

## Dr Andrew Sutton PhD

Lecturer

Health Economics

### Contact details

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### About

Andrew Sutton is a lecturer in mathematical modelling in the Health Economics Unit at the University of Birmingham.

Andrew was awarded his PhD at Warwick University in 2007 which focused on the mathematical modelling of interventions that target injecting drug users in a prison setting against blood-borne viruses.

Andrew is a module co-ordinator on the MSc Health Economics and Health Policy course run by the Health Economics Unit, and is currently involved in a number of projects that utilise both mathematical modelling and health economics. He is also a co-director of teaching within the Health Economics Unit.

### Qualifications

- PhD Biological Sciences
- MSc Modern Applicable Mathematics, Sheffield Hallam University
- PGCE (secondary) Mathematics, Sheffield Hallam University
- BSc (Hons) Open University

### Biography

Andrew Sutton qualified with a BSc (Hons) awarded an open degree from the Open University in 1999. Having obtained a PGCE in mathematics for the 11-16 age group at Sheffield Hallam University, Andrew remained at the same university and studied for a MSc in Modern Applicable Mathematics. This involved developing knowledge in an extensive range of mathematical modelling techniques, and included a six month placement at the United Kingdom Atomic Energy Authority in 2001.

In 2002 Andrew was employed as a mathematical modeller at the Health Protection Agency, Colindale London in the modelling and economics unit to research the impact of the hepatitis B vaccination programme implemented in prisons in England and Wales.

From September 2002 and for the next 4 years Andrew undertook a part-time PhD with Warwick University researching the impact of prison based interventions that target injecting drug users against blood-borne viruses, before being awarded his PhD in March 2007.

In 2004 Andrew spent one year at Imperial College as a Research Assistant in the Centre for Research on Drugs and Health Behaviour, before returning to the Health Protection Agency in 2005 to resume his previous role.

In May 2007 Andrew left the Health Protection Agency and moved to the University of Warwick to take a Research Fellow role which focused on research into the transmission dynamics of Theileria Annulata an often fatal tick-borne disease of cattle.

In August 2010, Andrew joined the Health Economics Unit at the University of Birmingham

### Teaching

#### Teaching Programmes

- **[MSc Health Economics and Health Policy \(/postgraduate/courses/taught/med/health-economics-policy.aspx\)](#)**
- **[MSc Public Health \(/postgraduate/courses/taught/med/public-health.aspx\)](#)**

Andrew also does teaching for the University of Keele on their MBA (Health Executive) and Diploma (Health Services Management) course.

### Postgraduate supervision

Andrew has a role in the supervision of students who are undertaking their dissertation projects as part of the MSc Health Economics and Health Policy course. He also does some supervision of PhD students.

### Research

#### RESEARCH THEMES

Health economics, injecting drug users, blood-borne viruses, HIV, Theileria Annulata, hepatitis B, hepatitis C

## RESEARCH ACTIVITY

### Health Economics

Having joined the health economics department in August 2010, Andrew's work is now focused more on the health economics component of a number of projects. Currently he is working on an economic evaluation of alternative approaches to testing the sentinel lymph node status in vulval cancer, and an economic evaluation focused on colorectal cancer. Previously he has undertaken cost effectiveness studies that have focused on prison interventions (see below).

### Theileria Annulata

Andrew has developed both a deterministic and stochastic model to describe the transmission dynamics of *Theileria Annulata* an often fatal tick-borne disease of cattle. This MRC funded project was in collaboration with groups in Tunisia and Turkey, areas in which the disease is particularly prevalent. This research has provided an insight into the most effective interventions that farmers can use to target ticks and reduce the potential transmission of *T. annulata* within their herds.

### Injecting Drug Users

Andrew has undertaken a wider variety of research studies that have focused on the injecting drug user population:

#### *Prison based interventions*

Andrew has conducted research to investigate the impact of a variety of interventions that target injecting drug users in a prison setting. These have included hepatitis B vaccination on reception into prison, case finding on reception into prison for injecting drug users infected by hepatitis C, and the cost effectiveness of delivering hepatitis C screening and treatment in a prison setting.

#### *Characteristics of the injecting drug user population*

Andrew has also undertaken research to gain a better understanding of the injecting drug user population, including trying to gain a greater insight into the rate that injectors start and stop using drugs, and the impact of assumptions regarding the contact between injectors that may lead to the transmission of HIV infection

### Other activities

Andrew is the plagiarism officer for the health economics unit and also joint plagiarism officer for the wider School of Health and Population Sciences.

### Publications

- Meads C, **Sutton AJ**, Malysiak, S, Kowalska M, Zapalska A, Chomiak P, Rogozińska E, Baldwin P, Rosenthal A, Ganesan R, Borowiack E, Barton P, Roberts T, Sundar S, Khan K. Sentinel lymph node (SLN) status in vulval cancer: Systematic quantitative reviews and decision analytic model-based economic evaluation. *HTA Report* 2012 (**submitted**)
- **Sutton, AJ**, McDonald, SA, Palmateer, N, Taylor, A, & Hutchinson, SJ. Estimating the variability in the risk of infection for hepatitis C in the Glasgow injecting drug user population. *Epidemiol. Infect.* 2012, 1-9
- **Sutton AJ**, House T, Hope VD, Ncube, Wiessing L, Krezschmar M. Modelling HIV in the injecting drug user population and the male homosexual population in a developed country context. *Epidemics* 4 (2012) 48-56
- **Sutton AJ**, Hope VD, *et al.* A comparison between the force of infection estimates for blood-borne viruses in injecting drug user populations across the European Union – A modelling Study. *J Viral Hepat*, 2008 Nov;15(11):809-16
- **Sutton AJ**, Edmunds WJ, Sweeting MJ, Gill ON. The cost-effectiveness of screening and treatment for hepatitis C in prisons in England and Wales: a cost utility analysis. *J Viral Hepat*, 2008. Nov;15(11):797-808
- **Sutton AJ**, Edmunds WJ, Gill ON. Estimating the cost-effectiveness of detecting cases of chronic hepatitis C on reception into prison. *BMC Public Health*, 2006, 6:170.
- **Sutton AJ**, Gay NJ, Edmunds WJ. Modelling the impact of prison vaccination on hepatitis B transmission within the injecting drug user population in England and Wales (2006). *Vaccine* 24, 2377-2386
- **Sutton AJ**, Gay NJ, Hickman M, Hope VD, Gill ON. Modelling the force of infection for hepatitis B, Hepatitis C, and HIV in injecting drug users in England and Wales. *BMC Infect Dis*, 2006, 6:93

