Obesity

Workshop series to support prioritisation of research

About Public Health England

Public Health England exists to protect and improve the nation's health and wellbeing, and reduce health inequalities. It does this through world-class science, knowledge and intelligence, advocacy, partnerships and the delivery of specialist public health services. PHE is an operationally autonomous executive agency of the Department of Health.

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Summary of the main research priorities identified

The following are the key research priorities identified during the discussion:

- further research into the obesogenic environment to gain greater insight into the drivers towards unhealthy vs healthy behaviours, including both physical activity and diet
- further research to understand the determinants of unhealthy behaviours and how to shift the environment to encourage people into healthy behaviours
- determine what a non-obesogenic environment would look like and the steps required to achieve that vision
- further research on how to influence across the relevant community and political systems, including agriculture, economics, recreation/leisure and housing, both locally and nationally
- research to understand the complexity around local level economics, assembling economic data across the whole picture, not just costs to the NHS but to include local economy shops and employment vs health and wellbeing
- ascertain what the knowledge gaps around obesity are within local authorities, with a view to identifying further research gaps and areas of priority
- further research to understand how public advocacy develops and how this can be stimulated for obesity and health
- research and market surveying to help determine how local employers can think about the impact on their productivity and competitiveness from their workforce making healthier choices
- how best to effectively engage with Local Enterprise Partnerships?
- how does the environment shape behaviours in hospitals, including the new hospital food and drink policies, healthcare staff working patterns? What is required to change these behaviours?
- further investigation into the apparent health halo effect resulting in decreased perception of unhealthy food choices when food/drink is served in a healthcare environment
- further research can build knowledge on the halo effect of food/drink industry sponsorship of physical activity so that data is available to influence decisions in this area
- evaluation of workplace interventions to ascertain which interventions are most effective at improving health
- research into applicability, messaging, acceptability of weight management apps
- evaluation of health benefits from use of weight management apps
- research to explore the use of apps and the data collected by them as research tools

- further research into outcomes of healthcare interventions for obesity at all levels
- research into outcomes from early weight loss interventions and how best to capture people with lower BMI onto weight loss interventions
- methodological research to develop approaches appropriate to research and evaluate complex behaviour within complex systems
- international comparisons, particularly in areas where research may be political, sensitive or otherwise difficult

Key overarching issues

Throughout the discussion at the workshop, a complex set of interrelated factors emerged, in particular:

Complex and interlinked overlapping systems
The focus for addressing obesity needs to shift to take a whole systems approach, thinking about the population and the environment, not the individual. Systems approaches require us to think about all of the elements that create our obesogenic environment, as well as thinking across all sectors including cross-departmentally within government, both local and national.

Focus towards prevention
Participants emphasised the case for shifting research 'upstream' to find effective ways to address the prevention of obesity, as well as treatment. This is of course part of the larger argument and case for shifting funding upstream.

Need for a long-term approach
To successfully address the problem of obesity will require a long-term plan (20+ years) involving a combination of changes and interventions which by themselves may not lead to dramatic changes, but in combination will shift the population towards healthier lifestyles.

Introduction and overview

During financial year 2014/15 PHE ran a series of four workshops, culminating in a series of five reports, on the topic areas below to specifically explore the research needs and evidence gaps for those topics:

- Obesity 9 September 2014
- Dementia 26 August 2014
- Best Start in Life 25 November 2014
- Cross-cutting themes (report only)
- Evaluation 11 February 2015

This is the report for the Obesity workshop, there is also a report detailing items that were discussed at more than one workshop. The aim of these workshops was to engage with the academic, policy, research funding and public health communities to explore research requirements in topic-specific, PHE priority areas. The discussion aimed to identify current major research challenges and gaps relevant to obesity. This addresses the 'public health research narrative' as proposed in the PHE Research, Development and Innovation strategy 'Doing, Supporting and Using Public Health Research'.

This is a summary report to reflect the views expressed at the workshop.

Intended audience for this report

The intended audience for this report includes all those involved in the research process for obesity related research including academics and other researchers, research councils, health research charities, other research funders and commissioners.

About the workshop

Among the 28 participants were senior members of many of the most prestigious national obesity-related academic research groups (see Annex 1 for full participant list). Their engagement with PHE priorities is an excellent indication of future potential collaboration.

The workshop was split into three sections:

- two short presentations giving an overview of PHE R&D strategy, PHE ambitions and structures, and a presentation by the PHE Obesity lead
- an open discussion and plenary
- group sessions where participants were split into four groups to address a set of specific questions related to obesity research needs

Findings

Discussion topic	Principal views expressed	Suggestions for future research
Obesogenic environments and population approaches	• Focus for addressing obesity should shift to take a whole systems approach, thinking about the population and the environment, not the individual. • Systems approaches require us to think about all of the elements that create our obesogenic environment (defined as 'the sum of influences that the surroundings, opportunities, or conditions of life have on promoting obesity in individuals or populations'[1]). • Although many interventions may be targeted at the individual level, the desired overall aim is to achieve a downward shift in weight at the population level. • There is a need to move away from regarding obesity as the fault of individuals and move the discourse and research base upstream to focus on how to make that downward shift. • Individual behaviours are formed in groups with a complex chain of interrelationships with society, culture and environment.	• Further research into the obesogenic environment to gain greater insight into the drivers towards unhealthy vs healthy behaviours. • Evidence base and general understanding around the obesogenic environment relating to physical activity appears to be greater than for food and diet. The food environment is not as simple as where fast food outlets are located, but needs to consider everything from the family home, through schools and workplaces, to the whole town and country.
Stimulating behaviour change	• The majority of decisions that we make are made in a non-cognitive manner (based on habit). Interventions to promote healthier behaviours can be most effective if	• Further research is required to understand the determinants of unhealthy behaviours and how to shift

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[1] Swinburn, B. and G. Egger, Preventive strategies against weight gain and obesity. Obesity Reviews, 2002. (4): p. 289-301.

	people are not aware of them and are enabled to adopt healthier behaviours without having to make a conscious choice to do so. • This would need changes within the social and natural environment to disrupt the cultures that set unhealthy habits.	the environment to encourage people into healthy behaviours. • This is a complex situation with multiple factors at play with collective influence. Thus research is challenging and a single solution is unlikely.
Long-term approach	• To successfully address the problem of obesity will require a long-term plan (20+ years) involving a combination of changes and interventions, and research is needed to understand what these need to be. • Political landscape and current funding models make it difficult to get funding for research with such long-term outcomes or to fund the many necessary foundations which by themselves may not lead to dramatic changes, but in combination will shift the population towards healthier lifestyles.	• Determine what a non-obesogenic environment would look like and the steps required to achieve that vision. • Examples such as changes in transport policy in the Netherlands during the 1970s/80s that led to higher levels of active transport may be useful to study.
Research into 'change agents'	• The public health workforce can be regarded as all those engaged in work that impacts on the determinants of health-related behaviours including engineering, transport, planning etc. These groups who don't have health in their job title or role need to be engaged in appropriate ways to enable them to understand and consider the wider public health implications of their work. • It is important for Public Health England to think about the kinds of strategic partnerships that could be made to improve training for staff, such as economists within non-health government departments, to increase understanding of the public health implications of their work. • Across local and national government, many of the levers for change towards healthier environments and behaviours	• Further research is required on how to influence across the relevant community and political systems, including agriculture, economics, recreation/leisure and housing, both locally and nationally. • Research to understand the complexity around local level economics, assembling economic data across the whole picture, not just costs to the NHS but to include local economy shops and employment vs health and wellbeing. • Ascertain what the knowledge gaps around obesity are within local

	exist outside the health departments and getting non-health policy makers to understand and consider the health implications of their work can be a major challenge. • Currently gaps in research base to understand how best to get messages across to influence different sectors and departments and how to enable greater integration of thinking and planning to include public health. • A further complication arises from the potential tension locally between wealth generation and health promotion, for example the local economic benefits of fast food outlets and alcohol sales versus the need to encourage healthy behaviour. • The lack of integration across different departments is also an issue for central Government, not least for health where the Department of Health may be dealing with costs relating to areas where it does not hold the levers for change. • It was not clear what the knowledge gaps are around obesity within local authorities, or where research can reduce uncertainty in the knowledge base. NICE develops local authority briefings using its guidance which could play a role here.	authorities, with a view to identifying further research gaps and areas of priority. Differences between and within local authorities must be acknowledged in any research in this area. • Do local authorities know what the economic impact of obesity is for them, and whether the comorbidities have costs at the local level on top of the more known costs to the NHS? • Do local authorities understand that they hold the levers to affect the obesity epidemic, and is it known what can be done at the local authority level rather than nationally or by individuals? • A particular challenge is how to shift environments and cultures given current levels of funding so research could help identify what might be done without additional cost.
Consumer engagement	• As well as financial issues and understanding and availability of evidence, public acceptability and support is a major factor determining priorities within local authorities. There are a number of examples where campaigning has increased public awareness of a health issue and consumer voices have successfully been mobilised to drive changes in policy, including limiting advertising of	• Further research to understand how public advocacy develops and how this can be stimulated for obesity and health.

	unhealthy food to children. Increased demand from the electorate could enable local authorities to place greater priority on their public health responsibilities, and there is the possibility of greater academic involvement in this type of consumer engagement. • Programmes such as Change for Life have gone some way towards shifting norms in behaviour and thinking, creating a narrative to discuss obesity related issues. Interventions such as removing fast-food outlets from around schools have a broader effect on the system than simply whether those school children eat less junk food on their way home through impact on collective behaviour and challenging unhealthy cultures. This could potentially be taken further to create a shift in the broader understanding of the obesogenic environment, including issues like whether people over-eat as opposed to being overserved. By helping the general population see more clearly how the environment shapes what and how much they eat, this may create increased demand for change.	
Promoting health in the workplace	• The business sector may appear to be reluctant to engage in the promotion of salutogenic (health-promoting) environments. • With the ongoing process of localisation, a major stakeholder to consider are the new local enterprise partnerships between local authorities and businesses. These partnerships steer allocation of significant local investment, particularly relating to facilities, roads, and buildings, in the area. Their focus is mainly on job creation and the local environment but with limited understanding of the relevant public health questions and implications.	• Research and market surveying to help determine how local employers can think about the impact on their productivity and competitiveness from their workforce having healthier choices, which in turn could lead to greater support for the necessary local environmental changes. • How best to effectively engage with local enterprise partnerships?

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Promoting health in other settings	• Although there is a large body of work researching obesity related interventions in schools, much less is known about other settings where interventions are also needed. A key example is within hospitals and healthcare services where there are known to be high levels of unhealthy food behaviours and environments for patients, visitors and staff. • There may be a 'health halo' effect of food being available in a hospital, meaning that consumers perceive unhealthy foods to be healthier than they are because they are available in a healthcare setting. The same health halo effect can be seen with food/drink industry sponsorship of physical activity, where the food/drink is perceived to be healthy because of its association with healthy activities. • A large amount of research was known to be ongoing on the concept of a healthy workforce. However, it was agreed that there was currently a lack of evidence on what works best in this area. • Work with those local authorities and others already implementing schemes to improve workplace wellbeing, and engagement with local enterprise partnerships would be helpful here. • Inequalities are important considerations and the perspective of different socioeconomic and educational groups must be considered. • There is also a lack of data on poor mental health and diet.	• How does the environment shape behaviours in hospitals, including the new hospital food and drink policies, healthcare staff working patterns? What is required to change these behaviours? • Further investigation is needed into the apparent health halo effect resulting in decreased perception of unhealthy food choices when food/drink is served in a healthcare environment. • Further research can build knowledge on the halo effect of food/drink industry sponsorship of physical activity so that data is available to influence decisions in this area. • Evaluation of workplace interventions to ascertain which interventions are most effective at improving health, going beyond simple employment statistics and short-term changes to absenteeism, given that interventions would aim to have impact over a longer time period. • Research on poor mental health and diet.
Leadership and lobbying	• Lobbying power for obesity research is limited, eg there is no clear third sector/charity leader for 'obesity' such as exists for smoking, cancer, dementia or diabetes. This limits the ability to influence the major research funders.	

	For example, the James Lind Alliance (part of NIHR) develops priorities for research that are highly influential among funders as well as researchers who are writing proposals. As this is mostly a 'patient'-led activity, how might they be influenced to address obesity?	
Private sector data handling and mobile technology	• There are an increasing number of weight related apps, but as yet very little regulation or independent evaluation of this growing and potentially influential area. There are unanswered questions about their applicability, messaging, acceptability, and the ability of social media in general to reach hard to reach groups. There is no evidence to see if this approach works from the perspective of positive healthcare endpoints. • If data were available, it might also be possible to use apps as research tools, and this is true for other large datasets such as supermarket loyalty cards. Work is underway to explore access to supermarket data, but there is further potential in this area.	• Research into applicability, messaging, acceptability of weight management apps. • Evaluation of health benefits from use of weight management apps. • Research to explore the use of apps and the data collected by them as research tools.
Healthcare research	• There are gaps in knowledge in healthcare for overweight/obese people, including understanding how early to intervene on weight loss, how best to capture people with lower BMI onto weight loss interventions and what that would achieve. Gender differences in uptake of weight management problems were also noted. • In general, there was agreed to be a lack of knowledge on outcomes of interventions across the field. It would also be helpful to provide additional training/support for healthcare professionals to allow them to have more comfortable conversations about weight.	• Further research into outcomes of healthcare interventions for obesity of all levels. • In particular, research into outcomes from early interventions on weight loss and how best to capture people with lower BMI onto weight loss interventions.
Use of language	• The label 'obesity' is unhelpful to individuals: demoralising,	

	stigmatising and creates barriers to prevention. • Obesity itself is not a disease but a risk factor for numerous diseases and quality of life issues including diabetes, cardiovascular disease, cancer and dementia. Disease prevention is an area where interventions may be more acceptable to the population than obesity itself, so a focus on lifestyle change to prevent diseases may be of more value than a focus on (over)weight or obesity. • Evidence from workshops and focus groups suggests that models focusing on obesity or healthy weight/lifestyle are differentially effective with different sections of the population. When framed around children's health for example, obesity is seen as a higher priority. Further research and evaluation to determine what language is most helpful to different population groups is needed, although some work in this area was known to be underway. • Focusing on obesity prevention must not detract from discussions of healthy lifestyle, given that losing weight and becoming more physically active are important for many other health priorities. However, although moving away from a focus on obesity may be helpful in terms of public health and prevention, medically the definition of obesity and understanding the clinical outcomes of it are vital for the clinical care of those already at that stage.	
Available methodologies	• Existing epidemiological and evaluation tools and methods are often not good at answering questions about complex behaviours within complex systems. There is an urgent need to develop new approaches that allow us to take an objective and scientifically robust approach to dealing with	• Methodological research to develop approaches appropriate to research and evaluate complex behaviour within complex systems.

	the messy nature of evidence around wicked problems.	
Better access to data	• Existing data sets need to be more open, easier and cheaper to access to allow more secondary analysis/reanalysis of existing data sets, looking at different angles from the original analysis. Better ability to link social care and health data would also facilitate further research.	
Political sensitivities and international comparisons	• Political sensitivities around areas such as higher taxation on high sugar or fat food are a barrier to research. Further efforts should also be made to learn lessons from international comparisons.	• International comparisons, particularly in areas where research may be politically sensitive or otherwise difficult.

Additional points

The nature of the practical research that could be conducted in the field, and the kinds of results it generates, may not be appealing to funders and often does not lend itself to publication in high impact journals. This may make it unappealing to people pursuing an academic career. Using evidence about impact rather than number of publications in high impact journals as a measure of success could better support researchers in this area. Research funders were urged to consider how to balance these opposing needs to enable research to be undertaken using innovative practical and methodological approaches, where it may not always be possible to generate tangible results or demonstrate impact in the short-term from individual projects. A number of current and newly developing funding schemes from the MRC, Wellcome Trust and NIHR were discussed, but it can be difficult for the research community to see how the schemes and remits of the funders relate to each other. Further clarification of this would be helpful.

The UKCRC Centres of Excellence in public health have now been established more than five years. All five centres have a different mode of operation and different levels of existing linkage with local public health systems, and Public Health England should consider ways to work more closely with these Centres to enable further impact from this investment.

Also, research structures and funding timescales are often ill suited to the rapid responses required to research natural experiments relating to policy initiatives, in which the time from announcement to implementation is often too short to get an evaluation project funded, initiated and baseline data collected.

The 2008 "Healthy Weight, Healthy Lives: A Cross-Government Research and Surveillance Plan for England" was agreed to be worth revisiting as a number of the priorities identified in the report still remained.

In general, there is still a gap in translation of public health research and it was suggested that Public Health England might be able to play a key role here, although the nature of that role was not clear.

The long-term nature of obesity and its prevention is not easily compatible with the political and financial system within local authorities. In addition, there is a lack of resources within local authorities to support the difficulties of evaluation in this area. Existing evaluation structures do not necessarily address difficulties in being responsive to policies, particularly timeliness of intervention development versus research. It was suggested that Public Health England might usefully play a role in bridging the gap, such as promoting awareness of interventions/policies that are in the pipeline and

enabling research to be conducted in a timely manner. If there was a way to link local authorities so that separate local initiatives could be brought together to create the possibility of a more robust and generalisable evaluation this would be a valuable strategy.

Invited participants

Paul Aveyard, University of Oxford
Kate Aylett, Medical Research Council
Sally Bailey, NIHR/University of Southampton
Joanna Clarke, NHS England
Adrienne Cullum, NICE
Peter Dick, Department of Health
Louisa Ells, Teesside University and Specialist Advisor to Public Health England
Matthew Fagg, NHS England
Nick Finer, University College London
Bernadette Hannigan, Public Health England
Philip Insall, Sustrans
Susan Jebb, University of Oxford
Grace Jeffrey, Health Education Yorkshire and the Humber
Tom Kenny, NIHR NETSCC
Theresa Marteau, University of Cambridge
Felix Mukoro, NHS Improving Quality
Jennifer O'Callaghan, Wellcome Trust
David Ogilvie, University of Cambridge
Geof Rayner, City University
Harry Rutter, LSHTM and Public Health England
Pinki Sahota, Leeds Metropolitan University
Valerie Shanks Pepper, NHS England
Carolyn Summerbell, Durham University
Alison Tedstone, Public Health England
Adam Tregidga, Department of Health
Alison Williams, Royal College of Midwives/Doncaster and Bassetlaw Hospitals Foundation Trust

Paula Frampton (secretariat), University of Cambridge and Public Health England
Sonya Clark (secretariat), Public Health England