



The Science of Health and Wellbeing

Tuesday 4 June 2013, 4.00-5.45pm

Members' Dining Room, House of Commons

The Parliamentary Office of Science and Technology is delighted to host an interactive exhibition in collaboration with seven of the leading public sector bodies that fund research in the UK.

All research disciplines – from physics to philosophy – are relevant to health and wellbeing and experts will be on hand to discuss their latest research with parliamentarians. This reception will give attendees the opportunity to enjoy the hands-on exhibits and to learn more about the science involved from leading researchers.

Short presentations from a distinguished panel will highlight the value of science in improving public health and wellbeing by providing high quality evidence to inform policy-making. Guests are invited to explore the exhibits accompanied by afternoon tea in the Members' Dining room.

Programme

4.00pm **Chair's Welcome**

Adam Afriyie MP, Chairman
of the Parliamentary Office of Science & Technology

Presentations

Professor Rick Rylance, Chief Executive,
Arts and Humanities Research Council and Chair of Research Councils UK

Professor David Walker, Deputy Chief Medical Officer,
Department of Health

4.20pm Discussion and scientific exhibition accompanied by Pugin Afternoon Tea

5.45pm Close



To attend please email postevents@parliament.uk or telephone 020 7219 8377 by Wednesday 29th May. Please bring this invitation with you to access the Houses of Parliament via the Visitor Entrance and allow twenty minutes to clear security.

Exhibitors



Arts and Humanities Research Council

Theme - Mental Health and the Philosophy of Wellbeing

Researchers will discuss the health benefits of taking museum collection objects into hospitals and care homes. Pilots show that patient wellbeing was improved after object handling sessions. Exhibitors will discuss this project and museum objects will be available. Other academics will discuss the impact of community philosophy clubs on wellbeing and several diverse initiatives in Scotland ranging from projects on dementia to the relationship between climate and culture.



Biotechnology and Biological Sciences Research Council

Theme - Epigenetics and Wellbeing

Many diseases such as cancer are caused by both environmental and genetic factors. Epigenetics refers to research on these interactions which enables DNA to be interpreted differently in each type of cell in the body and underlies why genetically identical twins can look dissimilar. Researchers will be on hand to discuss interactive exhibits which will explain more about epigenetics and insights for health and wellbeing. Exhibits will include a touch screen computer which features a simulation about DNA sequencing and will demonstrate how epigenetics provides the answers to questions such as "Are we really what we eat?"



Economic and Social Research Council

Theme - Impact of Tobacco on Health and Wellbeing

Researchers affiliated with the UK Centre for Tobacco Control Studies conduct research as well as providing training for public health professionals. Scientists will showcase the latest research on tobacco packaging using eye tracking technology – guests will be invited to wear an eye tracker to demonstrate which parts of cigarette packaging draw attention. Exhibitors will also present work from the project Tobacco Tactics, which encourages public involvement in research and aims to expose industry influences that often distort public health debates. Researchers from a multidisciplinary research initiative on ageing will discuss the interplay between older people and their changing technological, cultural, social and physical environments. The Working Late Project will be showcased – all about older people working longer into their lives. The TANITA body composition equipment will demonstrate health screening procedures, giving data on Body Mass Index, % body fat and water level.



Pioneering research and skills

Engineering and Physical Sciences Research Council

Theme - Medical Devices

Innovative medical technologies from university research projects will be showcased by researchers from the Medical Technologies Innovation and Knowledge Centre. The Centre works with several science funders to ensure that new technologies can be commercialised and developed for use in clinical practice. The researchers will demonstrate prototypes of projects they are working on and discuss patient benefits.



Medical Research Council

Medical Research Council

Theme - E-Health

This theme will focus on the use of electronic patient health records (e-health data) and outline what the new E-health Centres of Excellence will contribute. Linking electronic health records is important since it can release the full potential of data from NHS health records and major research studies to gain powerful new insights into health and disease. Research at the MRC's Protein Phosphorylation Unit in Dundee suggested and then confirmed an association between the diabetes drug metformin and a reduced risk of cancer - there are now almost 60 clinical trials investigating metformin as an anti-cancer drug. Researchers will be on hand to talk about the how e-health data was used to achieve this breakthrough.



Natural Environment Research Council

Theme - Natural Hazards

Invisible vehicle emissions are largely responsible for urban air pollution across the UK and are estimated to reduce life expectancy by 7-8 months and contribute to 29,000 premature deaths a year. The TRAFFIC study is examining the composition and factors affecting the impact of traffic on the health of those living and working in London. This research will inform policy on regulating vehicle types, flows and emissions in urban areas and thereby improve health. Scientists will discuss London air quality models and monitoring, the impacts on children's health and exhibit personal monitoring equipment. The AWESOME project examines how air pollutants and weather interact and impact on health. Researchers will discuss how pollutants and weather interactions are modelled and talk about recent results from the study.



Science and Technology Facilities Council

Theme - Lasers for Health

The Council's Central Laser Facility operates 2 facilities for biomedical science in the Research Complex at Harwell: Ultra uses ultrafast laser pulses to investigate molecules such as proteins and DNA, while the Octopus provides laser imaging to study whole cells to single molecules. Octopus is currently being used to investigate cell signalling networks (in collaboration with Kings College London and Guy's & St Thomas's Hospital). These networks are crucial in health and disease and are the targets of new anti-cancer therapies. Ultimately, the goal is to tailor therapies to the molecular make-up of individual patients. Researchers will be on hand to discuss this as well as another project to develop imaging that can see through skin and other tissues as a non-invasive diagnostic technique, such as for breast cancer. This could potentially replace needle biopsies. The technique can also be applied to detect liquid explosives in bottles at airports or in rapid quality control of pharmaceutical products.