to provide support on planning active travel to organisations and to promote national competitions with schools as well as initiatives such as walk to school week/month.

J. Spatial planning

Approximately half or 48% (12/25) of the LAs also involved spatial planning. Spatial planning was a key element of whole systems approaches as described above.

Many of these LAs (Cambridgeshire, Peterborough, Central Bedfordshire, Surrey, Derbyshire, Redbridge, Coventry, West Sussex, Nottinghamshire and Lewisham) described work with food takeaway businesses, mostly via Environmental Health teams, to create a healthier offer. In Coventry there was a role in the planning team to look at a Supplementary Planning Document and licensing arrangements for hot food takeaways. Across LAs, the numbers of businesses involved in this work was still small, and some authorities highlighted the difficulties in getting businesses to engage with this work, although they were having some success.

Some LAs (Peterborough, Central Bedfordshire, Redbridge, Derbyshire, Coventry, Lewisham) were working to limit new takeaways opening too close to schools (within 400 m most commonly) for example Lewisham had rejected 9 takeaways from opening in 2016 and 2017. Central Bedfordshire were starting to look at limiting opening hours so that takeaways were closed when children and young people come out of school, although they stated that there was some distance to action this. In Derbyshire, a pilot

was being conducted in Chesterfield, working across Public Health and Chesterfield Borough Council Planning and Environmental Services, to map Food Takeaways and explore a case for restricting takeaways near schools.
A small number of LAs discussed broader work on housing and spatial planning to combat obesity.

K. Taking a whole systems approach

Approximately half or 48% (12/25) of the LAs saw themselves as taking a 'whole systems' approach. This was the most common philosophy underpinning LA strategies for tackling childhood obesity. Whilst the format and definition of this varied, key features included maximising assets from both within and beyond the LA; drawing together existing work from several departments to reduce duplication; increasing reach by identifying where additional partners could roll out a project (for example businesses that could make an active travel plan); and identifying gaps in provision.

A whole system approach was seen by LAs to entail examining what changes they could make to services within their control as well as looking at where it links to other organisations and services to leverage better outcomes for obesity and disseminate healthy messages more widely. LAs used the whole system approach to conceptualise connections between seemingly disparate work on (for instance) improving breastfeeding rates, with work to increase use of active transport, with removing sugary drinks from vending machines at leisure centres, and then consider how other existing assets could be utilised.

One of the common problems highlighted in the interviews was the lack of available evidence on how to tackle obesity when Public Health moved into Local Authorities in 2013. Whole systems approaches were however seen to be facilitated by this move; one LA (Lincolnshire) characterised it as ‘when nothing works, do some of everything.’

Several LAs (Hertfordshire, Nottinghamshire, Shropshire, Somerset, Yorkshire East Riding) reported that they linked other Joint Strategic Needs Assessment (JSNA) topics such as mental health, obesity, physical activity and nutrition in their whole systems approach. Somerset were working to embed key messages into other services as resources are limited.

The majority of LAs using this approach had sophisticated childhood obesity strategies (see section D). Wakefield was unusual in that it took a whole systems approach but did not have a written strategy document as it believed this would not lead to meaningful engagement with the parts of the population who would benefit most from it.

We describe many of the individual elements undertaken by LAs in other sections of this report.

L. Increasing parental engagement to tackle childhood obesity

Many LAs described universal services aimed at adults as well as their activities aimed at children. Healthy town/city campaigns and promoting national campaigns such as Change 4 Life and One You were cited as examples (Peterborough, Portsmouth, and Cheshire East), as were a range of interventions with workforces.

Parents were specifically targeted in many LAs as part of children and family weight management services.

A number of LAs, 48% (12/25), requested parental attendance at group weight management programmes. Including parents was described as 'the only way you can do children's weight management' by one LA (Essex), yet simultaneously many LAs said that it was extremely difficult to get parents to engage. 38% (9/25) of LAs described problems with parental engagement with the weight management services (Cambridgeshire, Nottinghamshire, Yorkshire East Riding, Redbridge, Wakefield, Oxfordshire, St Helens, Hertfordshire and Somerset). 17% (4/25) of LAs described problems with parental engagement with the offer as a result of the NCMP (Cambridgeshire, Peterborough, Portsmouth and Somerset).

A perception reported by some LAs (for example Nottinghamshire) was that parents do not believe in the NCMP. Several measures tried to improve engagement, such as phone calls in the parent's native languages (Peterborough); localisation of the offer sent with NCMP letter (Yorkshire East Riding); involving complex case managers and improving parental health literacy (Wakefield); and a telephone call before the NCMP letter is sent (St Helens). Several LAs mentioned engagement as an iterative process (Cambridgeshire, Portsmouth, Wakefield and St Helens). Other initiatives to improve engagement were utilising the workforce through Make Every Contact Count, staff training to raise the issue of overweight, and training staff in behaviour change techniques.

M. Linking obesity with mental health

A small group of LAs, 20% (5/25) described tackling mental health issues as part of their obesity work.

A key message from Hertfordshire was that mental health was an integral part of the obesity programme. They reported having learnt a lot from their physical activity projects in terms of how to link mental health and physical activity messages rather than approach the 2 things in isolation. Obesity cut across several topics in the JSNA for the area – including mental health and wellbeing, physical activity and nutrition.

There was an excess weight strategy group in Nottinghamshire with representatives from all district councils and relevant service areas from county council. There was a

spatial planning protocol backed up with a document that set out the relationship between planning, health and social care. They were aware of the cross-cutting benefits of this approach, such as on mental health, and presented a poster at the PHE conference on this.

The young health champions in Shropshire did some work on sex and relationships, education and health generally, due to the link between diet and self- esteem and mental health, for example comfort eating after bullying. They had a range of programmes working on self-esteem and this work was put forward for an award.

In Yorkshire East Riding, ‘Us Girls’ promoted physical and mental health in teenage girls and they had a range of other services for vulnerable children including ‘Elevate’ that promoted coping skills and self-esteem to young people who may have used mental health services previously.

Limitations

The methods for identifying LAs with 'positive deviance' and the methods for collecting and analysing data from them have several limitations.

LAs were identified using random effects from large national data models. Whilst these models are highly sophisticated and took account of shifts in deprivation and ethnicity in the LAs over the periods, it is possible that some of the findings for LAs were due to chance. This was mitigated by only including LAs with downward trends in 3 of the 4 cohort groups.

The analyses related to BMI z-score and not to childhood obesity prevalence directly. This was done as BMI z-score is likely to be more sensitive to change than obesity prevalence, and the aim of public health interventions is to shift the entire BMI distribution to a more normal distribution rather than to merely reduce childhood obesity. Nevertheless, some of the LA public health teams did not recognise that their LA had a downward long-run trend in childhood BMI and it is possible that in these LAs there was a very small long-run decrement in BMI z-score whilst childhood obesity prevalence was stable or even increased.

The semi-structured interviews were completed by only 2 researchers, however the data gained are subject to several potential biases in terms of the informant; for example, the seniority of informant varied between LAs, although the researchers attempted to interview the most senior professional available. Further, we were limited to reporting of what informants believed was important; informants may have emphasised different aspects of the LA's work according to their beliefs about what

might have influenced childhood BMI changes, and thus may have neglected to report all the activities the LA was undertaking.

The thematic analysis was pragmatic due to time constraints and the researchers recognise that more detailed qualitative research may have produced additional insights. As noted previously, the researchers make no claim that the activities reported here are responsible for the downward trends in childhood BMI noted across the LAs.

Conclusions

LAs with small but significant downward 10-year trends in BMI z-score in children were using a highly diverse set of approaches and initiatives to tackle childhood and all-age obesity. This diversity makes it difficult to identify whether there are common approaches or 'ingredients' that may have contributed to these trends. There were too few LAs with downward trends amongst the most deprived children to provide useful information separately to our analysis across the whole child population.

The most common approaches, reported by around three-quarters of LAs studied included 1) linkage across child and family weight management, the NCMP and schools; strong integration of the NCMP with elements of obesity prevention; 2) a focus on schools using in some instances 'whole school' approaches and 3) a strong focus on early years nutrition and exercise.

Other common approaches reported by two-thirds of LAs included: 1) having an LA childhood obesity strategy and childhood obesity as a priority within the LA; 2) a focus on physical activity and 3) an openness to broader partnerships with other LAs and the third sector. Using a 'whole systems' approach was reported by just under half the LAs (48%).

The commonality of these approaches across LAs that had downward trends in childhood BMI z-score from 2006/07 to 2015/16 suggests that these may be important in preventing childhood obesity, however we note again that our methods do not allow us to attribute causality. Instead, we believe that these findings serve to generate hypotheses about the approaches and interventions being used in LAs that are more successful in shifting the BMI distribution of their child populations and reducing childhood obesity, and therefore serve as the basis for future research.

Appendix 1

Themes of approaches used by local authorities in order of commonality shown in a series of tables

Theme A: Engagement with and integration of the NCMP	
Approach (% of local authorities)	Examples of actions for this approach
School feedback (76%)	• Provide NCMP results to schools (three-year aggregated data or annual feedback etc.) • Provide deprivation information in school feedback
School Nursing Team (72%)	• Deliver the NCMP • Employ a childhood obesity lead within the school nursing team • Send the PHE NCMP feedback letter home (using the PHE template) • Follow up with parents and carers in a telephone call, text messages and/or additional letters • Include signposting for local services in the NCMP feedback letter for parents
GP feedback (16%)	• Provide NCMP feedback to GPs
NCMP Data (36%)	• Use the NCMP data to monitor the prevalence of overweight and obesity, in reports and business plans, to inform the planning and delivery of interventions or for commissioning decisions
Theme B: Working with schools and taking a 'whole school' approach	
Partnerships with schools (76%)	• Support local 'Healthy Schools' schemes • Deliver physical activity and nutrition programmes in schools • Work with schools to make school meals healthier • Commission evidence based programmes such as the Soil Association's 'Food for Life'
Whole school approaches (33%)	• Incorporate as a focus within a whole systems approach • Target schools with high levels of obesity • Recognise and reward school efforts

Theme C: Interventions in the early years	
Pre-school years (72%)	• Promote and support breastfeeding • Publish an Early Years Strategy • Encourage Healthy Eating Standards for early years settings • Provide programmes for pregnant women above a healthy weight • Utilise children's centres for cooking lessons or to deliver physical activity and healthy eating programmes • Train Health Visitors on starting solids or on identifying children's weight or in 'Health, Exercise, Nutrition for the Really Young' (HENRY) an evidence based programme • Work with childminders
Theme D: Linking across family weight management programmes, the NCMP and schools	
Link family weight management services with the NCMP data or with schools (68%)	• Signpost parents to local weight management services using the NCMP result letter • Support the school nursing team to contact parents following the NCMP results and refer them to weight management programmes • Use NCMP data to target weight management services to the schools in greatest need
Theme E: Broader partnerships including academic links	
Partnerships within the community (68%)	• Work with universities for research opportunities such as programme evaluation • Partner with the third sector to work with charities or as part of a 'Healthy Weight Network' • Work with the community through community driven interventions or community led projects in targeted areas
Theme F: Having a published childhood obesity strategy	
Publish a childhood obesity strategy (68%)	• Publish a strategy with sign off from council's senior leadership • Create a steering group to help develop the strategy • Include public consultation as part of the strategy development
Theme G: Increasing physical activity	
Focus on physical activity (68%)	• Support initiatives to increase physical activity such as 'Girls Active', 'Daily Mile', junior 'park

	runs', active play, health walks, 'Fit Kids', 'Skip4Life', 'Us Girls', physical activity clubs and provision of outdoor gyms in parks • Utilise the Sports Premium Initiative to develop sports clubs • Work in partnership with leisure providers, libraries, schools, children's centres, transport planning and charities to increase physical activity • Focus on partnerships with the 'Schools Sports Partnership' • Train early year's settings staff in 'Healthy Movers' • Consider alternative sports development programmes to engage children with special educational needs • Consider how the environment can be made more conducive to physical activity by improving open spaces, foot paths and cycle routes • Engage the community through an app (such as Lewisham Park Life) to encourage and facilitate park activities
Theme H: Focus on food	
Focus on food (52%)	• Sign a healthy food and drink declaration • Provide a healthy food offer • Sign up to the Sugar Smart campaign • Consider programmes such as 'field to fork', 'grow project' or a holiday food programme • Provide healthy food at council events • Incorporate good oral health education
Theme I: Active travel focus	
Incorporate active travel into schemes or initiatives (48%)	• Publish an active travel plan or strategy • Plan for sustainable transport such as cycling • Work with partners to provide staff training and access to a cycling hub • Employ an active travel team • Promote walking to school
Theme J: Spatial planning	
Involve spatial planning (48%)	• Involve spatial panning as part of a whole systems approach • Encourage Environmental Health Teams to work with takeaway food businesses to create a healthier offer

	• Limit new takeaway food businesses from opening close to schools or limit opening hours
Theme K: Taking a 'whole systems' approach	
A whole systems approach (48%)	• Bring together existing work from a number of different departments to avoid duplication and identify gaps in provision • Link other Joint Strategic Needs Assessment topics such as mental health in a whole systems approach • Include a childhood obesity strategy
Theme L: Increasing parental engagement to tackle childhood obesity	
Target parents as part of child and family weight management services (48%)	• Promote national campaigns such as Change4Life and One You • Request parental attendance at group weight management programmes • Utilise the workforce through Make Every Contact Count and train staff in how to raise the issue of overweight and/or behaviour change techniques
Theme M: Linking obesity with mental health	
Tackle mental health issues as part of obesity work (20%)	• Link mental health and physical activity messages • Use the Joint Strategic Needs Assessment topics for obesity work including mental health and wellbeing, physical activity and nutrition • Deliver programmes that promote physical and mental health

Appendix 2

Questionnaire data

Questions asked during the 2017 interviews and data provided are shown in percentage form below.

Question 1: Does the trend identified by PHE fit with the local analysis/perception of what is happening in your area?

Answers	Percentages (%)
yes	56
uncertain	20
partial match	16
no	8

Some of the comments from the LAs that were uncertain (Hertfordshire, Portsmouth, Lincolnshire, Surrey, Lewisham) were that they had not analysed the data in the same way, or that they were not sure if the figures were accurate and that it was too early to say with any certainty that there is a fall or downward trend at this stage. Other comments were that they were looking into local data and that they were not convinced it was a genuine effect. In Lewisham, where they were identified using deprivation, they reported that the local public health team do not have access to the deprivation quintile data and that they had no way of confirming this information.

The LAs whose local data did not match the trends identified by PHE (Essex and Coventry) reported that the trends identified by PHE do not necessarily fit with the feeling on the ground, the local data is not broken down by gender for each year group and it is in the form of 3 year rolling data.

Question 2: Are there any reasons that might explain the trends in terms of changes in the population?

Answers	Percentages (%)
no	40
don't know	24
possible	24
unlikely	8
no info	4

Reasons given for changes in population as a possible factor for the downward trend in Cambridgeshire, Peterborough, Cheshire East, Essex, Hounslow and Lewisham were

that there is a growth in the Eastern European population in several LAs; there is a turnover in the population; and that the population is gentrifying.

Question 3: Do you know of anything that might explain the trend identified by PHE data? (Initiatives, schemes, strategy, strong local leadership, etc?). Why were these approaches chosen? How and when will they be evaluated? Even if identified strategies/initiatives etc cannot be said to be explanatory this opportunity to gather data on what is happening in local areas is most useful.

Responses to this question are outlined in the main section of this report in 'What we found (Results)'.

Question 4: Is childhood obesity a priority for the area?

Answers	Percentages (%)
Yes	88
Important but might not be top of the list or not prioritised more than other health areas	12

Question 5: Is there a focus on deprivation in the area?

Answers	Percentages (%)
yes	76
no	8
yes to a degree	4
becoming more of a focus	4
not really	4
some	4

Question 6: Who carries out the NCMP locally?

Answers	Percentages (%)
School Nurses	72
0-19 team	8
Children’s services	4
Lifestyle provider	4
Integrated specialist Public Health nursing team	4
No information	4
School health nursing service	4

6a: Is there feedback from the NCMP to schools?

Answers	Percentages (%)
Yes	76
No	24

6b: Is there feedback from the NCMP feedback to GPs?

Answers	Percentages (%)
No	68
yes	16
some	8
no information/not aware	8

6c: Do local family weight management programmes link with the NCMP and with schools?

Answers	Percentages (%)
yes	72
no	16
No Children and Families Weight Management Programme	12

6d: Is there a school nurse lead for childhood obesity?

Answers	Percentages (%)
yes	40
no	20
no information	16
no, lead in another team	8
don't know	4
no need - it is everyone's responsibility	4
not any more	4
School nurse manager is lead for child obesity	4

6e: Are services offered to those identified by the NCMP data as obese (and/or overweight)?

Answers	Percentages (%)
yes	84
no	4
no information	4
School nurse makes a phone call to very overweight	4

School nurses call so do weight management team - no programmed intervention, advice available	4

Question 7: Are service tiers for weight management linked?

Answers	Percentages (%)
yes	40
partial	16
no	12
no information	12
don't use term "tiers"	8
not well	4
downwards awareness of tiers	4
being reviewed	4

Appendix 3

Local authority practice examples grouped by themes of approach

Themes of approach (% of local authorities)	Examples of local authorities using this approach (in alphabetical order)
A. Engagement with and integration of the NCMP	**School nursing:** Central Bedfordshire, Coventry, Derbyshire, Oxfordshire, Peterborough, Redbridge, Shropshire **School feedback:** Central Bedfordshire, Derbyshire, Redbridge, South Gloucestershire, Surrey, West Sussex **GP feedback:** Hertfordshire, Hounslow, Shropshire, Somerset, South Gloucestershire, Portsmouth **Methods of feedback:** Hertfordshire, Lewisham, Luton, Portsmouth, Somerset **NCMP data:** Coventry, Luton, Oxfordshire, South Gloucestershire
B. Working with schools and taking a 'whole-schools' approach	**Partnerships with schools (76%):** Cambridgeshire, Cheshire East, Coventry, Derbyshire, Essex, Hounslow, Lewisham, Lincolnshire, Luton, North Yorkshire, Nottinghamshire, Peterborough, Portsmouth, Somerset, South Gloucestershire, St Helens, Wakefield, West Sussex, Yorkshire East Riding **Whole school approaches (33%):** Cambridgeshire, Derbyshire, Essex, North Yorkshire, Peterborough, Portsmouth, St Helen, West Sussex
C. Interventions in the Early Years (72%)	Cambridgeshire, Cheshire East, Hertfordshire, Hounslow, Lewisham, Lincolnshire, Luton, North Yorkshire, Nottinghamshire, Oxfordshire, Portsmouth, Redbridge, Shropshire, Surrey, Somerset, South Gloucestershire, St Helens, West Sussex
D. Linking across family weight management programmes, the NCMP and schools (68%)	Bedfordshire, Cambridgeshire, Central West Sussex, Cheshire East, Coventry, Essex, Hertfordshire, Lewisham, Luton, North Yorkshire, Nottinghamshire, Peterborough, Shropshire, Somerset, South Gloucestershire, Surrey, Yorkshire East Riding

E. Broader partnerships including academic links (68%)	Cambridgeshire, Central Bedfordshire, Coventry, Derbyshire, Essex, Gloucestershire, Hertfordshire, Hounslow, Luton, Oxfordshire, Peterborough, Redbridge, Shropshire, Somerset, South Surrey, St Helens, West Sussex
F. Having a published childhood obesity strategy (68%)	Cambridgeshire, Central Bedfordshire, Hertfordshire, Lewisham, Luton, North Yorkshire, Nottinghamshire, Oxfordshire, Peterborough, Portsmouth, Redbridge, Shropshire, South Gloucestershire, St Helens, Surrey, West Sussex
G. Increasing physical activity 68%	Central Bedfordshire, Derbyshire, Essex, Gloucestershire, Hertfordshire, Hounslow, Lewisham, Lincolnshire, Luton, North Yorkshire, Nottinghamshire, Portsmouth, Shropshire, Somerset, South West Sussex, St Helens, Yorkshire East Riding
H. Focus on food (52%)	Derbyshire, East Riding, Essex, Gloucestershire, Hounslow, Lincolnshire, Luton, Shropshire, Somerset, South Lewisham, St Helens, West Sussex, Yorkshire Redbridge
I. Active travel focus (48%)	Cambridgeshire, Essex, Lewisham, Lincolnshire, Nottinghamshire, Oxfordshire, Peterborough, Redbridge, South Gloucestershire, St Helens, Surrey, West Sussex
J. Spatial planning (48%)	Cambridgeshire, Central Bedfordshire, Coventry, Derbyshire, Lewisham, Nottinghamshire, Oxfordshire, Peterborough, Portsmouth, Redbridge, Surrey, West Sussex
K. Taking a 'whole systems' approach (48%)	Central Bedfordshire, Coventry, Hounslow, Lewisham, Oxfordshire, Peterborough, Portsmouth, Redbridge, Somerset, St Helens, Surrey, West Sussex
L. Increasing parental engagement to tackle childhood obesity (48%)	Cambridgeshire, Cheshire East, Coventry, East Nottinghamshire, Essex, Hertfordshire, Luton, Peterborough, Portsmouth, Redbridge, Somerset, St Helens, West Sussex
M. Linking obesity with Mental Health (20%)	Hertfordshire, Nottinghamshire, Shropshire, Somerset, Yorkshire East Riding