

UK LIFE SCIENCE

OBESITY RESEARCH IN THE UK

UK innovation in obesity research

UK research into genomic influences on obesity is world-leading, with several of the world's top obesity genetics study groups being UK-based. The UK also leads in clinical trials for anti-obesity drugs. This profound base of knowledge and experience presents strategic opportunities to develop further therapeutic regimes and develop targeted intervention therapies.

Academic excellence that delivers

Academic excellence is key to the UK's appeal in attracting R&D investment. Four of the World's top ten universities are in the UK - Cambridge University, Imperial College London, Oxford University and University College London.

The UK has strong R&D capability. Some 15 of the world's current 75 best-selling drugs were discovered and developed in the UK.

A fast-growing marketplace

Obesity is a major threat to life expectancy and to health system costs, and is predicted to be the most common preventable cause of death by 2020. The World Health Organisation estimates there are more than one billion overweight adults globally of which 300 million are clinically obese. Across the seven major pharma markets obesity affects 114 million individuals. However, current sales of drugs that specifically address obesity are as yet minimal, so the scope for extending the remedial, clinical trial and therapeutic markets is currently vast.

Obesity recognised as a disease

Obesity is recognised in the UK as a disease resulting from complex interactions between genetic, behavioural and environmental factors. Research into its causes and associated diseases is therefore fully eligible for appropriate grants and support.

Focus on the future

It's exciting times in UK obesity research. Ten years ago the study of obesity as a science hardly existed. Now, researchers have far greater understanding, but there still remain more questions than answers. These are some of the priority areas identified for current and future investigation:

- Genomic influence – extending the list of more than 400 genes that have been shown to influence obesity
- Causative mechanisms – understanding the mechanisms, both genetic and social, and their interactions
- Drugs – increasing the currently inadequate number of drugs approved to treat obesity
- New therapies – improving efficacy and safety profiles that will drive expansion of the market for obesity drug therapies
- Childhood obesity – understanding its causes, treatment and prevention

UK favoured by pharma multinationals

Leading international firms such as GlaxoSmithKline, AstraZeneca, Pfizer and Sanofi-Aventis all have bases in the UK. Increasingly, such pharmaceutical firms are looking to the UK's world-class universities as research partners and generators of new knowledge. The University of Cambridge has recently signed a partnership agreement with GlaxoSmithKline to develop a new drug to treat obesity and addictive disorders – just one of several joint ventures between UK academia and industry.

The UK leads in European clinical trials for anti-obesity drugs.

Long-term commitment by UK Government

The UK Government is committed to reducing the death rate from obesity. It is investing in obesity research and supporting initiatives such as the strategic 'Tackling Obesities' and 'Healthy Weight, Healthy Lives' programmes, the NICE clinical guidelines for obesity and the All Party Parliamentary Group on Obesity.

Flourishing environment for funding

UK research councils and research charities invest over £3.5 billion in research annually. UK grant funding and charitable schemes are open to foreign owned companies with a UK-registered subsidiary. Internationally, of the 23 European Framework Programme 7 awards given to obesity research, the UK is involved in thirteen and is leading on six. The total value of the thirteen grants is €40.3M. UK grant funding and charitable schemes are open to foreign owned companies who operate a UK-registered subsidiary.

Value-adding networks

Throughout the UK there is a strong culture of information exchange that supports research by increasing speed, quality and integration of research activities. These networks include the UK Clinical Research Collaboration, the Diabetes UK Clinical Research Network, the Diabetes and Obesity Research Network, the National Obesity Forum, the Medicines for Children Research Network and others.

Commercial opportunities

The UK is an ideal marketplace to launch the latest developments. The UK domestic market is substantial, with the National Health Service alone spending £11 billion annually on drugs. Government is committed to supporting the uptake of cost effective innovative technologies, including medicines, and the UK's outstanding trade and transport links are perfect for export development.

Regulatory regime encourages initiative

The UK's pragmatic approach to regulation assures a culture that strongly encourages innovation and entrepreneurial obesity activity. The National Research Ethics Services provides a single UK-wide ethical opinion.

UK-based approval agencies

Two of the three most favoured global product approval agencies are UK-based: the European Medicines Agency provides licences valid across all EU states, and the Medicines and Healthcare Products Regulatory Agency (MHRA) provides a further route to UK and EU approval. MHRA is the most frequently nominated rapporteur among EU member states for providing scientific advice.

Wide choice of location

The UK has a strong base of leading UK Universities – 15 at the time of publishing – researching into obesity and its associated diseases. Many other organisations have set up world-class research centres to study metabolic causes and possible treatments and collaboration between researchers is widespread.

"The UK is a world-leader in understanding the genetics of human obesity"

**Professor Stephen O'Rahilly,
Professor of Clinical Biochemistry
and Medicine, University of Cambridge**

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