NEW HORIZONS

In this edition we cover some important recent work undertaken in HEDS around condition-specific preference-based measures and using whole systems models for modelling resource allocation across the full clinical pathway for diseases. These projects exemplify what we do in our research and also what we teach. Our expanding Masters’ programme now includes:

- MSc International Health Technology Assessment, Pricing and Reimbursement * (http://www.sheffield.ac.uk/scharr/prospective_students/masters/ihtpar);
- MSc Health Economics and Decision Modelling (http://www.sheffield.ac.uk/scharr/prospective_students/masters/hedm);
- MSc Economics and Health Economics (http://www.sheffield.ac.uk/economics/prospectivetpg/courses/msc_economics_health.html)

as well as wider SCHARR programmes including the Masters in Public Health, the Masters in Clinical Research, the Masters in Medical Statistics and many more (http://www.sheffield.ac.uk/scharr/prospective_students/masters/).

If you are interested in undertaking postgraduate programmes relating to Health Economics and Decision Science please contact,

- Phil Shackley (p.shackley@sheffield.ac.uk) for Masters programmes and
- Donna Rowen (d.rowen@sheffield.ac.uk) for the PhD programme.

Finally, I would like to give a personal note of thanks to Ron Akehurst. I first met Ron in the very early 90’s when I was working at Trent Regional Health Authority, and in 1994 the then Vice Chancellor, Gareth Roberts, convinced me and my unit to come to ScHARR to join Ron – a decision which I say ranks as the 2nd best decision of my life. Ron has always provided magnificent support; encouraging development and ambition as well as providing really useful, quick decisions on key strategic issues around both projects and management over the years. Now that he has moved on from being Dean of the School, and in his new, slightly freer role, I look forward to us working together many years into the future.

* Subject to university approval

RON AKEHURST – THE NEXT 17 YEARS...

July 2010 saw Ron Akehurst step down as Dean of the School of Health and Related Research after 17 years in charge of the school which he established back in 1993. Since being headhunted from York to provide a health economics/health services research component to the Faculty of Medicine, Ron has overseen the development of ScHARR from a Research Centre into a department in its own right, with over 200 staff and a world-wide reputation. Now that Professor Jon Nicholl has taken over as Dean, Ron will be devoting more of his time to health economics and concentrating on the aspects of work that the head of a busy department does not have the time to fulfill. "There are some interesting challenges ahead, and the fight to get sensible responses to the fact of scarcity of resources is as relevant now as it has been for the last 40 years of my career."

Ron has already taken on more consultancy work, advising governing bodies as an individual and as a member of national and international committees. One current project is a pilot scientific advice programme which aims to bring together HTA agencies and registration authorities from across the world, such as the FDA and the EMA, to encourage consistent scientific advice for study design. He is also a member of the newly formed NICE Advisory Committee on Diagnostics. "Currently, in the pharmaceutical world, there is a move to try to identify drugs which would work in very specific groups of patients defined by genetic characteristics. In these cases, the value of the diagnostic test is tied up with the value of the treatment, which raises interesting evaluation issues."

In addition this high profile work, Ron will continue to advise pharmaceutical, device, and diagnostics companies on collecting evidence for appraisals, and will also be returning to the lecture theatre, taking a lead in ScHARR’s new masters course in International Health Technology Assessment, Pricing and Reimbursement.

"I will be on study leave from 1st January 2011 and part of my time will be taken up by writing material for the new masters, which takes its first students in September 2011. This means conducting interviews with world-wide appraisal bodies so that we can provide the most current and relevant information to our students."

"I am both nervous and excited about the prospect of teaching, and the distance learning format of the course will require me to get up a steep learning curve."

Ron will continue an active role within the governance of the University of Sheffield, as chair of the senate budget committee and a member of the university finance committee, another area to be facing challenges in the current economic environment.

"I have really enjoyed being given the roar for the lion that is ScHARR, but I am happy to move on and leave it in Jon’s more than capable hands."

For more information on the new masters course, visit http://www.sheffield.ac.uk/scharr/prospective_students/masters/ihtpar/
Generic preference-based measures such as EQ-5D, SF-6D, HUI2 and HUI3 have been found to perform poorly in some conditions and are often not used. In recent years there has been increasing interest in the development and usage of condition-specific preference-based measures (CSPBM) to generate QALYs. CSPBM can be derived from existing instruments or can involve the development of an entirely new measure. HEDS has led the development of CSPBM from existing measures for overactive bladder, urinary incontinence, asthma, flushing, and cancer. Yet some fundamental concerns remain as to whether CSPBM can be used to make comparisons between interventions for different conditions. The COSMeQ project reviewed, developed, and tested methods for deriving CSPBM from existing measures, examining issues such as:

- the methodological challenges of developing a preference-based mental health measure
- whether labelling the underlying condition affects utility values
- comparing the performance of condition-specific measures to generic measures and to the non-preference-based measure it was derived from the adaptation of measures to be able to capture co-morbidities and side-effects of treatment through adding on a generic dimension to a CSPBM.

The results of the project will inform ongoing research projects in HEDS (such as NICEQoL with Brunel) examining the suitability of generic measures across different conditions (including vision, hearing, cancer, skin conditions, and various mental health conditions) and the development of CSPBM from existing measures of health for epilepsy, dementia, and diabetes.

**Further Information**
For further information on this and related projects please click onto http://www.sheffield.ac.uk/scharr/sections/heds/mvh/csquality.html or email Donna Rowen d.rowen@sheffield.ac.uk

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**SCHARR TECHNOLOGY ASSESSMENT GROUP**

SchARR-TAG is a group within HEDS which undertakes reviews of the clinical and cost effectiveness of health care interventions on behalf of the National Institute for Health Research (NIHR) Technology Assessment Programme for a range of policymakers, including the National Institute for Health and Clinical Excellence (NICE) and the National Institute for Health Research Evaluation, Trials and Studies Co-ordinating Centre (NETSCC).

Current and forthcoming work for NETSCC includes three full reports, three short reports, and four NICE MTAs. SchARR-TAG is also involved in eight current or forthcoming single technology appraisals (STAs) for NICE. Details of these and other information on SchARR-TAG activities can be found at the SchARR-TAG website: www.sheffield.ac.uk/scharr/scharr-tag
Health economic models are currently used to inform policy decisions concerning whether health technologies represent value for money for the NHS. Conventional economic analyses usually adopt a “piecemeal” design, which focuses on a single decision at an isolated point within a broader clinical pathway, for example: “Is Herceptin plus chemotherapy cost-effective in comparison to chemotherapy alone for the treatment of HER2 positive breast cancer?” The aim of this study is to develop, implement and evaluate a methodological framework for simulating whole disease areas (referred to as Whole Disease Modelling). The distinguishing characteristics of the Whole Disease Modelling approach that set it apart from conventional piecewise cost-effectiveness analyses are the scope of the analysis and the structural ability of the model to consider the knock-on impacts of health technologies on other parts of the service. The Whole Disease Modelling framework involves modelling “the bigger picture”: that is, the entire disease and treatment pathway from pre-clinical disease through to diagnosis and referral, adjuvant treatment, follow-up, potential local or metastatic recurrence, palliative treatment, end-of-life care, and eventual death. This approach has been piloted in bowel cancer.

Using Whole Disease Models to Inform Resource Allocation Decisions

The study consisted of two broad phases of research:

**Phase 1**
This phase reflected on a pre-existing colorectal cancer simulation model and identified methodological gaps. This involved (1) examining existing economic evidence in colorectal cancer (see Tappenden et al, 2009); (2) a critical examination of a pilot bowel cancer simulation model; (3) two case studies involving the use of the pilot model in supporting a number of economic analyses; and (4) the development of a methodological framework for Whole Disease Modelling in solid tumour cancers.

**Phase 2**
This phase applied the methodological framework to develop a new bowel cancer Whole Disease Model. This model provides a common platform for the economic evaluation of technologies and services across the breadth of the colorectal cancer pathway. The value of this approach in supporting clinical guideline development is currently being examined.

Further information
The pilot application of this approach has been published in Journal of the Operational Research Society.


For further information on this project please contact the award holder, Paul Tappenden (p.tappenden@sheffield.ac.uk).

This research was funded as part of the UK NIHR Personal Development Award Fellowship.

Improved Access to Technology Appraisal Research from the DSU

The NICE Decision Support Unit, which has been based in HEDS since its inception in April 2003, provides a research and training resource to support the Institute’s Technology Appraisal Programme. Formed as a collaboration between the universities of Sheffield, York and Leicester, the DSU also has members from Bristol, Brunel and the London School of Hygiene and Tropical Medicine.

The DSU provides technical expertise to assist in the analysis of specific technology appraisals, and advises on methodological issues which arise from the appraisals process. These reports are now available directly from the new website, www.nicedsu.org.uk.

The website also provides up to date information on training opportunities around technology assessment and appraisals, the application of specific methods in areas such as evidence synthesis, and the use of software for decision modelling.
**OUR MSC COURSES**

**MSc International Health Technology Assessment, Pricing & Reimbursement***

*Start date:* September 2011  
**Duration and mode of study:** 2-3 years part-time

This MSc is the only graduate programme offering the entire range of knowledge and skills needed by those developing health technologies for market, or involved in commissioning or evaluating health technologies. With a delivery mix of attendance and distance learning materials, the programme is suited to those with busy work commitments in these fields.

Those working in the pharmaceutical, medical devices, or diagnostics industries will gain a comprehensive understanding of the processes and contexts of markets, pricing, and customers needed for new product development in multiple jurisdictions.

The course also meets the needs of those involved in health technology policy formulation, management, and evidence-based commissioning and purchasing of health technologies for governments or health services.

* Subject to University approval

**MSc Health Economics and Decision Modelling**

Health economics and decision modelling is undergoing a massive expansion internationally as governments, insurers, healthcare organisations, and the pharmaceutical industry meet the need to analyse the costs and benefits of health-related strategies. There is an international shortage of qualified specialists at post graduate level.

This internationally focussed Masters course is intended to equip participants with the techniques and methods of health economics and modelling to meet these needs. It is ideal for students wishing to pursue a career as a professional health economist / modeller.

The role of mathematical modelling in informing healthcare resource allocation decisions has been increasing over the past two decades. The MSc in Health Economics and Decision Modelling is the only Masters programme in the UK with a specific focus on the practical application of mathematical modelling to inform healthcare decision problems. This is a truly bespoke course, bridging the gap between the underlying theory and application of mathematical modelling for decision making and more traditional health economics.

If you represent a commercial organisation that would consider undertaking sponsorship of a student on the proposed MSc in Health Economics and Decision Modelling, please go to our website http://www.sheffield.ac.uk/scharr/prospective_students/masters/hedm for further information.

**MSc Economics & Health Economics**

This MSc programme is run jointly with the School of Health and Related Research at the University of Sheffield. It is aimed at students who wish to pursue careers as applied economists in the health sector and at those who wish to continue with academic research.

The programme emphasises the development of the advanced analytical and technical capabilities required for applied economics, and how these skills can be used to address the important issues and problems involved in allocating resources in the health sector. This emphasis is achieved through first semester economics modules, followed by second semester development and application of these skills.

MSc Economics and Health Economics receives studentship funding offered jointly by the National Institute for Health Research, the Medical Research Council, and the Economics and Social Sciences Research Council. The studentship is for full time UK students and covers the fees, and a standard research council stipend.