



School for Public Health Research @ LSHTM (SPHR@L)

**SPHR@L Seminar Series: 2013-2014**

A talk by **Dr. Zaid Chalabi** (LSHTM) and **Dr. Theo Lorenc** (UCL)

Tuesday, 20<sup>th</sup> May 2014, 12:45 pm

Jerry Morris B, LSHTM, 15-17 Tavistock Place, London WC1H 9SH

Abstract

**Can Agent-Based Models Inform the Evaluation of Complex Natural Experiments?**

Agent-based models (ABMs) are dynamic models which simulate social interactions between agents, and between agents and their environment. In ABMs, the agents are decision makers rather than passive individuals. The rules governing their behaviour are not necessarily utility-maximising, and they can learn and adapt to a changing environment. ABMs can be used to simulate emergent population-level behaviours.

ABMs have been widely used in the social and health sciences, and could be of value in addressing known issues in the evaluation of complex interventions. We explore the GoWell longitudinal study of urban regeneration in Glasgow as a potential case study for the use of ABMs, both in evaluation design and in the interpretation of findings. Finally, we consider some potential challenges to the effective use of ABMs and some of the critiques that have been made.

*Dr. Zaid Chalabi is a Senior Lecturer in Health Impact Analysis and Mathematical Modelling, in the Department for Social and Environmental Health Research at LSHTM. His interests include mathematical modelling, extreme events, decision analysis and decision making with extreme and catastrophic risks.*

*Dr. Theo Lorenc is a Research Fellow in the Department of Science, Technology, Engineering and Public Policy at University College London. He is a social researcher and theorist, with interests in empirical ontology, knowledge practices, and recursive methodologies.*