

## About NOO

The National Obesity Observatory was established to provide a single point of contact for wide-ranging authoritative information on data and evidence related to obesity, overweight, underweight and their determinants. The observatory works with a range of organisations to support policy makers and practitioners involved in obesity and related issues. NOO is a member of the Association of Public Health Observatories. It is based in Oxford where it sits alongside the South East Public Health Observatory.

The observatory received core funding from the Department of Health in April 2008 as part of the cross-government strategy 'Healthy Weight, Healthy Lives' (January 2008) to deliver the following:

1. Provide an authoritative source of data and evidence on obesity, overweight and their determinants
2. Co-ordinate surveillance on obesity and overweight, including working towards the commitment to monitoring made in the WHO European Charter on Counteracting Obesity
3. Analyse surveillance and indicator data, and report on progress against the Healthy Weight, Healthy Lives obesity strategy
4. Provide guidance on assessing and evaluating pilots and demonstration sites in England
5. Gather information on international best practice and develop links to the International Obesity Task Force, WHO, and other supranational bodies
6. Provide technical support to the Expert Panel on obesity.

*"The Government will invest in research to deepen our understanding of the causes and consequences of the rise in unhealthy weight, and the evidence of what works. Critical to the delivery of this is the new Obesity Observatory."*

Extract from Healthy Weight, Healthy Lives (2008)



# NOO news

the Newsletter from the  
National Obesity Observatory

Welcome to the first issue of  
**NOO News – the newsletter  
from the National Obesity  
Observatory (NOO).**

This newsletter will be produced twice a year for practitioners and other professionals working in obesity and related fields. NOO News will provide updates on NOO projects, publications and data analyses; reports and statistics from other organisations; wider news; and forthcoming events.

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## NOO website: [www.noo.org.uk](http://www.noo.org.uk)

The NOO website was launched at the end of April 2008 to coincide with the National Library for Public Health's Obesity Knowledge Week.

The site is being developed and populated with relevant information and signposting to other information sources and will be fully interactive by April 2009: our aim is for it to be a one-stop-shop for authoritative information and tools on obesity and its determinants.



### Child Obesity Data Sources

#### ▶ Health Survey for England (HSE)

As well as the adult data, since 1995 the survey has also covered children aged 2–15 years, with children under 2 included since 2002.

#### ▶ National Child Measurement Programme (NCMP)

The National Child Measurement Programme annually weighs and measures children in Reception and Year 6 in maintained schools in England. The programme began in 2005. It was formerly known as the National Childhood Obesity Dataset and now provides the most robust source of childhood obesity data in England.

### Obesity data sources

The website links to key national obesity data sources and provides background information about them. This area of the site will shortly contain data sources on nutrition, physical activity and other determinants.

#### Adult obesity data sources

##### ▶ Health Survey for England (HSE)

The Health Survey for England is an annual survey undertaken since 1991. It is commissioned by the NHS Information Centre to monitor the health of the population. This is currently the most robust data source to monitor national level trends in adult obesity in England.

##### ▶ Model-based estimates using HSE

Modelled (synthetic) estimates of lifestyle behaviours include estimates of prevalence

of obesity among adults. These estimates are based on HSE, Census and other data. Estimates are available at local authority, primary care organisation (PCO) and middle super output area level (MSOA). It is important to note that these estimates are modelled and published as 'experimental data' and should be used and interpreted with caution.

##### ▶ Quality and Outcomes Framework (QOF)

The Quality and Outcomes Framework (QOF) is a voluntary annual reward and incentive programme for all GP surgeries in England. The QOF clinical register on obesity was started in 2006/7 and is based on patients aged 16 and over with a BMI greater or equal to 30. Current prevalence figures are unadjusted, subject to practice compliance and do not capture non-registered or non-attending patients.

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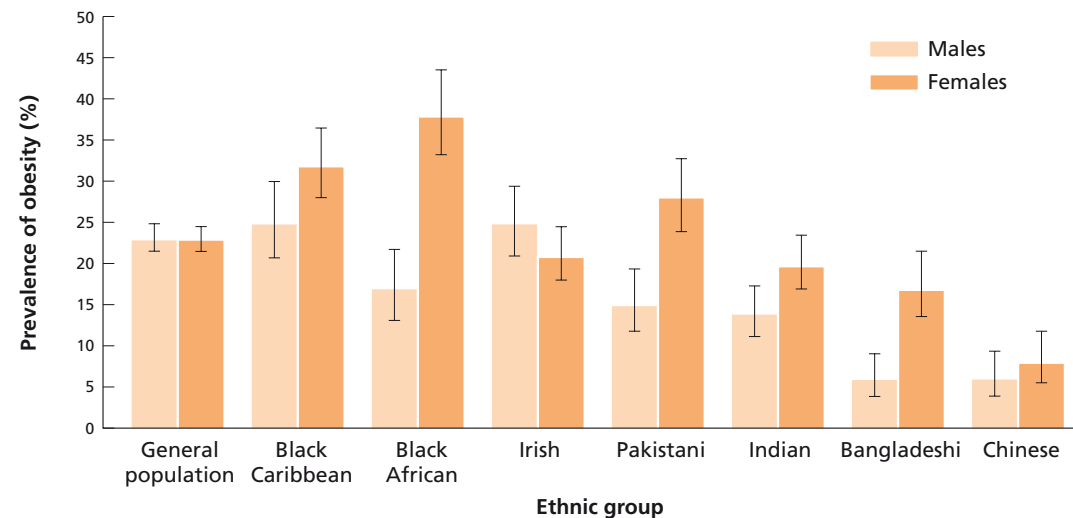
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## Ethnicity and obesity

**Obesity prevalence differs considerably between ethnic groups. We do not yet fully understand the reasons for this pattern and we are currently investigating this in more depth.**

The most recent figures on adult obesity in England are found in the Health Survey for England (HSE). The 2004 HSE focused on the health of ethnic minority populations and contained a boosted sample of individuals from ethnic minority groups.

Figure 1 shows that the prevalence of obesity in many ethnic groups appears to differ from that in the general population. The chart also highlights differences between males and females within ethnic groups. For example obesity prevalence amongst Black African males appears to be lower than the general population, whereas that for Black African females appears to be higher. Similarly the prevalence of obesity in South Asian men appears to be lower than that of the general population whilst there is much less difference between South Asian women and the general population. Unfortunately however, even in 2004, the relatively small sample size of the HSE means that confidence limits are wide. Therefore differences may not be meaningful and should be interpreted with caution.



**Figure 1:** Obesity prevalence by ethnic group in England, Health Survey for England 2004. *Source: HSE 2004*

Use of the standard adult BMI cut offs (obese:  $30\text{kg/m}^2$ ; overweight:  $25\text{kg/m}^2$ ) to classify obesity among different ethnic groups is open to debate. The relationship between BMI and body fat varies between ethnic group and some researchers have argued that different BMI levels should be used to classify overweight and obesity for particular ethnic groups.

The 2006/07 National Child Measurement Programme (NCMP) data also highlighted varying levels of reported obesity between children from some ethnic groups and the general population. Black or Black British children (Caribbean, African or any other

Black background) in particular, have higher levels of reported obesity than the White British population. These relationships are evident in Reception classes (children aged 4–5 years) but are stronger in Year 6 (children aged 10–11 years). See Figure 2.

The large sample size and the level of detail of the NCMP dataset allow for further analysis to investigate these differences. For example, children from Black ethnic groups report higher average height than other ethnic groups, which may explain some of the variation (figure 3).

The British 1990 Growth Reference Curves are the most commonly used classification →

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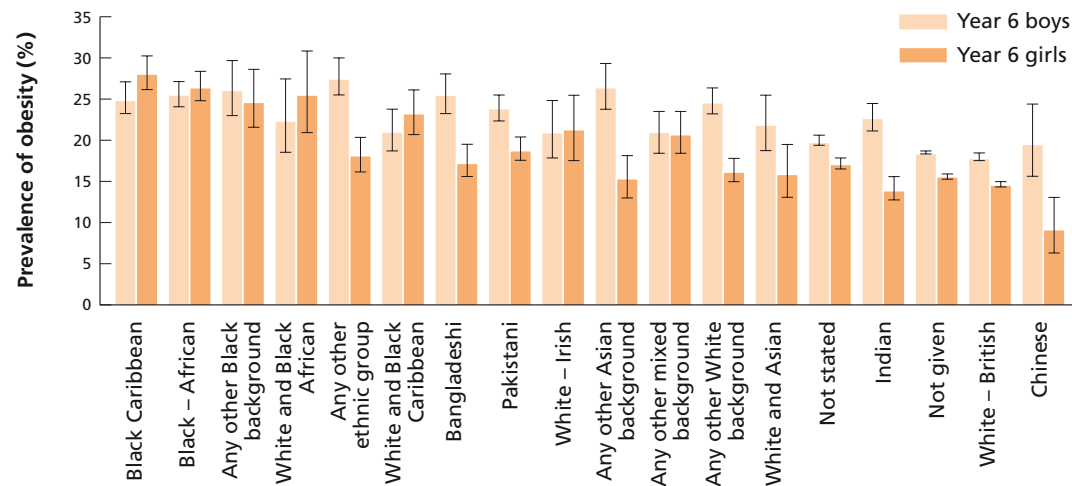
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## Ethnicity and obesity

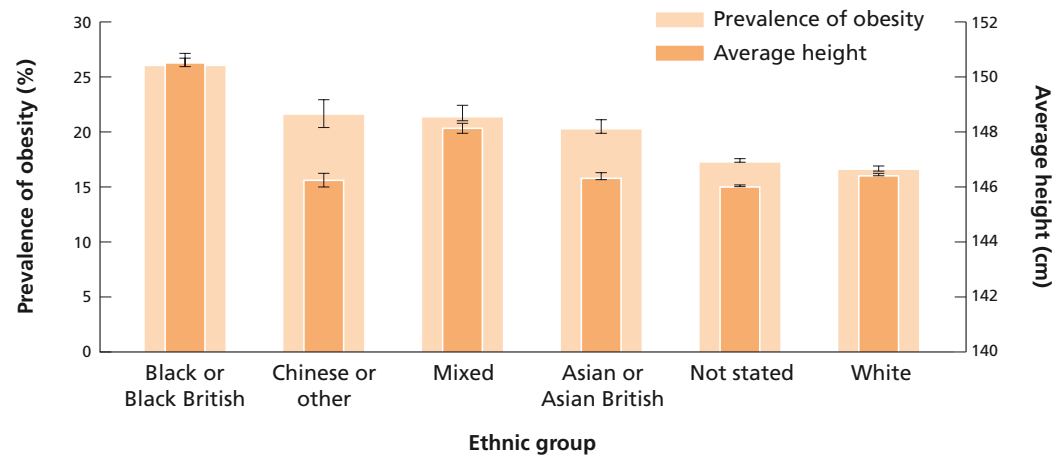
→ instrument for obesity and overweight in children in the UK. However, these curves were based on a large sample of White British children measured between 1978–1990 and may not adequately reflect the growth patterns of all children in our contemporary population.

As with adults, some researchers have argued that different growth curves should be used for different ethnic groups. However, analysis conducted in the process of deriving the 2007 WHO growth references concluded that, when comparing individuals in an optimal nutritional state, the growth curves for different ethnic groups were very similar. This suggests that growth curves based on one ethnic group may indeed be suitable for all ethnic groups. These differing opinions require further analysis and investigation.

For both adults and children, areas with the highest obesity prevalence tend to be deprived urban areas, with a high proportion of the population from ethnic minority groups. More research is needed to determine to what extent these differences are linked to lifestyle factors or genetic factors tied to ethnicity, or whether they are more a result of socio-economic conditions.



**Figure 2:** Reported prevalence of obesity for Year 6 children in England in 2006/07, by sex. Source: NHS Information Centre



**Figure 3:** Prevalence of obesity and average height for Year 6 children in England, by 2001 Census ethnic group (with 95% confidence limits). Source: NHS Information Centre

1 Cole TJ, Freeman JV, Preece MA. Body mass index reference curves for the UK, 1990. Arch Dis Child 1995; 73: 25–29.  
2 Freeman JV, Cole TJ, Chinn S, Jones PRM, White EM, Preece MA. Cross sectional stature and weight reference curves for the UK, 1990. Arch Dis Child 1995; 73: 17–24.

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## National Child Measurement Programme

**2007/08 was the third year of national child measurement in England. The National Child Obesity Database was launched in 2005/06, but the initiative was substantially revised in 2006/07 and renamed the National Child Measurement Programme (NCMP) to reflect the interest in a healthy weight for all rather than a focus on obesity.**

The government weighs and measures children in Reception (aged 4–5 years) and Year 6 (aged 10–11 years) and in 2006/2007 876,416 primary school children were measured (80 per cent of those eligible). Although data are still provisional, early indications from the 2007/08 collection

suggest that both data quality and completeness have continued to improve since the first year of the programme.

Participation rates are one of the key data quality indicators, as analysis has shown higher participation is associated with a higher reported prevalence of obesity. This is likely to be due to an increased opt-out rate amongst obese children. Participation rates rose substantially between 2005/06 and 2006/07 and it is hoped that this improvement will have continued with the 2007/08 collection.

Due to improved validation processes implemented by the NHS Information Centre (the NHS IC), who co-ordinate

the data collection, there is likely to be less rounding of measures and fewer duplicate records. It is also hoped that more complete records will have been collected – with children's ethnicity and post code information – which will allow more detailed analysis of the resulting data.

The 2007/08 dataset is currently being cleaned and analysed by the IC. The IC's summary of findings for 2007/08 will be published in December 2008 and the national dataset will be shared with Public Health Observatories around this time. The National Obesity Observatory will publish further analysis of the 2007/08 NCMP dataset in the first quarter of 2009.

### NCMP reports from NOO

► **National Child Measurement Programme: Detailed Analysis of the 2006/07 National Dataset** highlights the usefulness of the NCMP for advancing our understanding of underweight, overweight and obesity in children. The report looks at the effects of socio-demographic and other factors on the reported prevalence of childhood obesity. It also identifies areas where improvements can be made, and where further analysis and investigation are required.

### ► **NCMP guidance for Public Health Observatories (PHOs) – May 2008**

The NCMP guidance for Public Health Observatories (PHOs) provides information on further analyses that may be undertaken on the 2006/07 National Child Measurement Programme (NCMP) dataset in order to:

- produce a regional overview of the data
- obtain a better understanding of the epidemiology of child obesity and

- overweight within an area
- feed back useful information to PCTs
- help improve participation and data quality in the 2007/08 NCMP.

Further analysis of the NCMP 2006/07 dataset is optional; NOO has produced this guidance to support observatories that wish to undertake additional investigation of the data. An update will be produced in early 2009.

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## Database of child obesity prevention schemes

Commissioned by the Cross-Government Obesity Unit, the Evidence for Policy and Practice Information Centre (EPPI Centre) at the University of London has recently produced a [▶ report](#) and searchable [▶ database](#). These summarise schemes in England with a primary focus on tackling overweight or obesity in school-age children (4–18 years) who are already overweight or obese, through dietary, exercise or other means.

## New physical activity guidelines in the US

The US Department for Health and Human Services published new national physical activity guidelines in October 2008. These are similar to earlier guidelines released in September 2008, jointly by the American College of Sports Medicine (ACSM) and the American Heart Association.

Both sets of guidelines recommend a weekly rather than daily target for adults. The core recommendation is that "... Adults should do at least 150 minutes a week of moderate intensity, or 75 minutes a week of vigorous intensity aerobic physical activity, or an equivalent combination of moderate and vigorous intensity aerobic activity." So while the amount and intensity of activity remains similar to previous recommendations, there is less emphasis on the need for activity every day. This is

because the guidelines committee did not feel that there was sufficient evidence to differentiate between the health benefits of, for example, 3 bouts of 50 minutes, compared to 5 bouts of 30 minutes.

Both sets of guidelines advise muscle strengthening activity a minimum of two days a week, and offer more specific advice for key population groups.

The recommendation remains unchanged for children: 60 minutes or more of physical activity daily.

- ▶ [The US Department for Health and Human Services guidelines](#)
- ▶ [American College of Sports Medicine and the American Heart Association guidelines](#)



## Updating the obesity system map

The Tackling Obesities: Future Choices project launched its findings in October 2007. One of the key outputs of the work carried out by the Foresight team was an Obesity System Map. The full report, including the Map, is entitled 'Tackling Obesities: Future Choices' and is available from the [Foresight website](#).

The obesity system map identified a complex interactive 'web' of over 100 variables that directly or indirectly influence weight status. NOO is currently working to produce a simplified version of the map to highlight the key drivers of obesity and support work within the team.

System Mapping is a visual technique used

to represent the dynamics of a complex system. The two key concepts are those of the positive feedback loop (the reinforcing loop) and the negative feedback loop (the balancing loop). Positive loops disrupt systems, and occur in areas such as epidemiology (the rapid spread of a highly infectious disease through a population) and economics (the spread of mobile phones). Negative loops stabilise systems and occur throughout nature (to stabilise animal populations and earth resources) and economics (to stabilise supply, demand and price).

The NOO adaptation of the Foresight Obesity System Map has human energy balance at its centre. This is the 'anchoring

point' around which the whole system map revolves. Outside this sits a range of factors that influence this central loop. A set of negative loops shows how, historically, human physiology maintained weight balance, with energy intake limited by food availability and energy expenditure driven by physical work and transport. A set of mostly positive feedback loops that have grown in importance over recent decades describes the increased availability and energy density of food, and decreased energy expenditure. It is this energy imbalance that drives the obesity epidemic that we see today.

A simplified version of the map will be available in 2009.

## Standard Evaluation Framework

There is a lack of consistent, high quality evidence on the effectiveness of weight management interventions. Programmes are currently commissioned with a range of approaches to evaluation, making it difficult to compare findings across interventions. NOO is currently developing a Standard Evaluation Framework (SEF) to provide a robust standardised approach to the collection of evaluation data which will facilitate the comparability of findings,

improve the evidence base and inform commissioning.

We have developed an initial set of criteria that includes a wide range of data to support evaluation of weight management interventions. This list has been circulated for consultation with a range of experts, including local practitioners.

Over the next few months NOO will refine the list and develop supporting

guidance and tools to help practitioners use the framework. The guidance will include tools for collecting data relating to physical activity, diet, emotional health and other wider determinants. The Standard Evaluation Framework will be launched in April 2009.

The [draft list](#) of criteria is available on the NOO website. If you have any comments or queries please contact us at:

[sef@noo.org.uk](mailto:sef@noo.org.uk)

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## Healthy Weight, Healthy Lives toolkit

Two new toolkits have been released recently by the Cross-Government Obesity Unit to support the delivery of the Healthy Weight, Healthy Lives strategy.

### ▶ Healthy Weight, Healthy Lives: A Toolkit for Developing Local Strategies (October 2008)

The toolkit is designed to help PCTs and Local Authorities plan, co-ordinate and implement comprehensive strategies to prevent and manage overweight and obesity. It provides information and tools including useful statistics, practical initiatives, evidence of effectiveness, checklists, frameworks and examples of good practice.

### ▶ Healthy Weight, Healthy Lives: Commissioning Weight Management Services for Children and Young People (November 2008)

This guide has been developed to support local areas in commissioning weight management services for children and young people. It is designed to reflect the move towards world class commissioning and joint commissioning of children's services, and complements the existing suite of Healthy Weight, Healthy Lives publications.

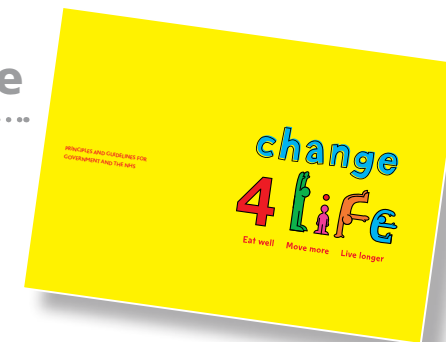
## DH Change4Life initiative

To help tackle childhood obesity the Department of Health has launched Change4Life.

Change4Life is a new initiative which aims to improve children's diets and levels of activity, and so reduce the threat to their future health and happiness, Change4Life encourages families in England to eat well, move more and live longer.

The campaign will provide target groups with practical support and advice to help them:

- Be aware of the risk of accumulating dangerous levels of fat in their bodies and understand the health risks associated with the condition
- Reduce overall calorie intake and develop healthier eating habits, in particular by:
  - Cutting down on foods and drinks high in added sugar
  - Cutting down on foods high in fat, particularly saturated fat
  - Reducing frequency of snacking in favour of balanced meals
  - Eating more fruit and vegetables (increase 5-a-day habit)



- Increase exercise by engaging in regular physical activity, with particular emphasis on parent/child activities, and by avoiding prolonged periods of inactivity and sedentary behaviour

An advertising campaign will launch Change4Life to the public in January 2009. To support this launch a helpline and website are in development and will offer parents information about healthy eating, ideas for being active and access to a database of local activities.

### The Change4Life ▶ Principles and Guidelines for Government and NHS

and the Change4Life Brand Assets are now available for use by Government and NHS colleagues who want to align to the movement. Resources will be available at the end of November for health care practitioners. More information can be found on the DH Current Campaign pages: [www.dh.gov.uk/change4life](http://www.dh.gov.uk/change4life)

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## What the papers say

Obesity is a complex issue with significant implications for individual and population health, and is increasing in prevalence. It is a dominant research theme across several disciplines. When looking at obesity research it is important to be aware that there is a plethora of research literature, predominated by studies that vary hugely in design, quality, setting and population. The [▶ Foresight](#) programme commissioned a valuable set of reviews, and rigorous evidence reviews on obesity and its determinants are produced by [▶ NICE](#) and [▶ Cochrane](#).

NOO collaborates with the [▶ National Library for Public Health](#) (NLPH), part of the National Library for Health which provides a regular [▶ 'behind the headlines'](#) feature – an unbiased and evidence based analysis of obesity health stories in the press.

Some papers reviewed recently by 'behind the headlines' are described below.

### [▶ Fast food](#)

Oct 22 2008

A cross-sectional Japanese study looked at the relationship between being overweight and eating until full and eating quickly. It found that people who eat quickly and until full are more likely to

be overweight – bearing in mind various limitations around applicability outside Japan, causality, self reporting and personal perception of eating habits.

### [▶ Food enjoyment and weight](#)

Oct 17 2008

A US study found that overweight people may find fatty or sugary food less satisfying than thin people, which leads them to overeating.

### [▶ Healthy fats and hunger](#)

Oct 9 2008

A preliminary study based on animal research found that a fat found in olive oil, nuts and avocados may help naturally curb weight gain.

### [▶ Obesity 'switch'](#)

Oct 3 2008

A complex US animal study profiled the activity of a particular brain chemical in mice that may be key in regulating the response to over-nutrition, which leads to obesity and related problems. However the applicability of these findings to humans will not be known for some time as there are likely to be huge metabolic differences between mice and humans, and human research is needed.

### [▶ Weight loss diets compared](#)

Sept 4 2008

A randomised control trial across the UK and Ireland compared four popular commercial weight loss diets, concluding that all the diets caused weight loss. However, it did not find any significant differences in weight loss between the diets.

### [▶ Can computer games keep you fit?](#)

Sept 2 2008

A small study from the University of Hong Kong looked at the effect of active versus sedentary computer games on energy expenditure and heart rate in 6–12 year olds. It found that active gaming burns more calories than seated gaming or resting in the very short-term, suggesting that active gaming may provide a way of getting children who normally play a lot of computer games to exercise more.

*Papers mentioned here are included to give an idea of current research reported in the press and are not endorsed by NOO.*

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## Events and conferences

▶ **National physical activity promotion strategies in Europe**

Netherlands Institute for Sport and Physical Activity and University of Wageningen  
13th–14th November 2008  
Wageningen, Netherlands

▶ **Opening Doors to an Active Life: how to engage inactive communities**

British Heart Foundation  
19th November 2008  
Nottingham

▶ **Public Health Nutrition – Challenges for the 21st Century**

Caroline Walker Trust  
25th November 2008  
London

▶ **Encouraging healthy behaviour: developing successful interventions for creating change**

9th December 2008  
London

▶ **17th UK Public Health Association Annual Public Health Forum**

25–26th March 2009  
Brighton

▶ **17th European Congress on Obesity – ECO 2009**

6–9th May 2009  
Amsterdam, Netherlands

Inclusion of these events does not imply endorsement by NOO

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