

Written evidence submitted by Public Health England

1. This document, prepared by Public Health England (PHE), describes the evidence on childhood obesity and PHE's priorities and role in translating the evidence base to support local and national health improvement across the life course. It builds upon the evidence provided to the Health Select Committee inquiry on diet and physical activity earlier this year, and it is recommended that the committee also consider the evidence provided in that submission^{1,2}.
2. Over the next year, PHE will produce a range of products on childhood obesity to support the development and implementation of national policy, local delivery and support to families and children, including:
 - Expert advice to inform government thinking on how to achieve sugar reduction
 - Social marketing to families and children through the Change4Life campaign
 - Expert advice on the local commissioning of obesity services

PHE: Tackling childhood obesity

3. Tackling obesity, particularly in children, is a major priority across government including for PHE³. Consequently, PHE have a broad programme of work in partnership with other government departments, and with local authorities (LA) to achieve a sustained downward reduction in childhood obesity.
4. PHE recognises that there is a need to go beyond information, education and health marketing to tackle child obesity. We need broader and deeper actions that lead to a sustained reduction in energy intakes and an increase in physical activity levels. PHE are working closely with the Department for Health (DH) to put forward plans for action in this area in a childhood obesity strategy that will be published by DH.
5. New advice from Scientific Advisory Committee for Nutrition (SACN) recommends that no more than 5% of total energy intake should come from sugarsⁱ, and that sugary drinks consumption should be minimised⁴. These recommendations are drawn from robust evidence on overconsumption of sugars and energy intake, and the impact on weight gain and body weight. The committee's recommendations on sugars and sugar sweetened drinks have been accepted

ⁱ This refers to sugars which include sugars added to foods by the manufacturer, cook or consumer, plus sugars naturally present in honey, syrups and unsweetened fruit juices. Sugars when naturally present in milk and milk products and whole fruit and vegetables are excluded.

by all UK governments and are now being integrated in nutrition policy instruments, such as the eatwell plate and guidance to institutions.

6. To inform government thinking on sugar in the diet and approaches to help meet the new population recommendations on sugar, PHE has been reviewing the evidence around different interventions to reduce sugar intakes at the request of the DH⁵. This has included mixed method reviews of the impact of marketing and fiscal measures targeted at high sugar products on health and behaviour changes; an analysis of the impact of price promotions on purchasing behaviour; consideration of issues relating to reformulation to reduce levels of sugar in foods and drinks; and work focusing on training in diet and health for non-health professionals and sharing examples of good practice locally.
7. Change4Life continues to empower people to lead healthier lives. This summer's 10 Minute Shake Up campaign from Change4Life with Disney has seen 385,000 families, including 700,000 children (a 28% increase on last year) across England taking part and registering for a free pack. Communications activity in support of the new government guidelines on sugar⁴ saw almost 12,000 visits to the updated Sugar Swaps advice on the Change4Life website and 660 downloads of the updated digital Sugar Swaps leaflet. Planning is underway for the January 2016 Change4Life campaign which will support the government's action on childhood obesity including support on the new government guidelines on sugar consumption. PHE supports Change4Life School Sports clubs to provide opportunities for children to be physically active outside of normal school time.
8. PHE is undertaking a national mapping exercise of access and provision to weight management interventions, excluding bariatric surgery, across England, including those for children, young people and families, which will report by the end of the year. This will be used alongside existing evidence, and commissioned reviews into 'what works' across the life course including children and families, to develop blueprint specifications for use by practitioners, commissioners and providers at a local level to support the local commissioning of obesity treatment services.
9. There is no single solution to obesity, and sustained multi-level action across sectors is required. Other notable programmes of work that PHE are undertaking are highlighted below, and are described in more detail throughout the paper (summary of actions in Annex 1):

- Start4Life
- National Child Measurement Programme
- Whole Systems Approach to Tackling Obesity
- Supporting schools to implement a whole school approach around food and diet

The Evidence

10. One fifth of children are overweight or obese when they begin school, and this figure increases to one third by the time they leave primary school⁶. Poor diet and physical inactivity are the causal factors to excess weight.

11. Children who are obese are more likely to be obese in adulthood⁷. This is compounded by children who live in a family where at least one parent or carer is obese, are more at risk of becoming obese themselves⁸. The poor health outcomes in adulthood due to obesity are vast and well documented⁹. The health and wellbeing burden of obesity in childhood alone includes low self-esteem, stigmatisation, school absence, and is sometimes linked to conditions such as bone and joint problems and pre diabetes^{10,9}.

12. Obesity prevalence is strongly correlated with deprivation in children. Obesity rates are highest in the most deprived areas and there is a steady rise in the most deprived groups for both Reception and Year 6 children. Obesity prevalence in the most deprived 10% of areas in England is approximately twice that in the least deprived 10%. The trend over the last eight years shows a widening of inequality in excess weight and obesity prevalence in both school years (Annex 2). There is variation in obesity prevalence by ethnic group for both Reception and Year 6 children with obesity rates higher in some minority groups⁶.

13. A recent study highlighted that children at the upper end of the healthy weight range are likely to increase their body mass index. Of those children who were obese at reception, only 16% were a healthy weight by year 6, with 68% remaining obese¹¹.

14. There has been some evidence of improvements to the diets of younger children, particularly in those under 5 in recent years. However, children across all ages are consuming more saturated

fat, sugarsⁱ and salt than recommended (aged 18months-18years)¹². We estimate that on average, all children are exceeding calorie intake recommendations^{ii,13,14}.

15. Current estimates of UK sugar intakes from the National Diet and Nutrition Survey programme (NDNS) show that mean intakes are three times higher than the new maximum recommended level in school-aged children and teenagers. Soft drinks (excluding fruit juice) are the largest single source of sugar for children aged 11 to 18 years and, on average, those who consume them drink around 336ml per day (roughly equivalent to one can of sugary drinks). Soft drinks provide 29% of daily sugar intake, on average, for this age group as a whole¹².
16. On the whole, children and young people are not active enough with only around 1 in 10, two to four year olds and 2 in 10, five to fifteen year olds achieving the recommended UK Chief Medical Officers' (CMO) recommendations for physical activity¹⁵. Comparison between 2012 and 2008 figures suggest that physical activity is decreasing in children and young people. There are significant inequalities within these figures, including associations with socioeconomics, gender, ethnicity and limiting illness / disability¹⁶.
17. About half of women of childbearing age (16 to 44 years) in England are either overweight or obese. There is strong evidence of a significant relationship between maternal obesity and the birth of babies above a normal weight range, and the subsequent development of childhood and adult obesity, independent of genetic and environmental factors^{17,18,19,20}. Compared to women with a healthy pre-pregnancy weight, pregnant women with obesity are at increased risk of serious adverse outcomes, such as gestational diabetes, miscarriage and increased risk of requiring a caesarean section and have a lower breastfeeding rate²¹.
18. The environment children live, play and socialise in, plays a key role in lifestyle choices, which are often automatic and unconscious and formed around habitual behaviour²². Environments in England tend to encourage over consumption of food and physical inactivity, and for these reasons are described as obesogenic²³. Tackling the obesogenic environment, through creating healthier social norms is far from being simple and requires co-ordinated action across all levels of society.

ⁱⁱ Estimated using predictive equations for total energy expenditure and age group specific heights and weights.

Supporting Local Authorities

19. PHE have led on the development of a prioritisation tool, to support LA who want to tackle childhood obesity to undergo a process of; identifying what works, systems leadership, a stock take of existing activities and identifying gaps in their current work programme. The tool, now being tested, prioritises future activities to improve co-ordinated action, and will be considered as part of a broader programme of work with the Local Government Association and Association for Directors of Public Health.
20. LA's have access to a wealth of data through the PHE's Fingertips Tool²⁴, including their local data on childhood obesity and how it compares to other areas.
21. PHE identified tackling obesity, particularly in children, as one of seven public health priorities, which dovetails with delivering the Best Start in Life³. Early life can be a determinant for future health. Action across the life course is essential when impacting on childhood obesity, and universal services such as such as midwives, health visitors and school nurses, provide professional contacts at key opportunities to identify support and early intervention options for families¹⁰.

Preconception and maternal

22. PHE continues to review the evidence and develop resources to support the delivery of a range of programmes including the Healthy Child Programme, health visiting and family nurse partnership services, and the national Maternity Review (Annex 3)²⁵.
23. PHE is leading the 'All OOR Health' programme on behalf of the UK and Republic of Ireland, with the initial priority the nursing and midwifery contribution to the obesity challenge (Annex 4).
24. Our public facing work includes expanding the Start4Life Information Service for Parents from 0-2 years to 0-5 years with the aim to sign up over 200,000 more parents. The service provides evidence based information for parents on pregnancy and child health development from 0-5years, including key messages on breastfeeding initiation and continuation and improved nutrition.

Early year's children

25. PHE is working to improve training and competence of the early year's workforce in evidence-based child health and development interventions to increase the life chances of disadvantaged children. PHE is working closely with the Department for Education in relation to child care provision and the contribution this can make to give every child the best start in life, including having a healthy weight.
26. Recently, SACN's Subgroup on Maternal and Child Nutrition work has focussed on the review of the scientific evidence underpinning UK complementary and young child feeding advice. This included the nutritional adequacy of exclusive breastfeeding to six months and dietary diversification of the infant diet, as well as literature reviews to investigate the association between the introduction of complementary foods and later body composition outcomes. The outcomes of this will be shared with Ministers alongside recommendations as needed for changes to current advice on dietary practices during the first year of life.
27. PHE promote public awareness messages and ensure professionals understand CMO's guidelines through education packages and training including non-health professionals, and working with LA's to support local policy to promote environments for active lifestyles for families.

School aged children

28. PHE is responsible for the delivery of the mandated National Child Measurement Programme (NCMP.) The NCMP provides a key opportunity to engage with children, families and schools and the current work plan builds on the role of the NCMP and Change4Life to maximise opportunities as a part of the school pathway. This includes the key transitional phases for all school age children and their families not solely those who are weighed and measured at Reception and Year 6.
29. One of the main focuses of the NCMP work programme is to develop effective communication to pro-actively engage parents. This involves supporting local commissioners to build NCMP parental feedback into local specifications. A recent study suggested that further work is needed to identify ways to more effectively communicate health information to parents, and to identify what information and support may encourage parents in making and maintaining

lifestyle changes for their child²⁶. PHE is undertaking work to improve the overall NCMP feedback process to improve engagement of parents, for example through applying relevant aspects of behavioural insights.

30. PHE supports whole school approaches to tackling dietary and physical activity issues amongst school aged children and has had a significant role in the development of the core competency framework for food, diet and physical activity²⁷. Developing opportunities for young people to learn these essential life skills remains important and PHE has collaborated on the development of teaching resources, notably the 'Food route: a journey through food' and partnership programmes with Premiership Rugby to target school aged children in deprived communities and young people not in education.
31. Supporting the continued professional development of both primary and secondary (food) teachers remains important and PHE, collaborating with the British Nutrition Foundation, has supported teacher training events around the new food curriculum. PHE, working alongside organisations such as the Children's Food Trust has provided tools to help schools implement the School Food Standards. This has included guidance and a checklist tool to help schools and caterers to buy healthier food and ingredients to meet the Government Buying Standards for Food and Catering services nutrition criteria.
32. PHE's national professional leadership role means that it is working closely with the profession to identify the types of support and resources they need in relation to obesity. Taking both a whole child and a whole school approach is one that school nurses are well placed for.
33. PHE is shortly publishing a briefing on 'What works in schools and colleges to increase levels of physical activity' which advocates 8 principles for practice based on a review of the evidence. PHE are working with colleagues across health, education and the voluntary, community and social enterprise sectors to promote and disseminate the briefing.

Conclusion

34. PHE recognises that there is much to do to achieve a downward trend in childhood obesity through tackling the obesogenic environment and supporting individuals to access effective interventions. PHE recognises the need for co-ordinated action, with sustained and strong

leadership across government, political parties, third sector and commercial organisations and the media. PHE looks forward to the pending new government childhood obesity strategy and is committed to ensure it provides an impetus for broader and deeper actions to help achieve a sustained reduction in calorie intake and increases in physical activity to tackle the complex problem of childhood obesity.

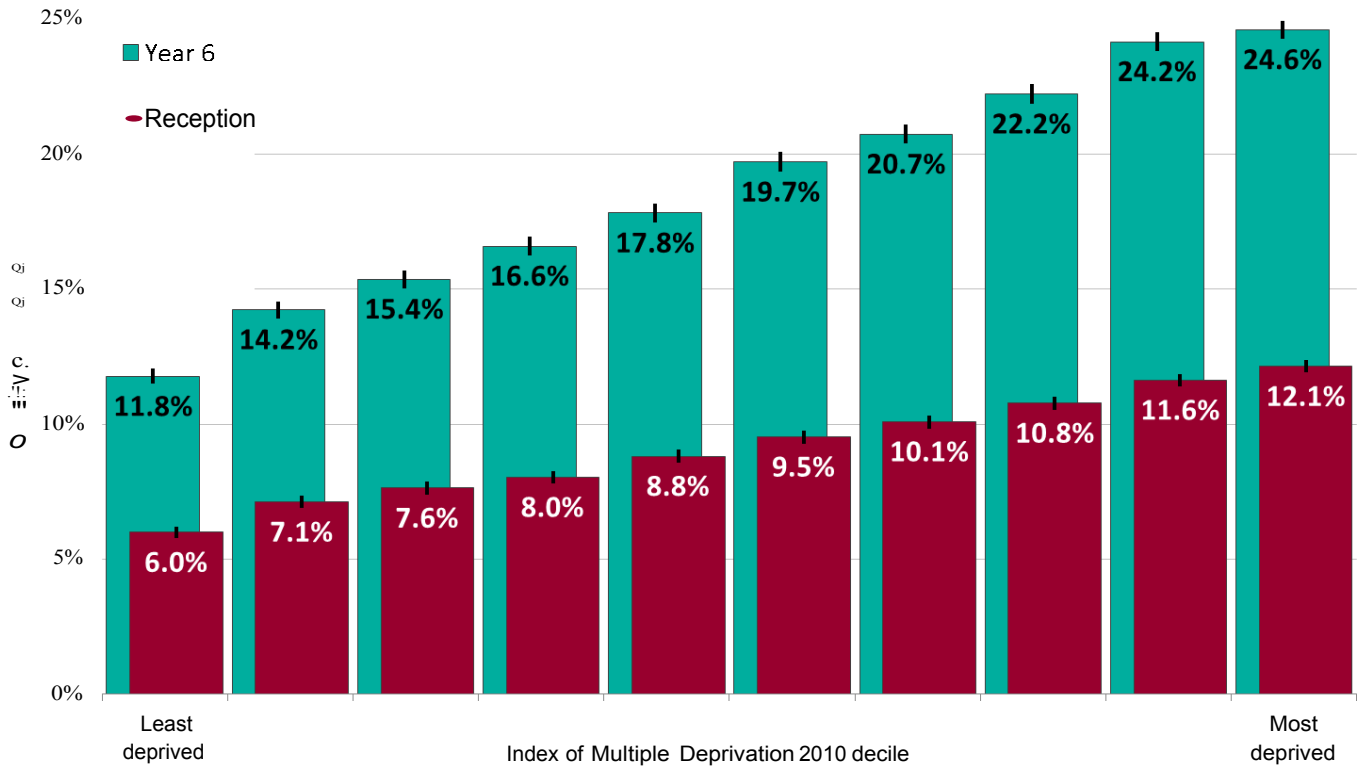
35. PHE is committed to delivering on its ambition to tackle, and work to prevent childhood obesity.

Annex 1: Actions on Childhood Obesity

5 Pillars	PHE Action on Childhood Obesity
Systems Leadership	Sugar reduction-Develop a package of evidence to inform the government’s thinking on sugar and take forward any resulting actions.
	Support development of physical activity spiral curriculum for health professional undergraduate training.
	Develop a child healthy weight Conceptual Framework to support system wide engagement.
	Action to increase children and young people’s physical activity, delivered under the Everybody Active Every Day Framework.
Community Engagement	Pilot an obesity prioritisation tool for Local Authorities to support local action and allocation of resource.
	Support children and young people to eat healthily and get active through Something to Chew on and HITZ programmes in collaboration with Premiership Rugby.
	Run 2 major Change4Life campaigns to motivate and support families to make changes to their diet and activity behaviours.
	Start4Life programme and the integration of the Information Service for Parents including key messages on breastfeeding initiation and continuation, improved nutrition, reduction in smoking in pregnancy and parents smoking around their children.
Monitoring and Evaluation	Report on a national mapping exercise of the provision and access to weight management services across the lifecourse.
	Commission evidence reviews into 'what works' for early years, primary school aged children and adolescents for weight management services.
	Analyse, signpost and report on obesity and related surveillance data including adult and child excess weight. Produce briefings on obesity and its determinants, including summary data factsheets and slide sets.
	Develop an evaluation programme for weight management, physical activity and dietary interventions.
	Develop social care element of cost effectiveness tool to help LAs to assess cost effectiveness of interventions.
	Produce a report on patterns and trends in child obesity highlighting key issues such as ethnicity, age and inequalities.
	Produce evidence briefing on maternal obesity.
	Manage the delivery of the National Child Measurement Programme.
	Run regional events to embed ‘Moving at scale’ domain of Everyone Active Every Day (EAED) framework to support evaluation and scale-up physical activity interventions.
Manage the delivery of the National Diet and Nutrition Survey (NDNS).	
Supporting Delivery	Further enhance the NCMP as a key opportunity to engage with children, families - to include further development of feedback tools and opportunities to engage and support behaviour change.
	To maximise the potential of schools to take a whole systems approach to tackling obesity, through the development of LA toolkits to and better access to local data to support both schools and NCMP providers.

	Develop commissioning blueprints for weight management services across the life course.
	Commission a project to support food teaching best practice, which incorporates the current evidence base so that children and young people develop life skills around healthy eating.
	Evidence in to Practice: Supporting implementation of the National Institute for Health and Care Excellence (NICE) guidance, Maintaining a healthy weight and preventing excess weight gain among adults and children.
	Strengthen the key messages and resources around physical activity and play provided on the Start4life website to target families, health and education professionals working with early years (0-5).
	Work with the Chief Medical Officer's (CMO) Expert Advisory Group to develop an infographic for health professionals on the guidelines for children and young people aged 5-18 years.
	Work with Change4Life and the Department for Health to strengthen guidelines and support for schools to maximise the Sports Premium fund.
Obesogenic Environment	Work to implement the 'Everybody Active, Every Day' framework to increase the proportion of children meeting CMO physical activity guidelines.
	Develop a programme to co-produce and test out whole systems approaches to tackling obesity with up to 4 LA's.

Annex 2:Prevalence of obesity by deprivation decile in Reception (aged 4-5 years) and Year 6 (aged 10-11years) children,2013/14



Health visitors work with families & communities to improve access, experience, outcomes and reduce health inequalities

4

levels of service:

Your community
Universal
Universal plus
Universal partnership plus

5

universal health reviews*:

Antenatal
New baby
6 – 8 weeks
1 year
2 – 2 ½ years
*extended for 18 months

6

high impact areas:

Transition to parenthood
Maternal mental health
Breastfeeding
Healthy weight
Managing minor illness & accident prevention
Healthy 2 year olds & school readiness

#healthvisiting

Annex 4: All OOR Health Programme



All OOR Health

Health Care Professionals working to reduce obesity across the five nations
 England - Northern Ireland - Scotland - Wales - Republic of Ireland

UK figures

Percentage of men and women who are overweight or obese

Obesity

An estimated **70,000** premature deaths in the UK could be avoided each year if diets matched nutritional guidelines

1 in 10 five year olds are obese, rising to 1 in 8 by age eleven

Tackling obesity will:

- Reduce the risk respiratory disorders and sleep apnoea
- Reduce the likelihood of musculoskeletal disorders
- Reduce the risk high blood pressure
- Reduce the risk of developing type 1 or type 2 diabetes

Toolkit for Personalised Care and Population Health
www.gov.uk/government/publications/framework-for-personalised-care-and-population-health?68

All OOR Health

Personalised Care and Population Health: A toolkit for health care professionals

Prevent Protect Promote

Working with patients, people and population for our healthy society

COMMUNITY CLINIC

Tackling childhood obesity also has the potential to:

- Improve low self esteem
- Reduce depression
- Reduce conduct disorders
- Improve school performance and social functioning

Improving health needs you!

Healthcare professionals

Republic of Ireland figures

- 2 in 3 adults age 18 – 64 are overweight or obese
- 4 in 5 adults over 50 are overweight or obese
- 1 in 4 children aged 3 – 9 are overweight or obese



All OOR Health

5YFV

All health care professionals are a vital resource for health

Working with patients, people and population for our healthy society

Preventing illness, protecting health and promoting well being

We need:

- A radical upgrade in prevention and public health
- People using health services to have far greater control of their own care
- NHS to take decisive steps to break down the barriers in how care is provided.

What would success look like?

HCPs providing personalised care AND population health

- Services based on: Community Integration Prevention
- Health care and "health promoting practice"
- Using evidence Measuring impact and outcomes Realising benefits

Community Integration Prevention

Improved access experience resilience outcomes

Reduced inequalities

References

- ¹ Public Health England, Written Evidence Submission for Health Select Committee Inquiry on Diet and Physical Activity.
<http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/health-committee/impact-of-physical-activity-and-diet-on-health/written/16776.html>
- ² Government response to the House of Commons Health Select Committee report on the Impact of physical activity and diet on health, Sixth Report of Session 2014-15, 2015.
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/445984/Cm_9001_accessible.pdf
- ³ Public Health England. *From evidence to action: opportunities to protect and improve the nation's health*. <https://www.gov.uk/government/publications/from-evidence-into-action-opportunities-to-protect-and-improve-the-nations-health>
- ⁴ The Scientific Advisory Committee on Nutrition Carbohydrates and Health Report, 2015.
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/445503/SACN_Carbohydrates_and_Health.pdf
- ⁵ Public Health England. 2014. *Sugar reduction: responding to the challenge*.
<https://www.gov.uk/government/publications/sugar-reduction-responding-to-the-challenge>
- ⁶ Health and Social Care Information Centre. 2014. *National Child Measurement Programme – England 2013-14 school year*. <http://www.hscic.gov.uk/pubs/ncmpeng1314>
- ⁷ Simmonds, M., Burch, J., Llwellyn, A., Griffiths, C., Yang, H., Owen, C., Duffy, S. & Woolacott, N. 2015. The use of measures of obesity in childhood for predicting obesity and the development of obesity-related diseases in adulthood: a systematic review and meta-analysis. *Health Technol Assess*, 19, 1-336
- ⁸ Kral, T. V. & Faith, M. S. 2009. Influences on child eating and weight development from a behavioral genetics perspective. *J Pediatr Psychol*, 34, 596-605
- ⁹ Public Health England, Making the Case for Tackling Obesity – Why Invest? 2015.
https://www.noo.org.uk/slide_sets
- ¹⁰ Chief Medical Officer's annual report 2012: Our Children Deserve Better: Prevention Pays.
<https://www.gov.uk/government/publications/chief-medical-officers-annual-report-2012-our-children-deserve-better-prevention-pays>
- ¹¹ Pearce, M., Webb-Phillips, S., and Bray, I., 2015. Changes in objectively measured BMI in children aged 4-11 years: data from the National Child Measurement Programme. *Journal of Public Health*, 1-8h
- ¹² Public Health England and The Food Standards Agency. 2014. *National Diet and Nutrition Survey: results from Years 1 to 4 (combined) of the rolling programme for 2008 and 2009 to 2011 and 2012*
<https://www.gov.uk/government/statistics/national-diet-and-nutrition-survey-results-from-years-1-to-4-combined-of-the-rolling-programme-for-2008-and-2009-to-2011-and-2012>

¹³ Scientific Advisory Committee on Nutrition (SACN). Dietary Reference Values for Energy. 2011. London:TSO. Table 14: Revised population Estimated Average Requirements (EAR) for children aged 1-18 years and Table 18: Prediction equations for BMR: Henry weight and height.

¹⁴ Health Survey for England (2012). Child trend tables.

¹⁵ Public Health England, 2015. Patterns and Trends in Child Physical Activity Slide Set.

¹⁶ Public Health England, 2014. Child Physical Activity Data Factsheet.

http://www.noo.org.uk/securefiles/151006_1736//PA_Factsheet_Child_Aug2014_v2.pdf

¹⁷ Gaudet, L., Ferraro, Z., Wen, S., and Walker, M., 2014. Maternal obesity and occurrence of foetal macrosomia: a systematic review and meta-analysis. *BioMed Research International*, 1-22.

¹⁸ Parsons T., Power C., Logan S., et al., 1999. Childhood predictors of adult obesity: a systematic review. *International Journal of Obesity Related Metabolic Disorders*, **23:8**, 1-107.

¹⁹ Reynolds R., Osmond C., Phillips D., et al., 2010. Maternal BMI, parity, and pregnancy weight gain: influences on offspring adiposity in young adulthood. *The Journal of clinical endocrinology and metabolism*, 95:12, 5365-9.

²⁰ Lawlor D., Lichtenstein P., Fraser A., et al., 2011. Does maternal weight gain in pregnancy have long-term effects on offspring adiposity? A sibling study in a prospective cohort of 146,894 men from 136,050 families. *The American journal of clinical nutrition*, 94:1, 142-8

²¹ Centre for Maternal and Child Enquiries and Royal College of Obstetricians and Gynaecologists Joint Guideline, 2010. Management of Women with Obesity in Pregnancy

²² Marteau. T. M, 2011. Judging nudging: can nudging improve population health? Judging nudging: can nudging improve population health? *British Medical Journal*. 342, 228.

²³ Butland B, Jebb S, Kopelman P, et al. 2007 *Tackling obesities: future choices – project report (2nd Ed)*. London: Foresight Programme of the Government Office for Science.

²⁴ <http://fingertips.phe.org.uk/>

²⁵ Department of Health, 2009. Health Child Programme, Pregnancy and the First Five Years of Life

²⁶ Falconer, C., Park, M., Croker, H., et al, 2014. The benefits and harms of providing parents with weight feedback as part of the national child measurement programme: a prospective cohort study, *BMC Public Health*, 14:549

²⁷ British Nutrition Foundation and Public Health England et al (2014). Core competences for children and young people aged 5-16 years: A framework of skills and knowledge around food, diet and physical activity. Available from:

<http://www.nutrition.org.uk/foodinschools/competences/competences>