THE UNIVERSITY of York

HEALTH ECONOMICS
News from CHE

THE QUEEN'S ANNIVERSARY PRIZES 2007

CHE Centre For Health Economics

Issue 6 July 2009

Latest news

Peter Smith, current Director of CHE, has finished his term of office as Director of CHE. He is leaving to take up a post at Imperial College, London. We would like to express our thanks to Peter for the huge contribution he has made to health economics at York and our very best wishes for his new role at Imperial.

Maria Goddard has been appointed as the next Director for CHE and will take up her new role in October 2009.

Courses

An introduction to measuring efficiency in public sector organisations: analytical techniques and policy

This three-day course will be held at the University of York on 12 - 14 October 2009

For more information please visit our website page at www.york.ac.uk/inst/che/training/index.htm

New projects

Mark Sculpher 'Improving the quality of care for patients with angina and heart attack'. Sponsored by the National Institute for Health Research, with University College London. Duration: 2009-2014

Steve Palmer 'An evaluation of the feasibility, cost and value of information of a multicentre randomised control trial of intravenous immunoglobin for sepsis (severe sepsis and septic shock)' Sponsored by the National Institute for Health Research, with the Intensive Care National Audit and Research Centre. Duration: 2009-2010

Welcome to the sixth 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

Getting the methods right: developing methodological research priorities to support NICE decision making

Laura Bojke and Mark Sculpher

The National Institute for Health and Clinical Excellence (NICE) has blazed a trail internationally in using evidence and rigorous analysis to support its decisions about effective and cost-effective health interventions. Not surprisingly perhaps, it frequently finds that suitable analytical methods to support its decisions are not available or are limited. Funded by the NIHR-MRC Methodology Research Programme, the aim of this project was to provide recommendations for identifying NICE's methodological research priorities and to establish an initial set of such priorities. The work was undertaken jointly with Louise Longworth and John Tosh from the University of Sheffield.

Methods

Semi-structured interviews, an email survey and a literature review were used to obtain information on the process by which methodological research needs are currently identified and prioritised at NICE. The review and interviews also gathered suggestions for methodological research topics. In addition, interviewees were asked for their opinion on how NICE processes could be further developed.

A list of potential research topics identified from the literature, interviews and the email survey was collated. A workshop was held in February 2009 to discuss the list of topics involving NICE staff, methodologists and those undertaking research to support NICE decisions. Following the workshop an amended list of topics was made publicly available via a survey on the MRC website. Individuals were asked to score each topic on the list, provide comments, offer other potential topics and to identify their top three topics.

Results

Several formal and informal processes for topic identification and prioritisation were mentioned during interviews and the email survey. Formal processes include the regular reviews of the NICE methods guides and the activities of the NICE Research and Development Advisory Committee (RDAC). Informal processes include the identification of issues arising during the course of guidance production.

Specific suggestions for changes in the future included the creation of a 'Methodology Committee' and the identification of potential topics as a specific agenda item in existing committee meetings. Respondents felt that an explicit process for prioritisation would be useful. The need to identify funding for methods work was also raised.

Topics emerging as priorities included: methodology for indirect and mixed treatment comparisons, synthesis of qualitative evidence in the NICE decision making process and methods for conducting systematic reviews of complex interventions.

Conclusions

Some methodological topics have been taken forward as vignettes by the MRC and, in one case, active commissioning has taken place. This indicates that some form of process exists through which these topics were selected and progressed. There is a need for a formal Institute-wide process to collate and prioritise topics.

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Geographical variations in quality of life: Are public service organisations able to influence them?

Rowena Jacobs, Adriana Castelli, Maria Goddard, Peter Smith




The aim of public services is to improve the quality of life of citizens. In this ESRC funded project, we went beyond the boundaries of health care organisations and health related quality of life to consider the impact of the wider public sector on a range of aspects of quality of life. We also considered the degree to which organisations can reasonably be held responsible for the quality of life of citizens or whether such factors are sometimes outside their control (eg are due to socio-economic status of the population).

Our methodological approach exploited the fact that in most public sector service areas, administrative organisations are arranged in a geographically hierarchical manner. Large organisations such as Strategic Health Authorities (SHAs) are at the top, with lower level Primary Care Trusts (PCTs) nested within these boundaries and smaller geographical areas – 'lower super output areas' (LSOAs) – below these. Similarly, LSOAs are nested within Local Authorities (LAs) which are organised below Governmental Regions.

We assembled a database of quality of life measures proposed by the Audit Commission covering areas such as safety, housing, health, education, and transport, measured at 'small area' level (Table 1). We added data on indicators of deprivation (to measure 'needs' of the local population) and on the performance of public service organisations (PSOs).

We used a range of advanced statistical methods to analyse the relationships between PSOs and quality of life measures at different hierarchical levels. Our approach took account of potential interactions that may exist between quality of life measures and geographical hierarchical levels.

We find there is a set of indicators that tend to have a large variation at small area level (indicators on the left of Figure 1) and another set for which the majority of the variation appears at the higher levels (indicators on the right of Figure 1). These results are consistent despite varying the models used (Table 2).

The models sought to identify the proportion of variation in quality of life indicators attributable to each geographical level in the hierarchy. If variation for a quality of life indicator is high at a particular level, then it suggests that PSOs operating at that level might be able to influence it through the use of better targeted or more effective policy tools. However, the large variation found in many quality of life indicators at small area level is also important. Whilst there are no PSOs with obvious responsibility for quality of life at this level, it indicates the importance of policies that may have an impact at the neighbourhood and community level, which provides support for the current focus of many current public policies.

Table 1: The 20 quality of life indicators at small area level

sleep rough	Percentage of people living rough
mortality	Standardised mortality ratio
life expectancy	Life expectancy at birth
longstanding illness	Percentage of households with one or more limiting longstanding illnesses
educational attainment	Average points score Key Stage 4
job seekers allowance	Percentage of working age people claiming job seekers allowance
crime	Deprivation score for crime
claiming benefit	Percentage of working age people claiming a key benefit
elderly deprived	Deprivation score for older people
school absence	Secondary school absence rate
no heating	Percentage of occupied households without central heating
kids deprived	Deprivation score for children
green area	Area of green space per head
travel foot bike	Percentage of population travelling to work by bike / foot
travel private	Percentage of population travelling to work by private vehicle
teenage conception	Teenage conceptions
election turnout	Election turnout
travel 20km work	Percentage of population travelling over 20km to work
air quality	Combined air quality indicator
travel public	Percentage of population travelling to work by public transport

Table 2: Summary of 6 quality of life indicators which consistently across all model specifications have the most variation explained at each level

Most variation at small area level
Standardised mortality ratio
Average points score Key Stage 4 (educational attainment)
Percentage of people living rough
Deprivation score for children
Life expectancy at birth (all people)
Area of green space per head
Most variation at PSO level (PSOs e.g. PCTs, SHAs, LAs have most influence)
Percentage of population travelling to work by public transport
Percentage of population travelling over 20km to work
Election turnout
Combined air quality indicator
Teenage conceptions
Deprivation score for crime

Geographical variations in quality of life: Are public service organisations able to influence them? continued

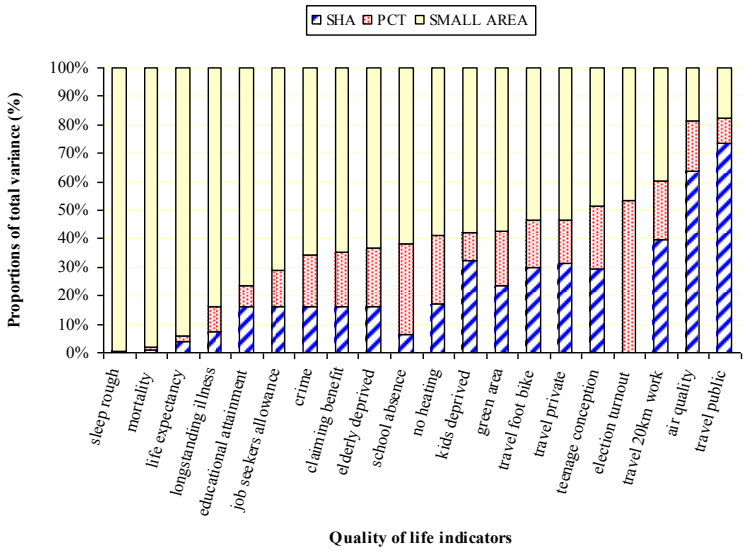


Figure 1: The proportion of variance in quality of life indicators attributable to higher level SHAs, PCTs and small areas (controlling for need variables and PCT performance indictors)

This research was funded by the Economic and Social Research Council (ESRC) grant number RES-166-25-0013 under the Public Services Programme. Full details of the Public Services Programme are available here: http://www.publicservices.ac.uk
Full details of the research are available here: Castelli A, Jacobs R, Godddard M, and Smith PC. (2009) *Exploring the impact of public services on quality of life indicators*, Centre for Health Economics Research Paper 46, University of York, http://www.york.ac.uk/inst/che/pdf/rp46.pdf
This document is available to download free of charge via our website: http://www.york.ac.uk/inst/che/publications/hpolicypubs.htm and may be photocopied freely.

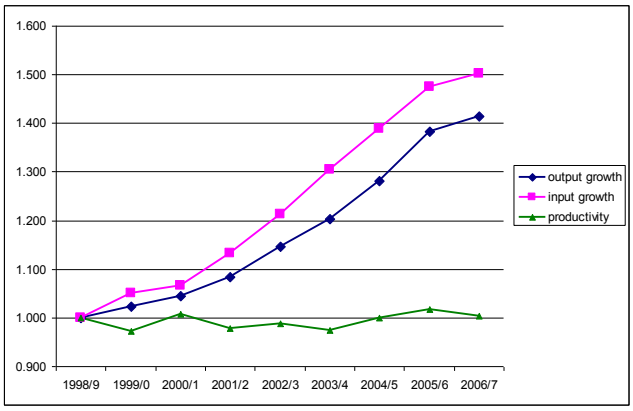
Getting out what we put in: NHS productivity growth

Andrew Street and Padraic Ward

The English NHS has received significant increases in funding over the last few years, and the signs are that NHS output is now growing at the same rate as the growth in NHS input.

The figure below presents three series:

- An index of output growth which measures changes in the number of patients treated by the NHS across different settings, such as hospitals, outpatient departments, mental health care trusts and in primary care.
- An index of input growth which measures changes in the volume of the various 'inputs' used in the provision of care, including staff, drugs, clinical supplies, medical equipment, energy, and buildings.
- Productivity growth, calculated by comparing the ratio of output growth to input growth.



Since 1998/9 there has been strong input growth, particularly after 2000/1. Staff received new pay awards. Recruitment increased, in part to satisfy the European Working Time Directive. There was greater investment in equipment and buildings. But investments take time to be realised and the directive placed limits on working hours, so output growth lagged behind input growth between 1998/9 and 2003/4. Even so, year-on-year increases in the number of patients treated meant that output growth averaged more than 3.7% per year up to 2003/4.

Since then NHS output has continued to rise, but at a faster rate, averaging 5.5% per year between 2004/5 and 2006/7. Not only are more patients being treated, but the quality of the care they receive has been improving.

- Waiting times have been falling, both for outpatient appointments and for admission to hospital.
- Survival rates have been improving for patients admitted to hospital whether as electives or non-electives.
- Improved disease management in primary care has led to reductions in blood pressure for patients suffering chronic heart disease, stroke and hypertension.

There has also been a slowdown in input growth since 2003/4, primarily the result of a levelling off in staff recruitment and less reliance on the use of agency staff. As a consequence recent NHS productivity growth has been positive or, at least, constant. This means NHS output growth is at least as high as the growth in inputs.

As we enter a more a resource-constrained period it is important that 'efficiency' savings do not translate simply into commensurate reductions in the number of patients being treated or in the quality of the care they receive. To guard against this, it will be important to examine variations in productivity in different parts of the country so that efforts can be targeted to where most gains are to be made.

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Street A, Ward P. NHS input and productivity growth 2003/4 - 2007/8: Centre for Health Economics, University of York, CHE Research Paper 47; 2009. http://www.york.ac.uk/inst/che/pdf/rp47.pdf

Publications

Barbieri M, **Hawkins N**, **Sculpher MJ**. Who does the numbers? The role of third-party technology assessments to inform health systems' decision-making about the funding of health technologies. *Value in Health*. 2009;12:193-201.

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Mason AR, Mason J, Cork M, Dooley G, Edwards G. Topical treaments for chronic plaque psoriasis. *Cochrane Database of Systematic Reviews* 2009. Issue 2. Art. No.: CD005028. DOI: 10.1002/14651858.CD005028.pub2.ISSN 1465-780X

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Richardson G, Bojke C, Kennedy A, Reeves D, Bower P, Lee V, et al. What outcomes are important to patients with long term conditions? A discrete choice experiment. *Value in Health*. 2009;12(2):331-9.

Weatherly HLA, **Griffin S**, McDaid C, Duree KH, Davies RJO, Stradling JR, **Sculpher MJ** et al. An economic analysis of continuous positive airway pressure for the treatment of obstructive sleep apnea-hypopnea syndrome. *International Journal of Technology Assessment in Health Care.* 2009;25(01):26-34.

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

RP46
Exploring the impact of public services on quality of life indicators - **Adriana Castelli, Rowena Jacobs, Maria Goddard and Peter C Smith**

RP47
NHS input and productivity growth 2003/4 - 2007/8 - **Andrew Street and Padraic Ward**

RP48
Investigating patient outcome measures in mental health - **Rowena Jacobs**

Conference, seminar and workshop presentations

Roy Carr-Hill was in Hanoi in the first week of April demonstrating how the techniques of poverty mapping could be extrapolated to synthetic estimation of morbidity across Vietnam.

Roy Carr-Hill and Andrew Street have both visited Damascus recently where they gave a course on Health Economics to a group of Syrians working in the Ministry or in Public Health.

In May, ***Adriana Castelli*** presented a paper at the conference 'Multivariate methods and models for evaluating public services' held in Rimini, Italy on *'Can public service organisations influence quality of life?'* a joint work with Rowena Jacobs, Maria Goddard and Peter C Smith. In June she presented the paper again for an invited seminar at the Health Economics Research Group, Brunel University.

Presentations were made at the Kennedy Workshop on NICE's approach to valuing innovation, London, May 19th 2009. ***Karl Claxton*** on the Innovation Review - The Value of Innovation and ***Mark* Sculpher** on the Innovation Review - Methodology of Assessing Value: Response to Amgen Proposals.

Mike Drummond was a plenary speaker and workshop leader at the 25th Anniversary Conference of the Canadian Agency for Drugs and Technologies in Health, in Ottawa in April. Mike addressed the topic *'Collecting evidence to support decision-making: towards a national system'* by speaking about initiatives and experiences in Europe regarding drugs policies within a public health system. In May, Mike gave several presentations at the 14th Meeting of ISPOR.

In March, ***David Epstein*** presented a paper on *Analisis de sensibilidad* (Sensitivity analysis) at the Seminar at idEC/CRES, Barcelona.

In April, ***Maria Goddard*** presented a paper at a European policy seminar in Brussels on barriers to healthcare services for people with mental disorders. Maria was also a member of an international assessment panel for health services research programme grant applications to the Swedish government in Stockholm on 26-27 May.

In March, ***Rowena Jacobs*** presented a paper at the 9th Workshop on Costs and Assessment in Psychiatry in Venice, on *'The uptake of mandatory outcome measures in mental health services'*.

Anne Mason was lead author for a new Cochrane review on *'Topical treatments for chronic plaque psoriasis'*. The review is one of the largest new additions to the Cochrane library and received media coverage in the US and the UK.

Mark Sculpher presented a paper on *Assessment and appraisal of cancer medicines: do they deserve a special treatment?* at the Issues Panel, International Society of Pharmacoeconomics and Outcomes Research. Florida, May 2009. He also presented a paper at the Annual Conference for the German Association of Research-Based Pharmaceutical Companies, Berlin April 2009, on *Economic evaluation to support decision making: recent developments*. Mark presented two papers at LMI, Medicines Agency in Norway and the Norwegian Knowledge Centre for the Health Services one day conference on health economics, Oslo March 2009; one paper on cost-effectiveness thresholds and one on NICE methods guidelines.

Peter Smith gave a seminar on *'Paying for performance in health services: lessons from the UK experience'* at the World Bank in Washington DC. He also gave a keynote speech *'Some recent innovations linking health services quality to costs'* at the Annual Conference of the Norwegian Knowledge Center for Health Services in Bergen. He has been appointed to the World Health Organization Expert Panel on Health Promotion.

CHE Seminar Series

Date: Wednesday 26th August
Time: 2.00pm to 3.15pm
Venue: ARRC Auditorium RC/014
Speaker: Owen O'Donnell, University of Macedonia.
Title: Long run returns to education: Does schooling lead to an extended old age?

Date: Thursday, 3rd September
Time: 2:00pm to 3:15pm
Venue: ARRC Auditorium RC/014
Speaker: Joanna Coast, University of Birmingham.
Title: Capability measurement within health care: theoretical and methodological issues

Visit our website for further details on the CHE Seminar series and our series of specialist seminars in economic evaluation:
www.york.ac.uk/inst/che/seminars/index.htm