



Taking a systems approach to obesity

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Scottish Collaboration for Public Health Research
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Foresight Obesity Project

Tackling Obesity: Future Choices

'To produce a long term vision of how we can deliver a sustainable response to obesity in the UK over the next 40 years'

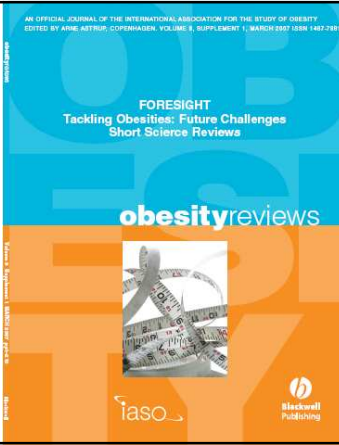





Government Office for Science
www.foresight.gov.uk

Science Reviews

- Epidemiology
- Basic biological processes
- The eating process
- Dietary determinants
- Components of energy expenditure
- Physical activity
- Behaviour change
- Intervention strategies
- Social marketing
- Policy & economic context
- Social & cultural context
- International context
- Ethics



Humans are endowed
with an ANCIENT
PHYSIOLOGY
moulded by famine ...





*"A grain in the balance will determine
which individual shall live
and which shall die"*

Charles Darwin, The Origin of Species

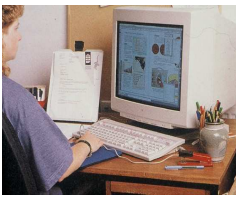
.... and ill equipped to
handle our modern food
environment



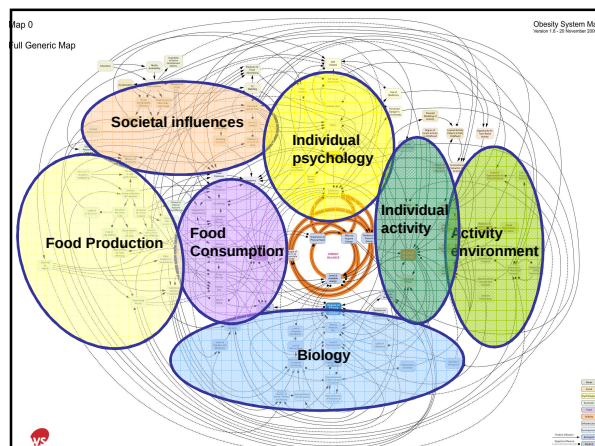
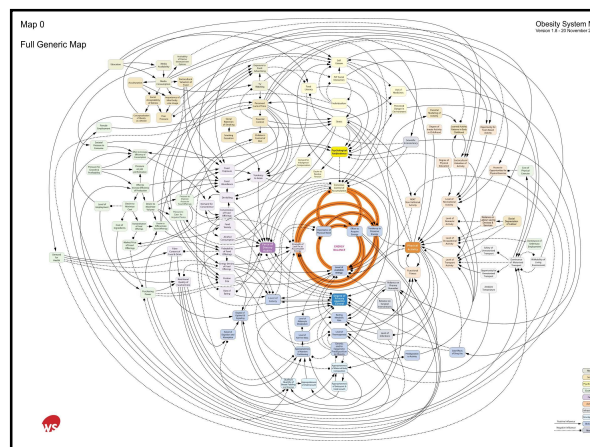
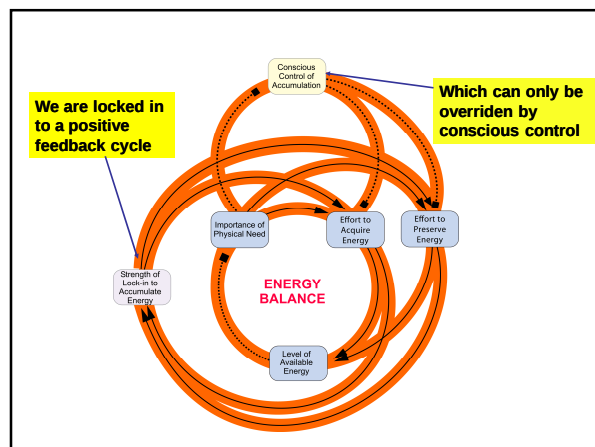
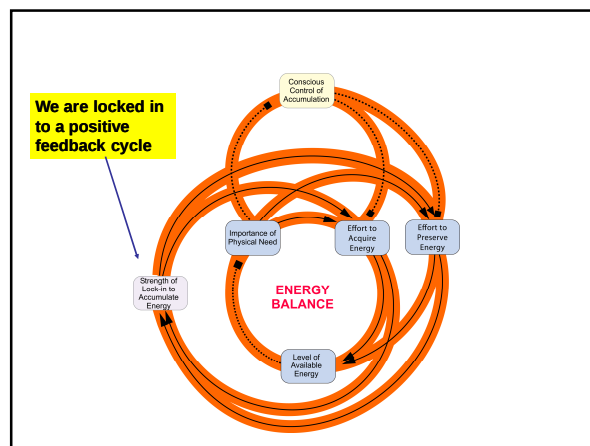
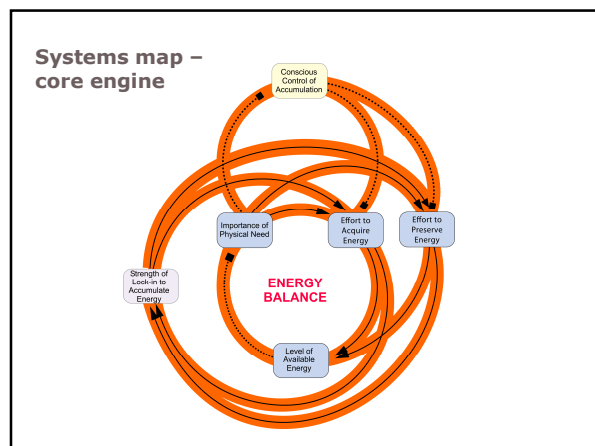





... especially when we do so little!

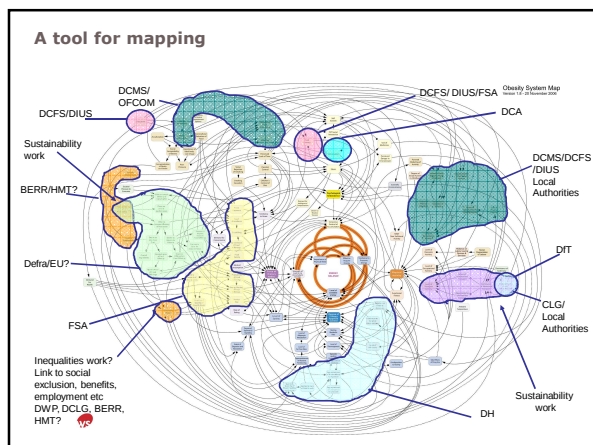
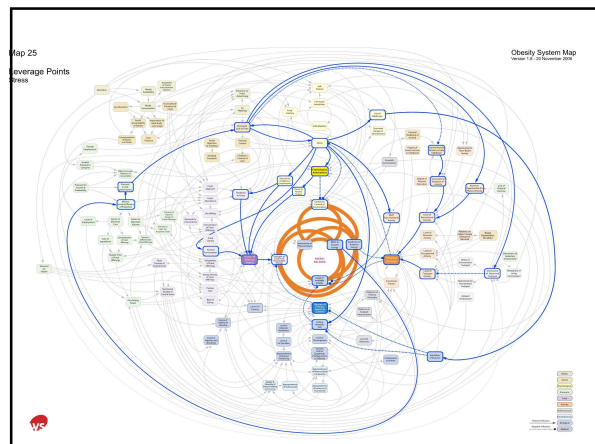
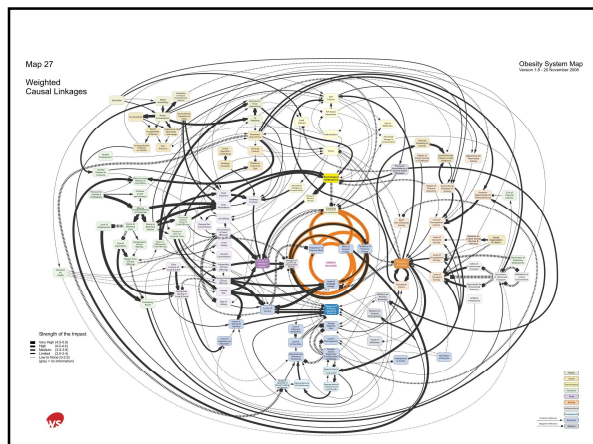




Key messages from systems map

- Central 'engine' and principle of 'lock-in'
- Critical variables
 - Primary appetite control by brain
 - Force of dietary habits
 - Level of physical activity
 - Psychological ambivalence
- Other leverage points
 - Education
 - Grazing
 - Purchasing power
 - Stress
 - Maternal body composition



Value from the system map

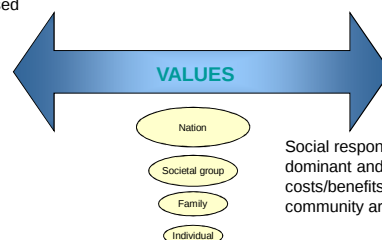
- A picture speaks a thousand words ...
- Opened up dialogue across disparate academic groups
- Provided a framework for engagement with stakeholders
- Revealed previously hidden 'systems' and layers
- Identified promising targets for intervention, beyond the obvious
- Helped to explore possible unintended consequences
- Highlighted gaps in evidence/responsibilities
- Involving stakeholders from the outset in building the model raised awareness and encouraged engagement

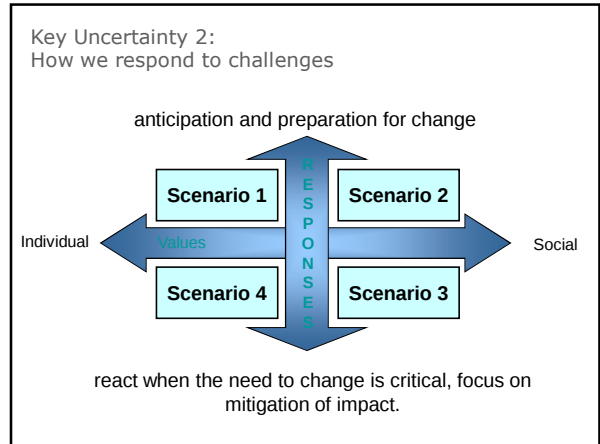


Scenario Development

Key uncertainty 1: societal values

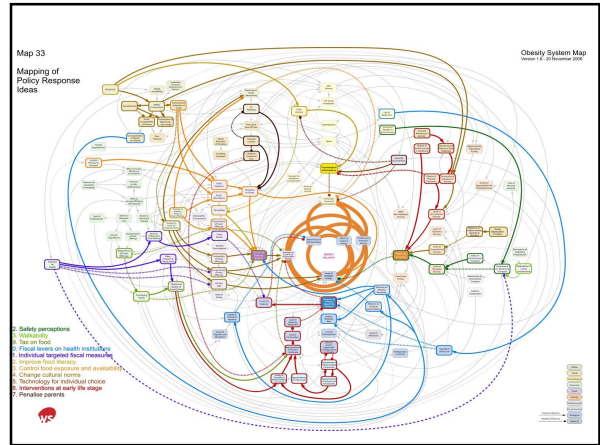
Responsibility lies with individuals and costs/benefits to individuals are prioritised





Impact on future obesity

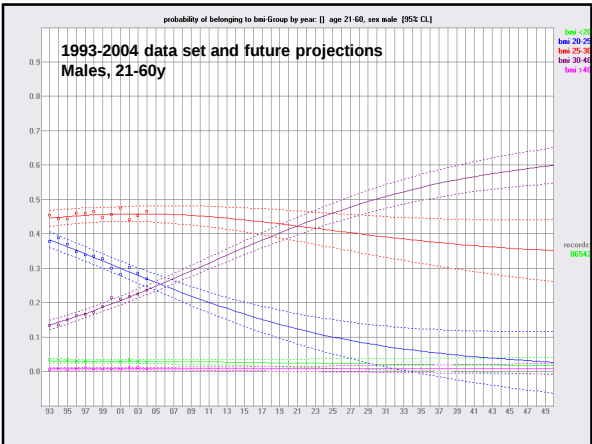
Response Options	SC1	SC2	SC3	SC4
BUILT ENVIRONMENT & TRANSPORT				
Health planning criteria in all procedures				
Active provisions of policy				
Health				
Transport interventions				
Transport interventions				
Focus on consequences				
RESEARCH				
Invested in good food solution				
Evaluation feasibility				
FISCAL				
Tax obesity promoting food				
Be organisations responsible for employee health				
Responsibility targeted food measures				
EDUCATION				
Food literacy and skills programmes				
REGULATION				
Control food exposure				
Control food exposure				
Structural interventions				
Structural approach to changing cultural norms				
Technology to support individual choice				
FAMILY				
Early life intervention				



- Foresight 'most promising' policy options
- Investment in early life interventions
 - Controlling the availability of and exposure to obesogenic food and drink
 - Increased walkability/cyclability of the built environment
 - Increasing responsibility of organisations for health of employees
 - Targeting health interventions for those at high risk

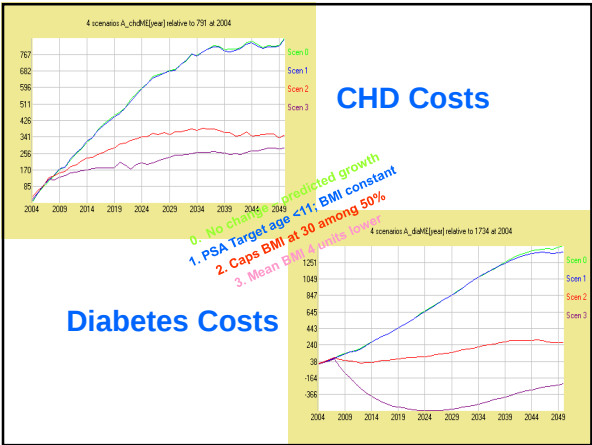
- Value from qualitative policy response options
- Facilitated a dialogue between academics, practitioners and policy makers
 - Emphasised importance of considering the efficacy of the intervention **and** social/cultural context
 - Effective actions are mostly outside the traditional health sphere
 - Population measures tend to have greater impact on overall 'system' than individual interventions
 - Need to consider the interventions necessary to create a permissive environment for subsequent actions
 - Thinking in a future space fosters creativity, takes people out of the day-to-day issues and creates a neutral environment where all views count equally





Future economic costs of elevated BMI

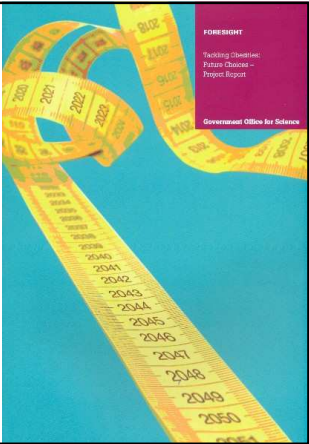
Year	2007	2015	2025	2050
Total costs of overweight and obesity: £billion/year (current prices)	15.8	27	37.2	49.9



Value of quantitative modelling

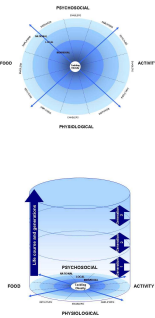
- An engagement tool:
 - Media interest in expert forecasts
 - Inherent shock value in large numbers to raise awareness
 - Money talks to policymakers!
- A scientific tool:
 - Essential for long term planning
 - Informs target setting
 - Can guide intervention planning

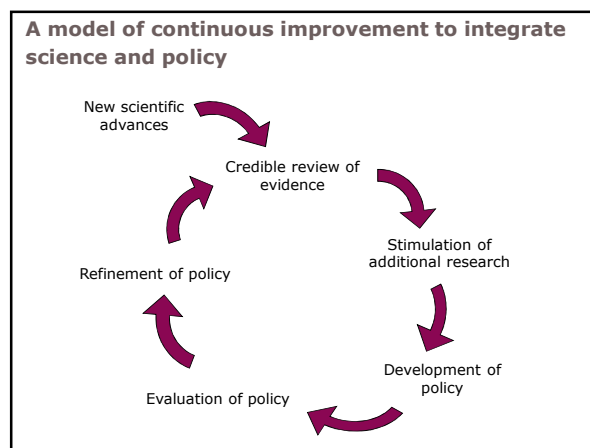
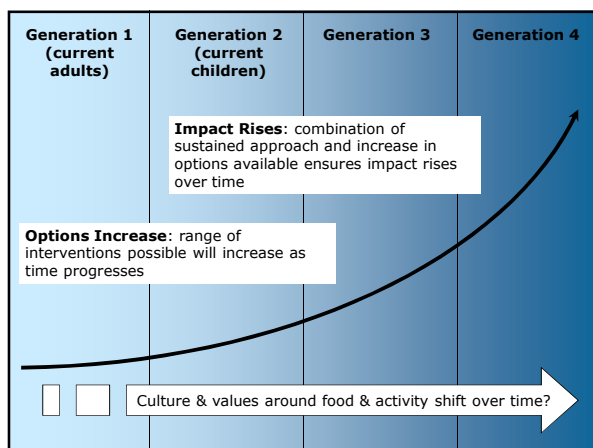
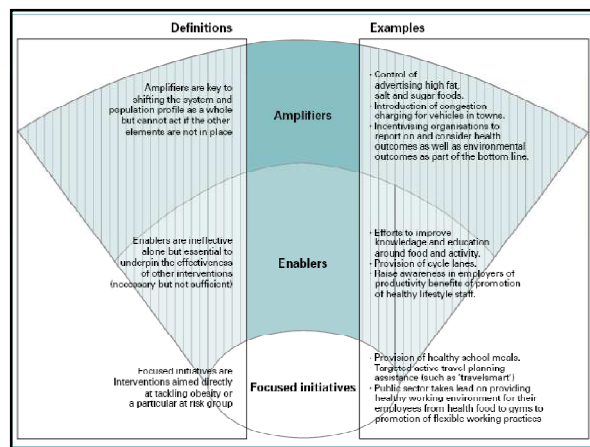
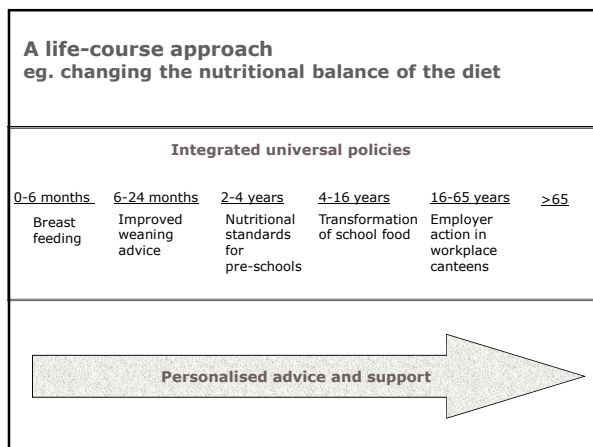
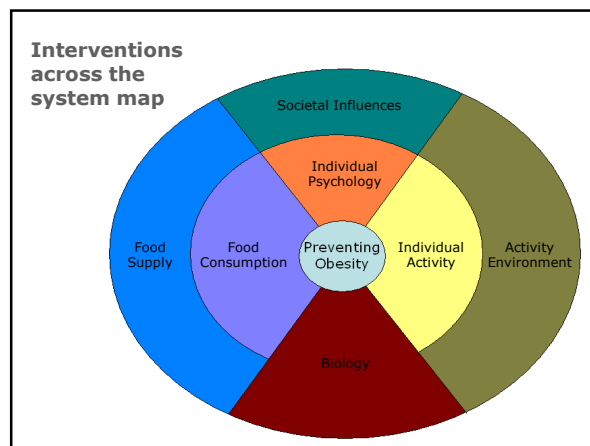
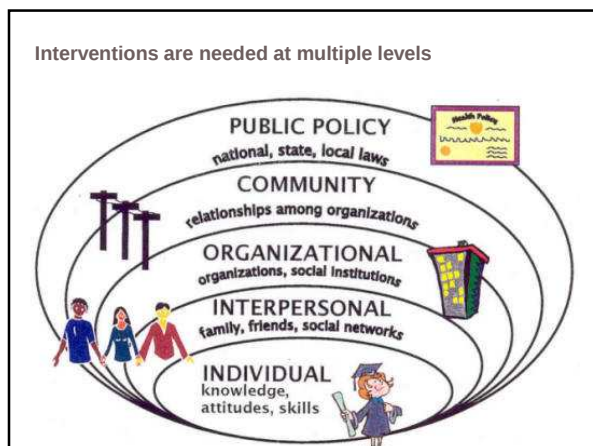
Building a sustainable response needs a coherent strategy



Developing an obesity strategy

- Interventions at different levels: individual, local, national, global
- Systemic change across the system map
- Interventions across the life-course
- A mixture of initiatives, enablers and amplifiers
- Short, medium and long term plans for change
- Ongoing evaluation and continuous improvement





Foresight has changed the tone of the debate relating to obesity

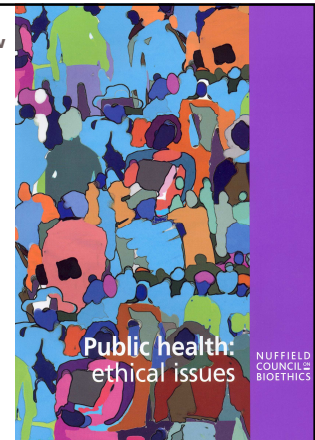
- Shifted focus from established obesity to include prevention
- Emphasised the importance of a whole population approach
- Identified a specific need for environmental change to support individual behaviour change
- Made the business case for investment now
- Highlighted the need for partnerships - within and outside government
- Recognised the need to develop a public mandate for action

Developing an ethical framework of when and how the State should act:

The Stewardship Model

para 2.43

"...Public health policy should be compatible with the views of the public, and the government should create conditions that allow the public to scrutinise and judge the appropriateness of proposed policies."



Our ambition is to be the first major nation to reverse the rising tide of obesity and overweight in the population by ensuring that everyone is able to achieve and maintain a healthy weight. Our initial focus will be on children: by 2020, we aim to reduce the proportion of overweight and obese children to 2000 levels.

HEALTHY WEIGHT, HEALTHY LIVES:
A CROSS-GOVERNMENT STRATEGY
FOR ENGLAND

Key research challenges in 2009

- To shift from causes (blame) to interventions (solutions)
- To move from 'boutique' interventions to 'industrial scale commissioning' (which might mean changing the starting point)
- To develop interventions outside the school context and beyond the health-care system
- To better understand the economic argument (and make a business case)
- To get to grips with the evaluation of new policy initiatives at all levels (process audits, behaviours and biomarkers, long-term health and economic outcomes)
- To make multidisciplinary research a practical reality
- To enhance the ability to deliver (training and capacity building)

A systems approach to Obesity: a useful model for other public health issues?

