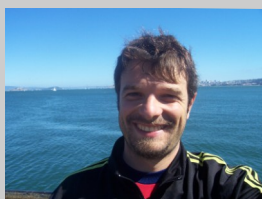


Latest news

Three new members of staff have joined CHE



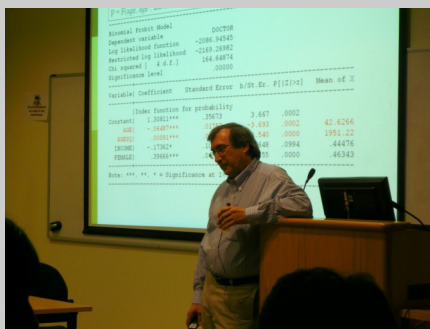
Silvio Daidone, a Research Fellow from the University of Rome, is

working with the Health Policy team.

Also working with the Health Policy team is **Olena Nizalova** from the Kiev School of Economics, Ukraine.



Eldon Spackman, from the University of Washington, is working with TEETHA.



Professor Bill Greene, a renowned micro-econometrician, visited the University in January to present an advanced course in applied health economics.

Welcome to the eighth edition of the Centre for Health Economics electronic newsletter. The objective of the newsletter is to keep policy makers, researchers and practitioners informed about recent developments at the Centre, including completed research and forthcoming events. For further information see www.york.ac.uk/inst/che

Appropriate perspectives for health care decisions
Karl Claxton, Simon Walker, Stephen Palmer, Mark Sculpher



Research commissioned by the Department of Health (DH) suggests that widening the perspective used by the National Institute for Health and Clinical Excellence (NICE) to assess the cost-effectiveness of new technologies may not benefit either the NHS or the wider economy. If NICE were to adopt a broader 'societal perspective', then wider economic effects impacting on patients, carers, other areas of public expenditure and the wider economy would be formally incorporated. It poses difficult questions of how to account for fixed NHS budgets, how the trade-offs between health, economic effects and other social considerations should be made, as well as how a range of activities (those with market prices and those without) ought to be valued. The aim of the report is to assess the implications of alternative policies and to undertake a series of case studies to inform decisions about the appropriate perspective for NICE.

Alternative policies

- A. *Ignore the wider costs outside the health sector.* The post 2008 NICE position, which is restricted to costs and cost savings for the NHS and personal social services, except in exceptional circumstances notified by the DH.
- B. *Treat any wider costs as if they fall on the budget constraint.* All costs are included but decisions assume all wider economic costs or benefits accrue to the NHS.
- C. *Ignore the budget constraint.* All costs are considered but it is assumed that all costs or economic benefits fall on the wider economy rather than a fixed NHS budget.
- D. *Taking account of where the costs fall.* A formalisation of the pre 2008 NICE position: all costs and economic benefits may be given some weight in decision making. The appropriate weight for non NHS costs depends on the cost-effectiveness threshold and some estimate of a consumption value of health.

Each of the three simple policies (A, B, and C) creates biases in different directions depending on particular circumstances (see Table 1 overleaf).

Policy D would be unbiased if the impact on the NHS budget was marginal (sufficiently small that the cost-effectiveness threshold does not change). However, the repeated application of this policy to a sequence of decisions will ultimately have non-marginal impacts with increasingly valuable health care tending to be displaced, leading to positive bias and a danger of false positive decisions

Four case studies based on past NICE appraisals demonstrate that external effects depend on the nature of the technology (e.g. whether it primarily affects mortality

Appropriate perspectives for health care decisions (continued)

Table 1 Bias and potential for decision error (marginal changes)

Type of Technology	A. Ignore wider costs		B. Costs on budget		C. Ignore constraint	
	Bias	Decision	Bias	Decision	Bias	Decision
More effective						
<i>Net consumption costs</i>						
Positive costs (NHS)	+	FP	-	FN	+	FP
Cost saving (NHS)	+	FP	-	FN	-	FN
<i>Net consumption benefits</i>						
Positive costs (NHS)	-	FN	+	FP	+	FP
Cost saving (NHS)	-	D	+	D	-	D
Less effective						
<i>Net consumption costs</i>						
Positive costs (NHS)	+	D	-	D	+	D
Cost saving (NHS)	+	FP	-	FN	-	FN
<i>Net consumption benefits</i>						
Positive costs (NHS)	-	FN	+	FP	+	FP
Cost saving (NHS)	-	FN	+	FP	-	FN

D = the technology either dominates or is dominated FP = a false positive decision is possible FN = a false negative decision is possible

or quality of life), the type of disease (e.g. acute or chronic) and the type of patient population (e.g., age, gender and employment status).

Critical considerations

An appropriate perspective depends on a series of questions of social and scientific value as well as other critical considerations:

- What external economic benefits are likely to be displaced by a new technology?
- What are the longer term dynamic consequences (e.g., pricing and investment)?
- Will a wider perspective conflict with other objectives of social policy?

Implications for policy

- Adopting a wider perspective without taking proper account of the implications of a fixed NHS budget has little to commend it.
- The current NICE perspective is likely to be sufficient 'on average'. There will be exceptions, where the external economic benefits associated with the health gains offered by a technology are likely to be substantially greater or substantially less than the economic benefits associated with health forgone elsewhere in the NHS.

- Any return to NICE's 2004-2008 policy would need to make the basis of any deliberation more explicit, but dynamic effects on prices and NHS costs may be expected to emerge.
- It would impose additional costs and time pressures on the appraisal process with a possibility of bias if the economic benefits forgone elsewhere are more difficult to identify.
- The problem may be more manageable if the consideration was restricted to those exceptional cases but would require explicit criteria for when an exceptional case could be made.
- The repeated application of this policy will lead to non-marginal impacts on the NHS and a positive bias in favour of new technologies. In combination with more restrictive policies (i.e., ignore external economic benefits but treat any wider economic costs as if they fall on the NHS budget) when the impact on the NHS of approval is significant, this effect might be mitigated.

The Research Paper is available at:

<http://www.york.ac.uk/inst/che/pdf/rp54.pdf>

Ex-ante policy evaluation and microsimulation

Eugenio Zucchelli, Nigel Rice, Andrew Jones



Undertaking robust policy evaluation in areas such as public health is often beset by methodological challenges. Issues such as population heterogeneity, multiple outcomes, spillovers and externalities, and the need to capture long-run effects of interventions often hamper traditional, ex-post, evaluation methods. By definition these approaches are used to evaluate the impact of interventions following their implementation. In contrast,

ex-ante evaluation techniques that simulate outcomes of interest prior to policy implementation offer a flexible alternative approach to policy evaluation that are capable of overcoming some of the methodological difficulties encountered in ex-post techniques. Two leading approaches are microsimulation and structural modelling. Microsimulation has become a widely accepted instrument to shape and support government policy making. The application of these techniques, however, has largely focused on simulating tax-benefit and pension systems and extensions to the evaluation of health policies are still limited. While approaches to microsimulation differ widely due to the structure and characteristics of the model used to represent individual behaviour (e.g. whether a behavioural model and a dynamic or static framework), the key feature embedded in all microsimulation models is the ability to *generate* individual-level data under different policy scenarios.

Ex-ante policy evaluation and microsimulation (continued)

A typical microsimulation model is structured on a modular basis (Figure 1). This consists of a baseline dataset representative of the population of interest and used as the starting point of the simulation, a series of interactive modules used to simulate and update individual events and trajectories (in this stylised example, demographic, economic and health events) and the outcome produced by the simulation - here the difference in individual health outcomes between a baseline scenario and an alternative under evaluation. Dynamic microsimulation models adopt a life-cycle perspective and model the interaction between these events over time.

Microsimulation offers a number of important advantages over more standard methods of ex-post policy evaluation. First, by simulating data under alternative scenarios, microsimulation allows for the evaluation of outcomes of interest prior to actual implementation of a policy. Second, by simulating individual behaviour over multiple time periods, dynamic microsimulation techniques readily incorporate heterogeneity in estimated treatment effects together with the long-run effects of

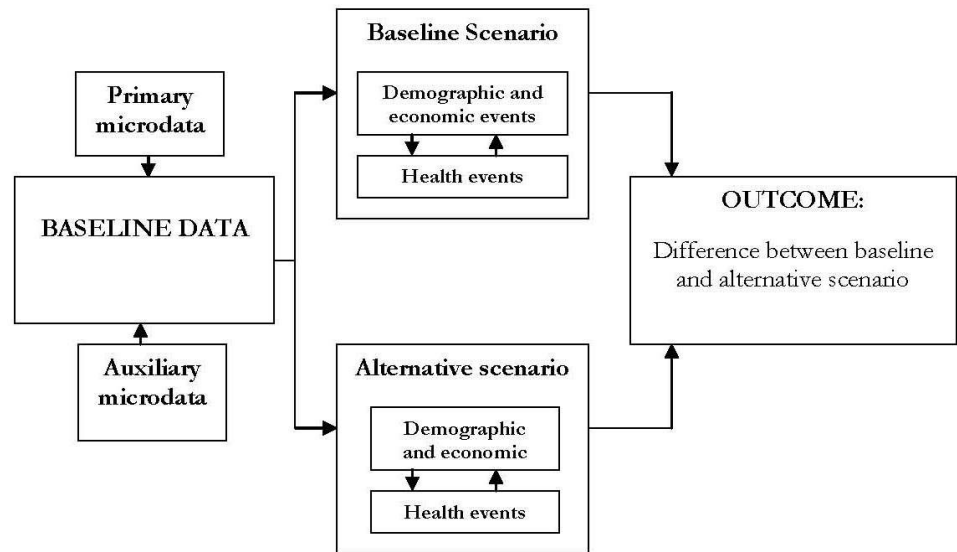


Fig 1. Stylised structure of a typical microsimulation model

treatment. Finally, dynamic microsimulation can additionally identify externalities and spillovers in treatment and the characteristics of individuals affected. As part of an ESRC funded project HEDG is currently pursuing a programme of research drawing on these techniques and has recently completed a review of microsimulation methods together with applications to health and health care.

The review article is available at: http://www.york.ac.uk/res/herc/documents/wp/10_03.pdf

Publications

CHE Research Papers

CHE has a research paper series which gives early release of research findings. The following have recently been published and are free to download

www.york.ac.uk/inst/che/publications/publicationsbyyear.htm

RP54 Appropriate perspectives for health care decisions - **Karl Claxton, Simon Walker, Steven Palmer, Mark Sculpher**.

RP55 Does cost-effectiveness analysis discriminate against patients with short life expectancy? Matters of logic and matters of context - Mike Paulden, **Anthony Culyer**.

RP56 Simulation or cohort models? Continuous time simulation and discretized Markov models to estimate cost-effectiveness - **Marta Soares, L Canto e Castro**.

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Conference, seminar and workshop presentations

Chris Bojke gave a seminar on "The economics of the design of post-season play-offs and the impact on regular season game attendance" at the Department of Economics, University of Newcastle on 16 February 2010.

At the NICE Evaluation Pathway Programme: methods workshop held in London in November 2009, **Karl Claxton** presented the paper 'Evaluation pathway for medical technologies: value of information.'

At the meeting of the International Society for Pharmacoeconomics and Outcomes Research (ISPOR), held in Paris in October 2009, **Karl Claxton, Simon Walker, Stephen Palmer and Mark Sculpher** presented 'Appropriate perspectives for health care decisions.'

In December 2009, **Michael Drummond** addressed the issue of: 'QALYs: a necessary evil?' in a plenary session on cost-utility thresholds vs efficiency frontier, at the 4th International Symposium of the Central and East European Society of Technology Assessment in Health Care, held in Krakow.

Maria Goddard was an invited speaker and gave a keynote address at the First International Symposium on "Paying for performance" in health care, held in Sao Paulo, Brazil in November 2009.

Susan Griffin did a poster presentation of 'Analysing clinical trial data to inform inputs to decision models' at the SMDM meeting in Hollywood, LA, October 2009.

Andrea Manca gave an invited talk entitled "Healthcare cost-effectiveness analysis: why? which? what? - a NICE example" at the meeting 'Cost benefit analysis: current perspectives and future directions' jointly organised by the British and Irish region of the International Biometric Society and The Food and Environment Research Agency.

Andrea delivered a talk on the "Analytical approaches for the direct and indirect questionnaire EuroVaQ data" at the meeting of the EU-funded EuroVaQ project in Rotterdam. He also gave an invited seminar at iBMG and iMTA at Erasmus University with the title "A bridge over the troubled water: integrating individual patient-level data analysis and comprehensive decision analytic cost-effectiveness modelling"

Silvana Robone presented a paper on health system responsiveness to a seminar at Erasmus University, Rotterdam. She also presented the paper 'Vignettes and health systems responsiveness in cross-country comparative analyses' at seminars at IRDES, Paris, and the Health Economics Research Group, Brunel University.

Pedro Rosa Dias presented a Keynote Address to the Workshop 'Equity in health and health care utilization' organized by the Centre for Health Economics and Policy Analysis (CHEPA), McMaster University, Hamilton, Canada.

Mark Sculpher presented a seminar on "Uncertainty in cost-effectiveness analysis in health" at the University of Toronto, Canada, organised by the Toronto Health Economics and Technology Assessment (THETA) Collaborative.

Mark also presented at the annual National Institute for Health and Clinical Excellence conference in Manchester in December. He spoke at a session entitled 'Speedier assessment: balancing speed and rigour in making decisions on technology adoption'.

Andrew Street was interviewed on BBC Radio 4's You and Yours programme about NHS patients treated by the private sector and provided written and oral evidence to the House of Commons health committee on NHS commissioning. Andrew was also appointed to the NHS National Institute for Health Research's Health Services Research Commissioning Board.