# Rosenthal symposium: Behaviour change to improve health for all

**Date:** 17 January 2019
**Venue:** London, Wellcome Collection

**Objective and goals of meeting**

The underlying drivers and solutions for some of the most intractable public health challenges are not only biological in nature but also have a behavioural component - examples including overconsumption of food and alcohol, obesity, and tobacco and drug use.

Over the last few decades, the scientific and medical communities have greatly advanced our understanding of brain biology, the epidemiology and mechanisms of potential risk and protective factors underlying various health behaviours, and made strides in better understanding the broad social, economic, cultural, and environmental conditions that influence health behaviours. This raises an opportunity to become as systematic in the approach to behavioural problems as we are to physiological and genetic problems.

Nonetheless, despite these advances, many interventions – especially at the population level – have not had the intended impact on behaviour. Moreover, the prevalence of specific behaviours and associated poor health outcomes continue to vary by demography and geography. Substantial questions remain around why we have not observed more significant improvements in public health challenges, such as physical inactivity, excessive drug and alcohol use, and overconsumption of unhealthy foods and high-sugar beverages.

This one-day symposium will provide a platform to discuss the cutting edge of bio-behavioural science, identify evidence gaps, and examine opportunities to accelerate the adoption of evidence-based strategies and policies that could influence the key social determinants of health. The event will explore how lessons can be applied from some successful approaches – such as tobacco control - to tackle other major concerns affecting the health of our populations, including obesity.

Through keynote presentations and panel sessions, the event will explore several facets of behavioural change, including:

- Basic and translational aspects of neurobiological research, in both animals and humans, into the neural mechanisms underlying behaviour.
- Examples where behaviour change has been achieved at the population level to improve population health or reduce health disparities, and what we can generalise from them.
- Current and future innovations in this field, particularly the potential contributions of emerging technologies and complex systems approaches.

A further aim of the symposium is to foster and strengthen scientific partnerships between the UK and US, enabled by the meeting and a networking reception.

**A draft agenda is detailed on the following page.**

**PROVISIONAL AGENDA**

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| **09.15 – 09.45** | **Registration** |
| **09.45 – 10.00** | **Welcome**<br>• **Professor Sir Robert Lechler PMedSci**, President, UK Academy of Medical Sciences<br>• **Professor Victor J. Dzau**, President, US National Academy of Medicine |
| **10.00 – 10.15** | **Introduction and keynote**<br>*Chair: Professor Alan Leshner, Chief Executive Officer Emeritus, American Association for the Advancement of Science (AAAS)*<br>• **Professor Dame Theresa Marteau DBE FMedSci**, Director of the Behaviour and Health Research Unit, University of Cambridge |
| **Session 1: The neurobiology of behaviour, and what drives individual choices**<br>*Moderator: Professor Huda Akil, Gardner Quarton Distinguished University Professor of Neuroscience and Psychiatry and Co-Director, The Molecular & Behavioral Neuroscience Institute, University of Michigan*<br><br>This session will outline and explore:<br>• How can an understanding of the basic neural mechanisms of behaviour (drawing on both animal and human studies) reveal targets for interventions to improve health?<br>• Can experiments that examine the neural circuitry that underlies existing interventions explain their efficacy and suggest ways to improve them?<br>• Do different unhealthy behaviours, such as overconsumption of ultra-processed foods and smoking, involve different neural circuits in a way that suggest different types of interventions? | |
| **10.15 – 10.35** | **Keynote presentation**<br>• **Professor Todd Hare,** Associate Professor of Neuroeconomics and Human Development, University of Zurich |
| **10.35 - 10.45** | **Targeting neurobiological mechanisms of tobacco and alcohol use**<br>• **Professor Marcus Munafo**, Professor of Biological Psychology, University of Bristol |
| **10.45 – 10.55** | **Leveraging the neural basis of cognitive, emotional, and behavioural dysfunction**<br>• **Professor Barbara Sahakian FMedSci**, Professor of Clinical Neuropsychology, University of Cambridge |
| **10.55 – 11.05** | **Healthy development for children, and policy opportunities for intervention**<br>• **Professor Greg Miller**, Louis W. Menk Professor, Institute for Policy Research and Department of Psychology, and co-Director of Foundations of Health Research Center, Northwestern University |
| **11.05 - 12.00** | **Discussion** |
| **12.00 - 13.00** | **Lunch break** |

*Agenda continues overleaf*

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| **Session 2: Behavioural science approaches to effective population-level interventions that improve health equity**<br>*Moderator: Dr Robb Rutledge, Principal Research Associate, Max Planck UCL Centre for Computational Psychiatry and Ageing Research, University College London*<br><br>This session will outline and explore:<br>1. Where have interventions and policies in the physical, social, and/or economic environments had the most success in changing behaviour across populations to reduce health inequity?<br>2. What are the biggest challenges and research gaps?<br>3. Are there lessons from effective interventions that can be applied to tackle public health challenges like obesity, alcohol and drug use? | |
| **13.00 – 13.10** | **Population approaches to equitable behaviour change intervention**<br>• **Professor Martin White,** Programme Lead for Dietary Public Health Research, Centre for Diet and Activity Research (CEDAR), MRC Epidemiology Unit, University of Cambridge |
| **13.10 – 13.20** | **Behavioural interventions for smoking and obesity**<br>• **Professor Paul Aveyard,** Professor of Behavioural Medicine, University of Oxford |
| **13.20 - 13.30** | **Improving health and equity in diabetes and cardiovascular disease**<br>• **Professor Felicia Hill-Briggs**, Professor of Health, Behavior, and Society, Johns Hopkins Bloomberg School of Public Health, Johns Hopkins School of Nursing (NAM member) |
| **13.30 – 13.40** | **Translating evidence into policy**<br>• **Professor Marlene Schwartz,** Professor of Human Development and Family Studies, University of Connecticut; Director, Rudd Center for Food Policy & Obesity |
| **13.40 – 14.30** | **Discussion** |
| **14.30 – 14.50** | **Refreshment break** |
| **Session 3: Complex System Approaches and Emerging Technologies to improve health through behaviour change**<br>*Moderator: Professor Harry Rutter, Professor of Global Public Health, University of Bath*<br><br>This session will provide an opportunity to discuss the potential value, and limitations, of innovative approaches to tackling public health concerns through complex system approaches and emerging technologies. | |
| **14.50 – 15.00** | **Introduction to complex system approaches**<br>• **Professor Harry Rutter**, Professor of Global Public Health, University of Bath |
| **15.00 – 15.10** | **Application of digital technologies to change behaviour**<br>• **Dr Wendy Nilsen**, Program Director, Smart and Connected Health, National Science Foundation |
| **15.10 – 15.20** | **Mathematical and computational modelling of complex systems and the potential to change behaviour around obesity (or other public health challenges) and outcomes in the future**<br>• **Professor Bruce Y. Lee**, Associate Professor of International Health, Johns Hopkins Bloomberg School of Public Health; Executive Director, Global Obesity Prevention Center, Johns Hopkins |

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| **15.20 – 15.30** | **Revolutionising evidence synthesis and use: the Human Behaviour-Change Project**<br>• **Professor Susan Michie FMedSci**, Professor of Health Psychology, Director of the Centre for Behaviour Change, University College London |
| **15.30 – 16.30** | **Discussion** |
| **16.30 – 16.50** | **Conclusions**<br>• Reflections from the meeting co-chairs, and an overview of funding opportunities between the US and UK.<br>• **Professor Alan Leshner**, Chief Executive Officer Emeritus, American Association for the advancement of Science (AAAS)<br>• **Professor Dame Theresa Marteau DBE FMedSci**, Director of the Behaviour and Health Research Unit, University of Cambridge |
| **16.50 – 17.00** | **Close**<br>• **Professor Dame Anne Johnson FMedSci, Vice-President International, UK Academy of Medical Sciences** |
| **17.00 – 20.00** | **Reception and networking** |