

Background to the meeting

The prevalence of obesity continues to increase with 68% of UK adults and 35% of 11-year old children affected with overweight or obesity. People living with obesity are at increased risk of developing multiple severe life-limiting conditions such as type 2 diabetes, heart disease, strokes, liver disease, certain cancers and of severe COVID-19 that markedly reduce their health and quality of life and lead to premature death. As the government said when it unveiled its obesity strategy last year, it is one of the biggest health crises we face.

Obesity will be a key focus for the new Office for Health Improvement and Disparities that will launch on 1 October. The impact of deprivation on obesity rates is deeply concerning, with adults in the most deprived regions having almost double the prevalence of obesity compared with the least deprived.

The effect of deprivation upon childhood obesity is even more alarming. In 2018/19, the prevalence of obesity in children aged 10–11 was 27% in the most deprived areas and 13% in the least deprived areas. The gap in obesity prevalence between children from the most deprived and least deprived areas is stark and growing, with an increase from 8.5% in 2006/7 to 13.9% in 2018/19.

With this in mind, at the beginning of the year Conservative Health approached Will Warr (Health Special Advisor in No.10 Downing St) about a meeting in the House of Lords to address this problem. We were keen for this to be an in-person meeting, hence the delay and restricted audience.

The arrangements have been led by the presidents of the Royal College of Physicians, Professor Andrew Goddard, and the Royal College of Surgeons, Professor Neil Mortensen. Professor Rachel Batterham, RCP special adviser on obesity, has developed the programme in conjunction with Will Warr.

Over the last 20 years our scientific understanding of the complexities of body weight regulation and the role of socioeconomic factors have markedly improved leading to the development of effective safe therapies and providing the foundations for evidence-informed policies. We will make the case that, as with COVID-19, government plans for optimising how we bring together the many different approaches to this problem must now be led by the science.

We hope this meeting and our ongoing links with No10 will help ensure the science shapes the next Conservative policy for mitigating the impact of the obesity crisis on the NHS and, most importantly, improving the lives of people living with obesity. Obesity is preventable and treatable but only if we listen to the science.

*Professor Ray Powles CBE
Chairman, Conservative Health and Head, Haemato-oncology, Cancer Centre London*

*Lord Bernie Ribeiro CBE
Past President Royal College Surgeons; President, Conservative Health*

PROGRAMME

Advances in mitigating the impending NHS obesity crisis through science and innovation

Held at the Royal College of Physicians at 5.30 – 8.00pm, 21st September 2021

Co-chairs: Dr Andrew Goddard PRCP, Professor Neil Mortensen PRCS

Welcome

Professor Ray Powles CBE

Introductions

Royal College of Surgeons

Professor Neil Mortensen

Royal College of Physicians

Complex causes of obesity (8 minute film)

Speakers

1. Professor Sadaf Farooqi (Cambridge)

Why is genetics relevant for policy?

2. Professor Susan Jebb OBE (Oxford/FSA)

Changing food systems to tackle obesity

3. Sir Keith Mills GBE DL

Obesity: effecting national behaviour change

4. Professor Jonathan Valabhji OBE (Imperial College)

Digital lifestyle interventions

5. Professor Rachel Batterham (UCL)

Translating science through into effective, safe medications

6. Professor Francesco Rubino (KCL)

Lessons from metabolic surgery

7. Angela and Paul Chesworth (patient perspectives)

How government can remove the barriers that prevent science and innovation from improving the health of people living with obesity

8. Professor Chris Whitty CB (CMO England)

Forward look

Parliamentary Under Secretary of State

Maggie Throup MP

Minister for Prevention, Public Health and Primary Care

Questions

Professor Neil Mortensen, Dr Andrew Goddard

Summary of presentations

Dr Andrew Goddard

Close

Lord Ribeiro CBE PPRCS

Why is genetics relevant for policy?

Professor Sadaf Farooqi

PhD, FRCP, FMedSci, FRS

Professor of Metabolism and Medicine, Wellcome MRC Institute of Metabolic Science, University of Cambridge



Scientific advances in the last 20 years have changed our understanding of why some people gain weight easily, while others eat what they like and remain slim. We now know that these differences between people are due to our genes (www.goos.org.uk). Our genes shape our appetite, our metabolism, hormone levels and how many calories we burn when we exercise. Small changes in these genes influence their function, some people have a big appetite; some people have a small appetite.

How do these genes work? They work on a system in the brain which controls hormones, shapes behaviour and regulates how well we burn fat and carbohydrate. A key gene is MC4R (melanocortin 4 receptor; www.mc4r.org.uk). In the brain, MC4R is switched on after a meal to signal that you are full. Some people have a faulty MC4R gene (as many as 1 in 300 people in the UK). They tend to have bigger appetites, gain weight from childhood, remain heavy as adults. Different changes or variants in the MC4R gene can cause it to be overactive; people with these variants (6/300 in the UK population) have smaller appetites, are protected from obesity and have a 50% reduced risk of developing diabetes. Several companies are targeting MC4R to develop weight loss treatments.

There are thousands of genes that affect a person's weight. New technologies have allowed us to find these genes, map the variants and with recent advances in computational methods, add up their effects to calculate risk scores which predict a person's chances of struggling with their

weight. Some people have very low risk scores; they tend to be slim.

This scientific understanding is relevant for policy for a number of reasons:

1. Framing the challenges and the solutions.

Obesity is driven by both environment (food, activity, deprivation) and biology (how our genes affect our appetite and weight). In a given environment, some people are much more likely to gain weight due to their biology. A simple focus on individual responsibility doesn't take this into account. Policies that change the food environment are essential, but may not be sufficient on their own.

2. Communication and implementation of policies.

To enable change, we need to shift the conversation away from blaming people for their obesity and towards supporting people who struggle with their weight, recognising the major role of genes and biology. This requires a change in public perception and societal attitudes, much as we have seen for mental health (we no longer blame people for having depression because they are weak).

3. Policies for people with severe obesity.

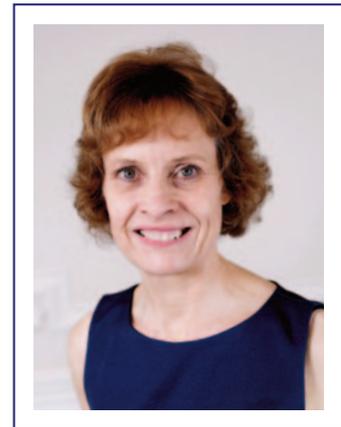
Policies are needed to tackle both the wider societal challenges of obesity and to improve the lives of people with severe obesity. Severe obesity is driven by genetic factors. Weight loss treatments exist; they need to be more accessible. Supporting weight loss is good for health and for society.

Changing food systems to tackle obesity

Professor Susan Jebb

OBE, PhD, FRCP(Hon), FMedSci

Professor of Diet and Population Health, University of Oxford
Chair, Food Standards Agency



The problem

The 20th century success of the food industry from farm to fork that has produced abundant, convenient and relatively cheap food, has come at huge cost to the long-term health of people and the planet. The market needs a reset if it is to deliver for health and help prevent obesity.

The opportunity

The public have seen the impact of obesity during the pandemic and have recognised the wider health harms of poor diets. Food industry leaders also recognise the problem, but are focused on growing their market.

Both are looking for help. Government has an opportunity to step in and break the cycle in a way that the public and the food industry cannot do for themselves and to enable us to reach our societal goals.

A data-enabled solution

Recent policy action to prevent obesity has sought to reset the '4Ps' of marketing: product, price, place and promotion, but it's hard to keep pace with a fast changing food system.

Industry know how to sell products because they have invested in the data infrastructure to monitor every purchase. We need a national food data system, together with an evidence and analysis function, to enable data insights to drive change in the food system – manufacturers, retailers, hospitality and delivery services – that benefits public health.

Why will this be better than previous efforts to drive change in the food system? Data is key, but it also needs the strong policy leadership now emerging on obesity to set the rules and referee the match, and the scientific infrastructure to sit alongside to generate policy insights and to evaluate and report on progress. There needs to be a common understanding of the metrics for success and clear penalties for those who break the concordat. An annual report to Parliament would ensure public and parliamentary scrutiny.

We regulate the food industry with respect to food safety, now is the time to regulate for health. Smarter, data-enabled regulation will reset the food system, shifting purchases towards healthier foods, reducing the likelihood of overconsumption and preventing obesity.

Obesity: effecting national behaviour change

Sir Keith Mills

GBE DL



Introduction

- Most people are aware that obesity and carrying too much weight can affect their health outcomes.
- Most people know that a healthy diet and physical exercise will improve their health outcomes.
- Obesity is a complex problem with many drivers including social deprivation, genetics, and culture.
- However, the biggest problem is motivation. People know what they should be doing, but many are not changing their behaviour.
- The solution needs to be a multi-faceted approach involving education, legislation, taxation, and programmes that can engage people and help them change their behaviour.

Rewards and incentives

- In the commercial world rewards and incentives have been used as a principal marketing tool for over 30 years.
- Commercial rewards programmes are now used extensively in many sectors of the market to acquire customers, retain customers, and effect behaviour change.
- Most reward programmes enable companies to better understand their customers through data collection and sophisticated analytics.
- Good incentive programmes produce high levels of ROI (Return on Investment).
- A small number of reward programmes have

been used to incentivise healthy lifestyles – in the UK the Vitality programme is well known. Internationally, the National Steps Challenge programme in Singapore is well established.

- Technology is now making health incentive programmes more viable with companies like Apple making major investments.

The Health Incentive Programme

- The Government announced earlier this year that it planned to launch a pilot programme using incentives and rewards to encourage people to lead healthier lives.
- The Health Incentives programme will be designed to engage people via a mobile App to collect points based on a healthy diet and more exercise. The points can then be redeemed for a range of rewards and incentives.
- The DHSC is undertaking a tender process to find a principal contractor to manage the programme. The selected contractor will be appointed shortly.
- The pilot programme starts early in the New Year and, if successful, will be rolled out around the country.
- A key element of the programme will be data capture, which enables the programmes to be progressively personalised to effect sustainable behaviour change.
- If the programme is successful it could lead to other opportunities to incentivise better health outcomes from screening through to vaccinations.

Digital lifestyle interventions

Professor Jonathan Valabhji

OBE MD FRCP

National Clinical Director for Diabetes and Obesity, NHS England



The potential benefits of digitally delivered, versus in-person delivered, lifestyle interventions to support weight loss where indicated are significant and include greater reach and lower unit cost. However, evidence for clinical and cost effectiveness of digital interventions, while evolving, is weaker than traditional group-based face-to-face delivery. Both obesity and Type 2 diabetes are associated with more severe COVID-19 outcomes, including mortality, but the pandemic has precluded group-based face-to-face delivery, making digital or remote lifestyle intervention delivery more important.

In 2017, the NHS Diabetes Prevention Programme (NHS DPP) initiated a pilot in around 3,600 individuals assessing the effectiveness of five digital products in live NHS environments, with a wrapped around evaluation using real-world data. This formed the first large-scale implementation and evaluation of a digital diabetes prevention programme internationally and provided a template for digital adoption within the NHS. Digital delivery attracted younger participants, and compared to face-to-face delivery, there was no evidence of digital exclusion by age, sex, ethnicity, and quintiles of socioeconomic deprivation, while weight loss and reduction in glucose levels were comparable.

These findings informed our subsequent policy and commissioning decisions. Digital delivery was formally incorporated into the NHS DPP offering in 2019. Within 3 weeks of onset of the COVID-19 pandemic, the NHS DPP switched entirely to remote and digital modes of delivery. By June 2021, over 100,000 participants had accessed the remote or digital sessions. Age of digital participants is significantly lower than face-to-face

participants, while other characteristics (sex, ethnicity and deprivation) are broadly similar. Rates of programme completion and weight loss are comparable. However, digital delivery attracts people with significantly higher baseline weights, possibly more effectively overcoming issues related to stigma in those living with obesity.

NHS implementation of digital lifestyle interventions has now been extended to include: digital delivery of low calorie diet programmes in those recently diagnosed with Type 2 diabetes, to achieve disease remission; and digital delivery of 3-month weight loss interventions for those living with obesity and a comorbidity, the Digital Weight Management Programme (DWMP). The DWMP, with capacity for 270,000 individuals this financial year, addresses many of the inequalities highlighted by the pandemic, with those from ethnic minority groups and more deprived communities receiving higher levels of support and human coaching to achieve programme completion. In addition to referral pathways via General Practice, an NHS staff self-referral route has been established, and population self-referral and community pharmacy referral pathways are being explored.

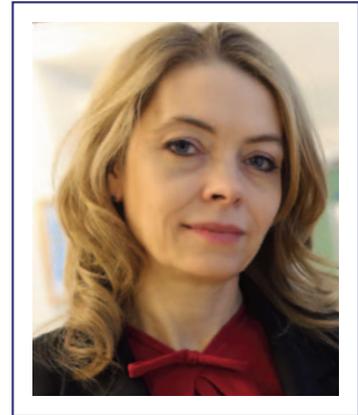
The National Diabetes Audit, by capturing data on almost all with diabetes in England, permitted the first evaluation of the association between diabetes and COVID-19-related mortality internationally. The National Obesity Audit will launch in April 2022 and will provide an infrastructure for data collection, facilitating evaluation of future digital innovations using real-world data that will support the UK Government Life Sciences Vision. The potential gains for the health of our population and the NHS of such digital innovations are significant.

Translating science through into effective, safe medications

Professor Rachel Batterham

PhD FRCPE FRCP

NIHR Research Professor, University College London



The current treatment gap

Lifestyle interventions are the cornerstone for all weight management programmes and lead to health benefits. However, for the majority of people with severe obesity, lifestyle interventions alone are ineffective in terms of resulting in sufficient weight loss to improve their health. For people with severe obesity, the only effective therapeutic option currently available is bariatric surgery, which whilst highly effective and safe, is difficult to access and not suitable for everyone. Unfortunately, the development of drugs to treat obesity has historically been marred by poor efficacy and safety issues, leaving healthcare professionals and patients with a “treatment gap” between lifestyle and bariatric surgery.

Science to the rescue

This is now set to change as a result of scientific advancements, which have increased our understanding of how body weight is regulated. This has led to the development of effective, safe drugs that target the body’s own appetite regulating systems.

Every time we eat, our gut releases a myriad of hormones and signals that regulate appetite and blood sugar. Using specialised brain imaging techniques in humans we discovered that these gut signals act on the key regions of the brain that

control eating and, in particular, the consumption of highly palatable, energy dense foods. Children and adults with obesity have abnormalities in these gut signals. Research has also revealed that bariatric surgery leads to weight loss and improvements in blood sugar by altering signals from the gut. These findings have catalysed the development of new drugs based on gut hormones which are already being used to treat people with Type 2 diabetes. In recent clinical trials, new gut hormone-based drugs led to an average 16% weight loss compared to 2% in a lifestyle intervention group. Importantly, these drugs are safe and led to improvement in health and quality of life. Early findings from trials combining two or more of these gut hormone-based drugs are showing even greater benefits.

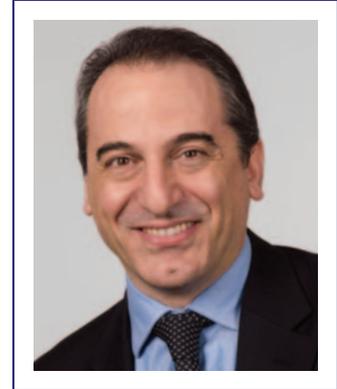
Excitingly, research suggests that gut hormone-based drugs have benefits beyond weight loss. Ongoing trials are examining their potential of reducing the risk of people dying from heart attacks, strokes, improving heart failure and, through their effects on the brain, improving outcomes for people with Alzheimer’s disease.

Science has provided us with the knowledge to develop effective safe drugs, which can improve the health of people living with severe obesity. We now need to ensure that these are offered to the right patients, at the right time, within appropriate care pathways in the NHS.

Lessons from metabolic surgery

Professor Francesco Rubino

Chair of Metabolic and Bariatric Surgery, King's College London
Consultant (Hon) Surgeon, King's College Hospital



Lessons learned from the use and study of bariatric/metabolic surgery provide a unique opportunity to look at obesity and diabetes from an entirely new angle; at the same time, such lessons reveal barriers that undermine access to care and may compromise advances in medical research.

Originally designed to mechanically restrict intake and/or absorption of nutrients, bariatric surgery actually reduces weight by altering physiologic mechanisms involved in the regulation of appetite and satiety (i.e. gut hormones). These mechanisms are now being targeted to develop novel pharmacological and device-based treatments for obesity. Furthermore, experimental studies in animal models and humans have showed that gastrointestinal surgery has direct effects on critical mechanisms of sugar metabolism, independent on weight loss. These findings have provided a biological rationale for repurposing bariatric surgery as an intentional treatment of type 2 diabetes itself, a practice now referred to as 'metabolic surgery'.

A large body of clinical evidence, including from numerous randomized clinical trials, shows that metabolic surgery is a safe, clinically effective, and cost-effective approach for the treatment of type 2 diabetes. In many patients, surgery induces lasting remission of the disease, improves quality of life, reduces the risks of heart attack, stroke, renal disease, and all-cause mortality. On the back of such evidence, global clinical guidelines recommend consideration of surgery as a standard treatment option for patients with obesity and type 2 diabetes.

The biological and clinical evidence above points to a critical role of the gastrointestinal tract in metabolic disease and supports targeting the gut – by either metabolic surgery or novel therapeutics – as a more effective way to treat, and potentially cure, type 2 diabetes.

Despite such compelling scientific evidence, however, less than 1% of surgical candidates worldwide – only 0.2% in the UK – currently have access to metabolic surgery. Research shows that barriers to access to surgery are multi-factorial, including insufficient awareness among healthcare providers and policymakers, inadequate insurance coverage, misconceptions about surgery, widespread weight bias and stigma of obesity. In fact, people who experience weight stigma are less likely to seek and receive adequate care. Weight-bias also misleads public health policies, confuses messages in popular media, and compromise advances in research.

In summary, insights gained from the use and study of metabolic surgery have the potential to greatly improve the treatment and the understanding of obesity and type 2 diabetes. The evidence that metabolic surgery can prompt the remission of a disease for long considered irreversible could also bolster searches for what causes diabetes and reinvigorate hopes to find a cure. Future progress, however, will largely depend on our ability to put aside long-standing preconceptions and eradicate weight-bias and stigma of obesity.

How government can remove the barriers that prevent science and innovation from improving the health of people living with obesity

Paul and Angela Chesworth have a combined 90 years of experience of living with obesity. Both sought medical advice from childhood. They tried many different interventions including diets and fitness programs in which they had weight loss only to regain their loss and more.

This lived experience of obesity impacted their health, developing between them diabetes type 2, sleep apnoea, high blood pressure, mobility issues, an eating disorder, depression and anxiety as direct consequence of living with obesity.

Receiving bariatric surgery as a treatment for obesity has allowed them to maintain a combined weight loss of 21 stone (130 kg) for the last seven years. All of their health conditions are in remission, all medications stopped other than vitamins, they are living a healthier happier life.

The married couple met six years ago at a weight loss surgery support group. Their experiences throughout their lives have been completely different, however, what they both have in common are the challenges and barriers living with obesity brings.

They share their lived experience to assist people to fully understand the stigma and bias people living with obesity experience daily, from a request to lay on the floor for a medical procedure because the examination table was too small, to physical and verbal abuse from strangers, one of which included a death threat.

The judgement from society – “It’s a choice, they just need to eat less & move more”

The feelings of failure – “Why can I not be normal?”

The fear of what their future health would have been – “Will I follow my father’s footsteps, his years of poor quality of life due to deteriorating health?”

Paul & Angela Chesworth

“It’s time to be brave, it’s time to make a change!!

“Despite 14 different government obesity strategies all focusing mainly on personal responsibility, the number of People Living with Obesity has more than doubled.

“It’s time to change the narrative It’s time to listen to the proven scientific evidence.”



ANGELA: It is so important to educate society of the health consequences and complexities of obesity, we have listened to the science regarding Covid19 we now need to listen to the scientific evidence on obesity and ACT ON IT. People need access to treatments that have been developed based on science and have proven successful results.

We all deserve to be treated with dignity and respect.

We all deserve access to treatments that will improve and deliver health gains long term.

We also need to stand up to weight stigma and bias which is detrimental to psychological and physical health.

WHY is Weight stigma socially acceptable? But racial stigma & bias is against the law? It needs to be eliminated.



PAUL: We all know someone living with obesity. It could be your Mother, Father, Sister, Brother a friend or work colleague. With this in mind we hope to provide an understanding of complexities of obesity that you may not previously have understood.

We hope to achieve this by highlighting the stigma and bias a person has to face and the barriers and challenges people living with obesity have to overcome trying to live a normal life.

Society would never say 'A Cancerous Person' so why is it's acceptable for me to be called 'An "Obese Person"'. I'm judged on the body I was born in, that my inherited genetics have produced. Do people really believe I chose to live in a 26 stone body.

Our long term goals are to change the narrative and to educate society on the scientifically proven facts of obesity. Allowing individuals access to a comprehensive toolbox of treatments and lifelong support which would help people living with obesity achieve a healthy and happy life. We all need to focus on health gains not just weight loss.



‘Forward look’

Obesity is a major current and future public health challenge in the UK and globally. It increases the risk of many diseases and conditions including diabetes, cardiovascular disease, several cancers and infectious diseases such as COVID-19. There remains a strong association between obesity and deprivation, particularly among children and this difference is growing.

Without scientific advances and public health interventions, the future proportion of disease attributable to obesity is likely to grow, in part because of the remarkable improvement of health in other areas.

However, as we look towards the future, there are reasons to be optimistic. Drug treatment for people with obesity is a rapidly advancing field and biomedical research continues to develop our clinical and scientific understanding. Secondary prevention via medical services can be effective in some people. Alongside this, the State and society have opportunities for primary prevention and reducing the obesogenic environment. The 2018 sugar levy on high sugar soft drinks is an example of an effective public health intervention for reducing sugar consumption with minimal impact on industry and individuals’ enjoyment and choices.

Critically, as there is not a single causal pathway to obesity, with genetic, social and environmental factors all at play, multiple interventions, each with modest incremental impact, are needed.



Professor Chris Whitty

CB FRCP FFPH FMedSci

Chief Medical Officer for England

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