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Public health nutrition in the civil service (England): approaches to tackling obesity

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The seriousness and scale of the physical, psychological, economic and societal consequences relating to poor diets, inactivity and obesity is unprecedented. Consequently, the contextual factors underpinning the work of a nutritionist in the civil service are complex and significant; however, there are real opportunities to make a difference and help improve the health of the nation. The present paper describes the delivery of public health nutrition through two work programmes, namely action to support young people develop healthier lifestyle choices and more recently the investigation and deployment of local insights to develop action to tackle obesity. Combining the application of nutrition expertise along with broader skills and approaches has enabled the translation of research and evidence into programmes of work to better the public's health. It is evident that the appropriate evaluation of such approaches has helped to deliver engaging and practical learning opportunities for young people. Furthermore, efforts to build on local intelligence and seek collaborative development can help inform the evidence base and seek to deliver public health approaches, which resonate with how people live their lives.

Public health: Nutrition: Obesity: Translation: Delivery

Public Health England (PHE) is an autonomous executive agency of the Department of Health (DH) whose role is to discharge the Secretary of State for Health's responsibility for public health. Working with National and Local Government, the National Health Service (NHS), industry, academia, the public and the voluntary and community sector, it exists to protect and improve the nation's health and wellbeing, and reduce health inequalities. It provides evidence-based professional, scientific and delivery expertise and advice, and supports local authorities in taking action to tackle, amongst other things, poor diets, inactivity and excess weight[1,2].

Public health nutrition, which embraces a diversity of professional roles across a breadth of disciplines and sectors, has been a part of government for many years. Registered nutritionists, working in the civil service, utilise their learned nutrition knowledge and apply it, in accordance with the Civil Service Code[3] and their voluntary nutrition registration status, to benefit the health and wellbeing of individuals, notably the British public[4].

The present paper describes the delivery of public health nutrition in the modern civil service, in England, and demonstrates, through two work programmes, how nutrition knowledge is applied to develop approaches to help encourage healthier lifestyle behaviours. The two work programmes used as the focal points are the Food Standards Agency (FSA) approaches to help young people choose, cook and eat safe healthy food and the PHE approach to use local insights to inform action on obesity.

This account is not intended as an exhaustive or systematic account of the efforts either historical or contemporary to improve the health of the nation and appropriate references will provide the interested reader with further details.

Abbreviations: DH, Department of Health; DsPH, Directors of Public Health; FSA, Food Standards Agency; MUF, Manchester United Foundation; NHS, National Health Service; PHE, Public Health England.

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Four recent eras of public health nutrition in the civil service

The two work programmes consist of action led by civil servants in what is now the Diet and Obesity team, in PHE. Over the past 20 years, this team has seen its fair share of machinery of government changes, which in the late 1990s commenced with the move of the bulk of nutrition science, dietary surveillance and advice from the Ministry of Agriculture, Fisheries and Food to the FSA, a non-Ministerial UK government department[5].

The FSA Nutrition Division's work on nutrition[6] complemented that of the DH, which led on nutrition and related health policy, including obesity and divisions of responsibility defined FSA and DH roles[5].

The FSA, partly established to communicate directly with consumers, had a broad UK remit from 'farm to fork'. A significant product, maintained in part by the Nutrition Division was the eatwell website[7], which amongst other communications enabled the translation of the Scientific Advisory Committee of Nutrition's advice, for instance on salt and health[8] into messages, which consumers could act upon. The FSA also maintained a remit for dietary surveillance[9] and nutrition research[10], which informed deliberations of Scientific Advisory Committee of Nutrition and broader approaches to improve population dietary health and food choice[11,12].

In 2010, the Nutrition Division was moved as part of a series of wider government changes, to the DH[13]. This reunification of nutrition delivery and policy in England meant that nutrition was now strategically embedded along with a range of other healthy lifestyle-related programmes, such as physical activity, the healthy children's programme, social marketing, and food and obesity policy. During the 3-year tenure in the DH, the Nutrition Division adapted itself to deliver within the realms of a Ministerial department and to contribute towards the vision as set out in 'Healthier Lives, Healthier People'[14].

In 2012, the Health and Social Care Bill was laid in Parliament and so commenced the transition, which included the move of public health, at a local level, from Primary Care Trusts to Local Authorities from whence the responsibility had been in the 1970s[15]. The Bill paved the way for the establishment of PHE, which commenced its operational status in 2013. The Nutrition Division and its programme of work transferred from DH to PHE and under the auspices of the Diet and Obesity team was tasked with co-ordinating the PHE approach to obesity.

The system as it is now continues to share many similarities to the situation, in the 1980–1990s, as described in Martin Wiseman's paper 'Government: where does nutrition policy come from?'[16] Whilst many of the organisations and bodies have renamed and evolved it is evident that the key considerations for developing policy and delivery remain similar. That is with respect to the political dimension; the status of the population's health and need; and how civil servants translate and utilise the evidence to provide advice to Ministers who decide on the constructs for action and indeed what type of action to take.

Scale of the obesity challenge facing public health and nutrition

The scale of the impact that England, the UK and swathes of the developed and developing nations are facing, in terms of poor diet, physical inactivity and high BMI is unprecedented and well documented[17–19]. These three factors rank amongst the key risks for morbidity and increased mortality and obesity itself is associated with a greater risk of a range of non-communicable diseases, such as type 2 diabetes, heart disease, cancers and skeletal muscular disorders[20,21].

Two-thirds of adults living in England are overweight or obese[22] and so it is not sensationalist to state that being overweight is the social norm and that this is of epidemic proportions[23]. It is evident that obesity is adversely affecting the physical and psychological health of the younger generation and child obesity is linked to greater risk of related diseases in adulthood[24].

While the majority of children remain at a healthy weight, the seriousness of the issue is evident in that by the time children leave primary school, over one-third are overweight or obese[25]. The plateauing of childhood obesity, which is sometimes referred to is skewed by a trend for decreasing rates in children living in less deprived areas[26]. Obesity disproportionately impacts on children living in poorer communities with the obesity prevalence doubling when comparing the least and most deprived deciles[26]. The other dimension is the shocking trend that during those precious years at primary school, the prevalence of children suffering from obesity doubles across all social groupings[27].

Obesity not only manifests itself through impacting on people's physical health, it also has a profound impact on psychological health. Obese children are at risk of poor self-esteem, anxiety and bullying[24] and obese adults can suffer from stigma and discrimination[28].

The cost of obesity to the health service in terms of treating diseases is estimated at £5·1 billion per annum[29]. This is significant although estimated in 2007–2008, it is likely to represent an underestimate and with an ageing population, living more years in a state of ill health, the true cost to the health service is likely to be higher. What this does not capture is the cost to society of obesity and whilst estimates have been produced relating to social care (£350 million per annum) this remains a relatively conservative estimate[30]. It is, however, evident that the effects of obesity on productivity and the cost to the wider economy are significant, estimated at £27 billion each year[31].

Opportunities to tackle obesity

In 2007, the Government Office for Science published the considerations of the Foresight Tackling Obesities programme[31]. This remains one of the foremost investigations of the interactions that drive obesities and it concluded that the causes of obesities are multi-factorial, societal and complex. Its analysis articulated the complexity of how an individual's physiological energy balance system is intertwined with psychological and environmental

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influences and it provided an evidenced framework of opportunities for tackling obesity.

So, whilst it is clear that everyone should take responsibility for their lifestyle choices, those choices are often automatic and formed around habitual behaviour[32]. Tackling this is far from being simple and it seems fair to say that obesity is a product of our society and that emphasis is required to create healthier social norms. This includes influencing the environment we build and create for ourselves; the places we live, work, socialise and play in; the food and drink we produce and consume; and our collective and individual behaviours, lifestyles and cultures. This tends to accord with the direction of travel indicated by expert commentators, who indicate that 'obesity is our bodies' normal response to the abnormal environment we are living in'[33].

Successive governments have invested in strategies to tackle the causes of obesity[34,35] although it is reasoned that such action takes time to have an impact on population behaviour, hence the continued issues with obesity[36]. Recent and on-going system reforms provide a significant opportunity for Local Authorities and Clinical Commissioning Groups, through Health and Wellbeing Boards, to use frameworks, such as the Public Health Outcomes Framework[37], to assess the needs of the local population and provide appropriate services, such as obesity services[38]. Supporting local delivery is a key role of PHE and its Centres, across England, which interface with local government and provide the opportunity to learn from the experiences at the front line of public health and encourage the diffusion of what works from one area to another; from local to national and vice versa. This model also lends itself to the promulgation of public health guidance that exists, for example to support delivery of action to tackle poor diets, inactivity and obesity[39–41].

In October 2014, PHE published its Evidence into action strategy, which sets out and makes the case for action across seven public health priorities[42]. One of those priority ambitions is 'Tackling obesity, particularly in children'. Published alongside the NHS England 5 year forward view, both strategies recognise the need to go further, beyond the status quo and prioritise preventative approaches as the default[43]. Nevertheless with so many people overweight, obese and or at risk of developing type 2 diabetes there remains a case for secondary prevention weight management and behavioural interventions[44].

Factors to consider when delivering public health nutrition

Public health nutrition operates within the context of government machinery, which is nuanced by the evidence base, the political paradigm and the system landscape as briefly described in this paper.

A key task for civil servants working in the field of diet and obesity is to help deliver population approaches to improve nutrition and tackle issues, such as obesity. This includes activity, for example transforming the outputs from research and evidence-based conceptual ideas into approaches that have wider reach and aim to better the public's health. The challenge of achieving this is characterised by the diffusion of innovation[45] and while at times approaches fail for very appropriate reasons the real or perceived lack of appetite for risk has been documented[46]. In order to best consider and explore the efficacy and potential of such research outputs and concepts civil servants have access to a range of policy approaches[47].

It is also evident from helping to deliver a breadth of work programmes, including those described in this paper that there exists a breadth of factors, which have a role in development and delivery. For example approaches should seek to be: 'policy and delivery relevant' intervening to add value to the current set of strategies and actions; 'collaborative' (in partnership with charities, commercial, and voluntary sector), which adds to the skill mix and enables reach and resonance with communities; and 'informed' through user/stakeholder insights and engagement. Of equal relevance these approaches should be: 'evidenced' prioritising the application of authoritative and best available evidence, including learning from practice and designed to inform the evidence base; 'evaluated' to collate the right information using appropriate methods with the aim to create agile and responsive approaches, which help to inform scalability and repeatability; 'flexible' to adapt to changing circumstances and feedback with the target population; and 'forward looking' to build upon promising, breakthrough practice and to deliver approaches fit for purpose within a dynamic population.

Delivering the Food Standards Agency programme to help young people choose, cook and eat safe healthy food

This FSA programme focused on work in schools and comprised a series of approaches, which are described in the subsequent section of this paper. The aim of the overall school's programme was to afford young people with practical opportunities to learn essential skills and knowledge, including food life skills to make healthier lifestyle choices.

Policy and delivery relevance

The mandate for this programme of work was set out in the FSA 2005, 5-year strategic plan, which committed to[48]: 'Support schools, who had not already done so, to take a whole schools approach'.

A whole schools approach to healthier living remains highly relevant, including to the wider global agenda to tackle child obesity[49,50] and it is evident, from a review of reviews into the effectiveness of food choice interventions, that a whole schools approach is a key aspect of effective approaches in the school setting[51]. The FSA schools programme supported cross government plans to help schools deliver on the 'Healthy living blueprint for schools'[52] and to create effective approaches, which schools could deliver as part of the National

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Healthy Schools Programme[53]. Tasked with working across the UK, the FSA constructed a cohesive set of core principles, which joined up delivery at a national level although provided flexibility to meet specific country needs[54].

Reflecting a whole system multi-faceted approach, the programme included the provision of expert nutrition and food advice, to the Department for Education and Children's Food Trust (formerly the School Food Trust) on 'population level' approaches such as the school food standards and supporting implementation into schools.

A significant component of the work programme, delivered locally and benefiting schools and individuals, was the development of a consistent and authoritative set of food and healthy eating resources for use in schools and other settings. Underpinning this development was the food competency framework, which, originally developed for 14–16 year olds was extended, in collaboration with the British Nutrition Foundation and other partners, to span four age phases (5–7; 8–11; 11–14; 14–16 years) of a young person's journey between the ages of 5 and 16 years[55].

This publicly consulted framework provided the consensus view on a consistent set of young person's relevant skills and knowledge across the four themes of diet and health; consumer awareness (shopping); cooking (food preparation and handling skills); and food safety[56]. Competencies within the framework were underpinned by evidence-based messages, such as those communicated through approaches such as the eatwell plate[57] and purposely constructed, across the age phases to dovetail with and also help influence the development of relevant curricula and resources.

The food competencies enabled a progressive and cumulative approach to helping young people learn and put into practice the building blocks towards making healthier choices. To support teachers to deliver, the FSA led by example when it came to developing practical approaches, based on the food competencies, to help young people learn to choose, cook and eat safe healthy food.

Practical opportunities for young people

During 2005–2010 and building on the resourcefulness of earlier educational resources[58], a range of collaborative and practical approaches were developed. Designed for use by teachers and other professionals, these were deployed in the school or community setting to help bring the food competencies to life for young people.

A key element of the broader school's programme was taking the outputs from research projects, commissioned through, for example the Food Choice research programme and helping to translate this learning into practice. A notable example of this translation was the original research by University of Ulster, which resulted in the development of Dish it Up! (Version I)[59], which was then further developed in Version II and comprised an interactive healthy eating software package, for which its application in schools was evaluated[60,61].

The other significant example of translating research into practice was the National Children's Bureau Health Challenge research in six schools in Kent[62]. This research provided the basis of the SmallSteps4Life programme, an approach to enable young people to try out challenges across healthy eating; getting active and feeling good[63]. The programme, delivered, as part of the London 2012 Inspire Mark programme, provided a focus for the healthy active lifestyles component of the Get Set London 2012 Education Programme and was successfully delivered as part of the Change4Life programme[64].

The two foremost practical approaches developed to support young people's learning were the What's Cooking[65] and Something to Chew On[66] programmes. The former aimed at providing 11–14-year olds with practical opportunities to learn how to prepare, cook and eat safe healthy food and the latter a healthy eating and activity skills programme delivered in the school setting by professional football and rugby coaching personnel.

Developed purposely to engage 11–14-year olds the FSA commissioned ContinYou, an education charity, to work with local authorities to deliver What's Cooking in schools. Throughout 2005–2008, young people in 140 schools across the Northeast and East Midlands helped to test out and benefit from this 'out of school hours' cooking club programme. The clubs were provided with guidance, were afforded flexibility in the delivery and most tended to focus on delivering practical hands-on experience of food, including preparation, cooking and sharing a meal together.

The Something to Chew On programme was developed in partnership with the Premier League's Creating Chances Programme, the FSA and the Manchester United Foundation (MUF) who co-funded, developed and implemented this innovative and inspiring approach to engage young people aged 7–8 years. The professional coach-led sessions delivered a menu of healthy eating sessions in the classroom (built around the food competencies) combining it with taking young people through activity sessions to practice the core skills to get active and play football.

Evaluation

Independent evaluation of both programmes was carried out with methodology designed with the age of participants and school setting in mind. Mixed method, quantitative and qualitative, approaches were used to elicit the impact on participants (classroom-based pre, post and follow-up questionnaires); impact as observed by teachers and for the school; and process evaluation to learn about the barriers; challenges and solutions (focus group and/or one-to-one interviews with teachers, head teachers, parents, local authority colleagues).

Evaluation of What's Cooking demonstrated a positive effect on the participants with many reporting positive outcomes relating to being more aware of what constitutes a balanced diet and stating that participation had helped them increase their food preparation and cooking skills. The clubs also appeared to have an impact on the level of involvement in food shopping and cooking at home; for instance 50 % of respondents helped

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to cook at home post club compared with 44 % pre club[67].

The Something to Chew on programme had a similarly positive impact on young participants; based on a sample of about 700 pre and post participants their overall awareness of the food groups in the eatwell plate increased from what was already a high awareness. In terms of getting active then young people reported trying out a broader range of activities, including playing football and an increase in less structured exercise through playing outdoors. Teachers from schools that participated in year 1 when followed up in year 3, reported sustained improvements in the participation of activity for some young people, commenting that the pupils still recalled their memories of when MUF delivered the programme[68].

The longevity of the impact on behaviour of these programmes is unquantified. However, it is evident that the independent evaluation of both programmes indicate that offering young people a hands on and active experience can work when it comes to helping shift their skills and knowledge about food, balanced diets and activity in the right direction. Teachers also reported that these programmes helped those children engaged in developing their self-confidence and team working and furthermore that schools valued how the programmes added value to the curriculum and their wider work to engage with healthier lifestyles.

Legacy from this programme to help young people choose, cook and eat safe healthy food

The challenge for public health programmes such as What's Cooking and Something to Chew On is one of repeatability and scalability. The roll out of What's Cooking in the Northeast[67] and East Midlands[69] demonstrated that it is possible to repeat in different regions and obtain positive outcomes and the learning from the programme was shared with the School Food Trust as it developed the Let's Get Cooking programme[70].

The successful delivery of the MUF Something to Chew On programme enabled the FSA and the MUF to collaborate with Premiership Rugby to develop a rugby version of the programme. The programme was delivered and evaluated with all Premiership Rugby Union clubs, which alongside the MUF programme helped to reach young people in 200 primary schools across England. In 2014, PHE collaborated with Premiership Rugby to extend the reach of the programme and to develop a be spoke programme to support young people, not in education, employment or training with approaches to develop healthier dietary choices[71].

The underpinnings of the work described here, the food competency framework, remain relevant in 2015. The food competencies have evolved and the British Nutrition Foundation have applied the competencies in their European Food Framework programme[72] and most recently updated the framework, in collaboration with PHE and other UK government departments to include physical activity[73]. In parallel with the framework, the FSA stayed true to its commitment, in its response to the consultation, to deliver a young person centric version of the competences. This manifested itself in the Food Route resource, developed in collaboration with the British Nutrition Foundation who much to their credit helped turn a civil servant's vision into an engaging educational solution[74].

Public Health England: local insights to inform action on obesity

This second programme of work describes the efforts made by PHE to capture local insights, which were used to inform the development of PHE obesity work plan. The aim of this undertaking was to ensure the work plan contributed to meeting local needs while also supporting and adding value to the development of national policy approaches and levers.

Policy relevance

PHE, congruent with its shared responsibility with DH for tackling obesity[35], assumed responsibility for the former National Obesity Observatory; the National Child Measurement Programme; the Public Health Social Marketing Programme (including Change4Life); and the Diet and Obesity team. These teams and programmes, along with the PHE network of centres; life course and cross-cutting teams, including mental health and health equity, were tasked with developing co-ordinated national action to support local delivery, which contributed towards the shared DH ambition to tackle obesity[75].

PHE set out its early approaches and strategy for working across the life course to tackle obesity at its inaugural Advisory Board Meeting[75]. Signalling its ambition to move away from the status quo, PHE set out to utilise the outputs of the Foresight Tackling Obesities programme and stressed the imperative to harness local stakeholder views. With this in mind, the Diet and Obesity team led the development of an investigation into the views of Directors of Public Health (DsPH), which aimed to obtain the timely and uniquely local perspective of DsPH on the priorities relating to obesity.

Investigating the views of Directors of Public Health

During 2013, the transition of the public health system[76,77] was in its midst and so every effort was made to ascertain the efficacy of investigating the views of DsPH. The culmination of these efforts resulted in the survey being developed in collaboration with the Association for Directors of Public Health with the support of the Local Government Association.

Discussions with two DsPH helped to validate the approach for surveying DsPH and provided the basis for the structure of survey questions, which sought views on the priority placed on tackling obesity; the priority

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partners; and the challenges and threats to delivery. DsPH were also asked to offer their views on the level of priority for a series of PHE action statements at a centre and national level. The survey was disseminated, via the Association for Directors of Public Health to 136 DsPH, during September 2013, with 103 DsPH from local authorities across the country responding (response rate of 76 %).

Key findings

The findings from the survey were published by PHE and the Association for Directors of Public Health in January 2014[78] and in it PHE committed to 'use the findings to inform and help shape the obesity work plan; and to revisit the findings to ensure PHE's plans build upon DsPH views'. What follows is a discussion of the key findings from the survey and a description of how PHE have responded in light of its published commitment.

Nearly all DsPH reported that child obesity featured as a priority in their local Joint Strategic Needs Assessments and Health and Wellbeing plans. A recent survey of local authority professionals suggests, reassuringly, that the imperative placed on tackling obesity in children and to a lesser extent adults still remains a priority and that more remains to be done[79].

The fact that DsPH viewed tackling obesity as a priority therefore reinforced the PHE mandate to support local delivery. However, in order for PHE to consider how to frame and position its work on obesity it was vital to seek insight into the challenges to delivery being faced at a local level. DsPH provided a telling picture of the reality of frontline delivery identifying the competing financial priorities as a significant and equally challenging area in 2013 and for the future. Local authorities have invested in approaches to identify and tackle obesity, including National Child Measurement Programme and non-mandatory weight management services[80]. Whilst secondary prevention weight management services have a role as part of the public health and health systems response to help individuals achieve a healthier weight, it was evident in 2013 that uncertainty relating to responsibility for commissioning of obesity services resulted in a potential inequity of provision across the country[81]. As for other services it is likely that the future provision of weight management and obesity services will continue to be in the balance as the system's competing demands for investment are considered as part of the future funding for public health[82].

When asked to rate the level of priority that PHE should place across a breadth of activity, DsPH-rated national and centre level priorities quite similarly with 'leading the debate on obesity and supporting system wide approaches'; 'joining up government'; and 'sharing learning and evidence' being rated higher than other activity. DsPH were not asked to substantiate their rating; however, a possible explanation for these findings is that DsPH prioritised the activities, which they perceived to be in deficit and therefore requiring action. DsPH may have perceived other activities, included in the survey, as being more established and therefore not such an immediate priority.

Figure 1, represents a summary of the findings from the survey and comprises a multi-level model depicting the key actions, factors and key actors as informed by DsPH. This model was used to inform the obesity work plan and highlights key mutually supportive actions, which are required to amplify and enable local action.

Public Health England response: framing the obesity work plan

DsPH insights provided PHE with a rich stream of intelligence, which was deployed to inform and develop the obesity work plan, which was summarised through a strategic framework for tackling obesity; see Fig. 2. This framework encapsulates delivery across PHE, and also provides a potential approach to frame local action[83]. The five-pillar framework summarises a broad and extensive set of actions across the themes of systems leadership; community engagement; supporting local delivery; monitoring and evaluation; and tackling the obesogenic environment. Building on the views of DsPH, the framework and detailed work plans that feed into it, build on the Foresight Tackling Obesities programme[31] and includes approaches that have relevance to the evidence as articulated in recent notable publications[84].

Since the publication of the survey findings, PHE has developed evidence-based approaches, which begin to address the priorities identified by DsPH. Notably, PHE has taken a leadership role in relation to the Scientific Advisory Committee of Nutrition's Carbohydrate and Health report[85], publishing evidence and recommendations on the set of actions, which could be implemented to help tackle the nation's sugar intake[86]. Other notable national programmes include the PHE healthier and more sustainable catering guidance[87]; the Everybody Active, Everyday physical activity strategy[88]; and PHE commitment along with NHS England and Diabetes UK to develop the NHS Diabetes Prevention Programme[44].

The Diet and Obesity team has pursued direct action in order to build upon the views of DsPH, which includes the 'Sugar reduction: evidence into action evidence' package[86] and a broader programme of work to support the local system tackle obesity. This includes collaborative approaches of which, notably in the public domain are the aforementioned cross system work with NHS England on the commissioning of obesity services[82]; support to the Men's Health Forum to disseminate an evidence-based guide for practitioners on delivering weight management services for men[89]; and a mapping of weight management services across England[90]. The present work is focused on delivering requirements to inform and develop a blueprint specification for weight management services as outlined in the PHE remit letter 2015/16[2].

Whilst individuals should assume responsibility for their choices and behaviour[91], it is apparent that a proportion of the population do not perceive that obesity is necessarily something that affects them personally[92]. Such observations underline some of the complexity relating to

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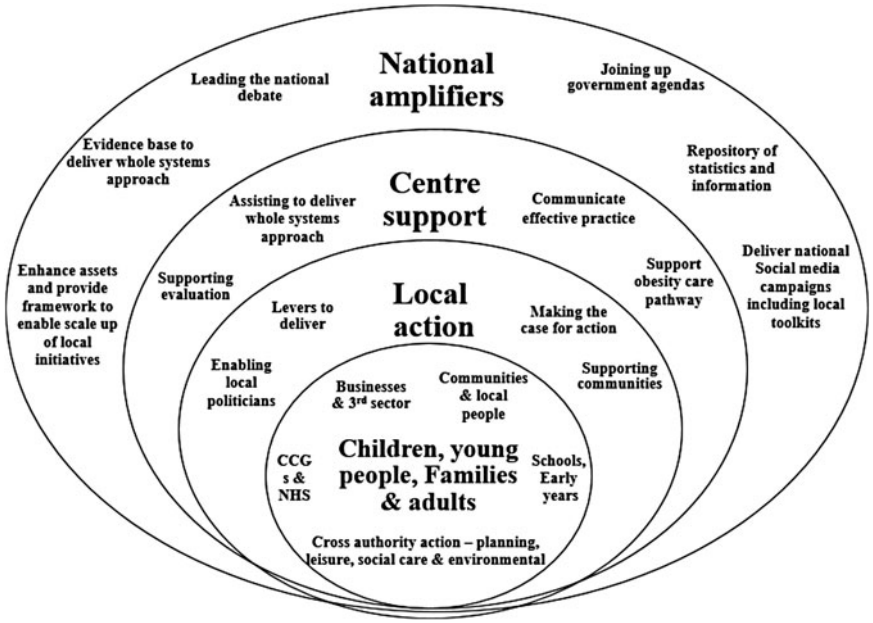

Fig. 1. Model summarising findings from Public Health England Directors of Public Health tackling obesity survey, 2013. CCGs, Clinical commissioning groups; NHS, National health Service.

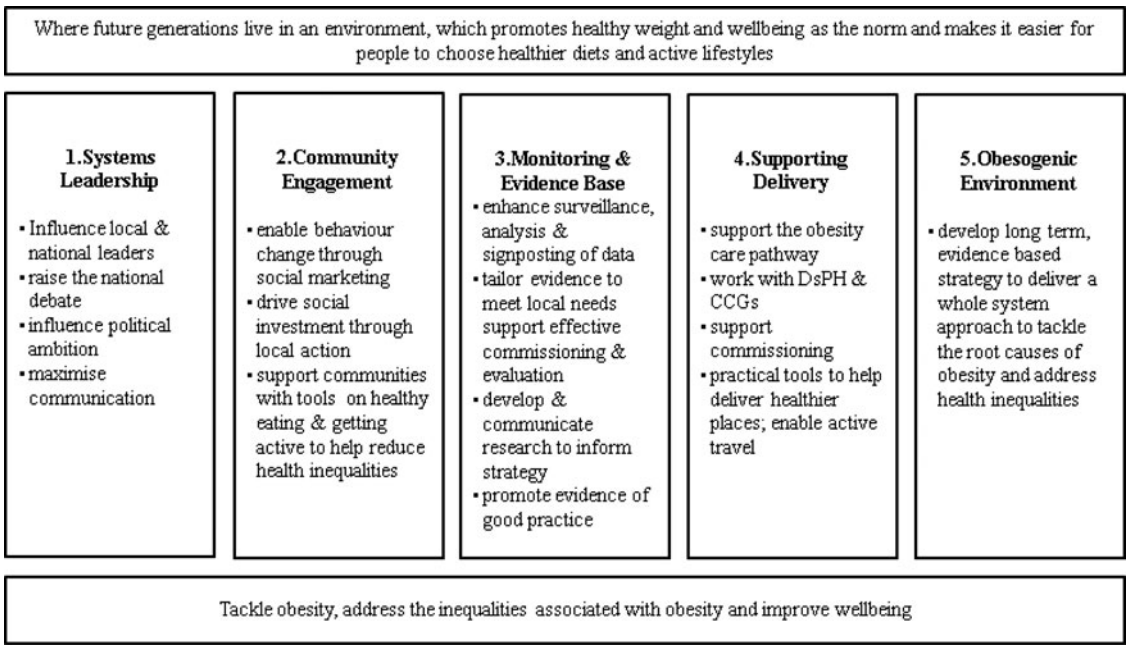

Fig. 2. Public Health England Obesity work plan: five pillars for action. DsPH, Directors of Public Health; CCGs, Clinical commissioning groups.

tackling obesity and as a consequence it is imperative that a multi-sectorial response is put in place to deliver national policies, which amplify and support local approaches to create healthier dietary and activity defaults[84].

PHE, through its work plan and the actions it has undertaken since its inception, has certainly embraced this challenge and the views of DsPH provided PHE with the scope to work with local government on systems approaches. Work with local authorities is already underway to explore the role of public health and planning in delivering healthier weight environments[93] and PHE, with systems approaches in mind, explored how to build upon local practice at the PHE Conference in 2014[94]. PHE has subsequently embarked, along with the Association for Directors of Public Health and Local Government Association, to develop a programme of

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work to investigate and explore how to co-produce and pilot systems approaches to tackle obesity with local government[95]. The programme of work aims to build on the evidence base and co-develop, with local authorities, and their partners, transferable approaches to enable delivery of long-term systems approaches to help tackle the causes of obesity. Focused on the local system it is envisaged that such approaches will help complement the anticipated broader range of actions to prevent and tackle obesity in the population, particularly in children[96,97].

Conclusions

The recent eras of government have enabled public health nutrition in the civil service to evolve and the Diet and Obesity team has adapted its approaches and delivery to meet the changing demands placed upon it. This account partly demonstrates that throughout these reforms the veracity placed in utilising and informing the best available evidence to deliver nutrition to support the public's health remains a top priority.

Delivering approaches to better the public's dietary health is continually influenced by a range of factors, including population behaviour; the state of the evidence base; and the political paradigm. Whilst sometimes challenging, these contextual factors equally provide significant opportunities to leverage influence, to innovate and extend the boundaries of the evidence base.

The programmes of work described in the present paper demonstrate that the application of nutrition expertise when deployed in conjunction with other important factors, such as collaboration and evaluation has enabled the delivery of successful approaches to support the public's health. It is also evident that the translation of research and evidence into the delivery of approaches that are contemporaneous, while being responsive to future scenarios is achievable.

Embedding those principles in supporting sustained efforts to tackle obesity is imperative. Doing so and grasping opportunities to work together, through collaborations to inform the evidence base, will help inform our collective understanding of approaches, which resonate with how people live their lives and contribute towards preventing obesity.

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