Section A: CPHE to complete	
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Guidance title:	Behaviour change
Committee:	Programme Development Group
Subject of expert testimony:	Behaviour change: Choice architecture, economic environment and the ethics/Acceptability of such techniques
Evidence gaps or uncertainties:	Are 'choice architecture' or economic environment interventions effective and cost effective at changing someone's behaviour and leading to sustained change? How acceptable are such interventions to the public and to policy makers?
What is the theoretical/conceptual framework for explaining how choice architecture interventions work?	
Under what circumstances do such interventions work, for whom, and for how long?	
Is there any harm associated with the use of choice architecture interventions – for example, can they lead to a "halo" effect, whereby combining a healthy option with an "unhealthy" option makes the unhealthy option appear healthier?	
What are the ethical issues associated with specific behaviour change techniques or practices (e.g. financial incentives)?	
How do views of acceptability differ between participants of behaviour change interventions, the general public, and policy makers?	
What is the potential impact of these views on the practical application of behaviour change techniques?	
Section B: Expert to complete	
Summary testimony:	

<u>Changing environments to change behaviour</u>

We can understand behaviour as arising from two sets of processes: goal directed, reflective processes, and automatic, habitual processes largely cued by stimuli in the immediate environment (1). The latter set of processes controls more of our behaviour than the former. Choice architecture interventions are those that involve altering the properties or placement of objects or stimuli within micro-environments with the intention of eliciting health-enhancing behaviour (2). Such interventions are implemented within the same micro-environment as that in which the target health-enhancing behaviour is performed, typically require minimal conscious engagement, can in principle influence the behaviour of many people simultaneously, and are not targeted or tailored to specific individuals. It is expected that they work largely through automatic habitual processes.

To date there is insufficient evidence -synthesis of choice architecture interventions to know effect sizes of various interventions, individually and in combination, and the extent to which these might be sensitive to context and populations. We hypothesise that these interventions, by by-passing reflective processes to activate behaviour, are

more likely to achieve behaviour change in those who are more as well as less socially deprived. Results of a recent large scale scoping review (2) suggests several promising intervention types warranting further primary and secondary research: those regarding sizing, ambience, availability, prompting, priming and proximity.

Regarding potential harms from choice architecture interventions, we do not know if these are more or less likely than for other interventions. The potential for no effect (with attendant resource cost) as well as the potential for unintended perverse effects (such as the increased consumption of calories that can occur when foods are labelled as low as opposed to high fat) underscores the importance of evaluating interventions.

Regarding the impact of economic environments on diet and physical activity related outcomes, our principal finding from a recent large scale scoping review was that evidence for the effects of economic instruments and exposures on diet and physical activity is limited in quality and equivocal in terms of its implications (3). A synthesis of evidence regarding the impact of taxes and subsidies on diet revealed that most of the evidence supports the null hypothesis (4), tempering the enthusiasm with which some have been advocating taxes to improve diet-related health outcomes.

Acceptability of government intervention to change behaviour

We have recently completed a narrative review of the acceptability of government intervention to change health-related behaviour (5). Based on 200 studies we found that acceptability varied as a function of: (a) the type of intervention, with less intrusive interventions, those already implemented, and those targeting children and young people attracting most support; and (b) the targeted behaviour, with more support observed for smoking-related interventions; (c) the characteristics of respondents, with support being highest from those not engaging in the targeted behaviour, and with women and older respondents being more likely to endorse more restrictive measures. The results of two recent discrete choice experiments show that the public is prepared to trade off negative attitudes towards intervention for population benefit, with support being sensitive to the nature and scale of the benefit (6,7). Uncertainty remains about how effectively evidence of benefit can be communicated alongside messages heralding harm from intervention, from organisations such as those representing the alcohol, food and tobacco industries.

The limited evidence that public acceptability of intervention is to some extent contingent on evidence of intervention benefit is likely to be reflected in more nuanced thinking amongst policy makers regarding public acceptability of policies.

References (if applicable):

1. Marteau TM, Hollands GJ, Fletcher PC (2012). Changing human behaviour to prevent disease: the importance of targeting automatic processes. Science 337, 1492; DOI:10.1126/science.1226918
2. Hollands GJ, Shemilt I, Marteau TM, Jebb SA, Kelly MP, Nakamura R, Suhrcke M, Ogilvie D Unfudging nudging: towards an evidence base (under review).
3. Shemilt I, Hollands GH, Marteau TM, Nakamura R, Jebb SA, Kelly MP, Suhrcke M,Ogilvie D. Economic Instruments for Population Diet and Physical Activity BehaviourChange: A Systematic Scoping Review. (under review)
4. Shemilt I, Ogilvie D, Kelly M, Suhrcke M, Nakamura R., Kirk S, Marteau T. Food taxes and subsidies: Does cumulative evidence support their use? (under review)
5. Diepeveen S, Ling T, Suhrcke M, Roland M, Marteau TM. Public acceptability

of government intervention to change health-related behaviours: a narrative review (under review)

6. Promberger M, Dolan P, Marteau TM. "Pay them if it works": Discrete choice experiments on the acceptability of financial incentives to change health related behaviour. *Social Science and Medicine* 2012 75: 2509-2514 http://www.sciencedirect.com/science/article/pii/S0277953612006971
7. Pechey R, Burge P, Monsiavis E, Suhrcke M, Marteau TM Public acceptability of population-level interventions to reduce alcohol consumption: a discrete choice experiment (in preparation)