

Institution: London School of Economics and Political Science
Unit of Assessment: 19: Business and Management Studies
Title of case study: Setting healthcare priorities to improve population health
<p>1. Summary of the impact (indicative maximum 100 words)</p> <p>LSE research has formed the basis for a new assessment framework which helps healthcare planners set priorities within fixed budgets. Since 2005, a group of scholars at LSE has been developing a programme of applied research that is enabling organisations responsible for commissioning health services to make better use of their limited resources to improve value for their populations. It has led to: (a) new health spending strategies in the Isle of Wight in 2007, 2008 and 2009 that delivered a 50% reduction in emergency asthma admissions; (b) 15% savings on the spend on eating disorder services in Sheffield from 2009; (c) new guidelines for commissioning cost-effective care in chronic obstructive pulmonary disease; (d) a user-friendly Excel decision support tool, user-guidance and instructions for facilitators available for free download, as well as training modules for potential users; and (e) the evaluation of alternative strategies for the allocation of US\$10 million per year to fight tuberculosis in Sudan in 2013-15, this being the first of a series of pilots to adapt the LSE assessment framework to the new funding model of the <i>Global Fund</i>.</p>
<p>2. Underpinning research (indicative maximum 500 words)</p> <p><i>Research Insights and Outputs:</i></p> <p>The research aims to remedy shortcomings of existing techniques for the allocation of healthcare resources (see Reference 1), and has been organised in two phases.</p> <p>The <i>first phase</i> saw the development of a conceptual framework that combines epidemiological analyses of populations with health economics analyses of cost effectiveness to assess the impacts of interventions on populations in terms of costs and gains in health (2, 3). LSE research identified a material flaw in the way a leading epidemiological approach to cost-effectiveness - using estimates of the burden of disease in populations based on life-tables - is used by (amongst others) the WHO's Generalised Cost-Effectiveness Analysis (GCEA).</p> <p>The <i>second phase</i> saw LSE's conceptual framework turned into a usable assessment technique which combines the strength of welfare economics as a normative framework and the tools of decision analysis to support decision making. On one hand, health economists consider welfare economics to be the reference analytical framework for these decisions and recommend the technique of cost-effectiveness analysis. This technique, however, requires skills and resources that are not available to healthcare managers. On the other hand, decision analysis provides a wide range of techniques for supporting priority setting decisions, such as problem structuring, preference elicitation, assessment of uncertainty and trading off conflicting objectives. These usable techniques, however, are not related to welfare economics systematically.</p> <p>LSE researchers then engaged in a programme of action research with three Primary Care Trusts in England (4 and 5), health authorities in the region of Tuscany, and the province of Ontario. In each case, the team encountered a fundamental difficulty – namely, that the local systems consulted did not provide data on the impacts of interventions on the health of populations. The LSE team thus designed a process that uses visual models to enable key stakeholders (including clinicians, managers, epidemiologists, patients, carers and the public) to estimate health gains at the population level of different interventions and thence compare their Value for Money (VfM).</p> <p><i>Key Researchers:</i> Gwyn Bevan (Professor at LSE since 2003 and project lead), Mara Airoidi (research officer since 2003 and LSE fellow since 2011), and Alec Morton (now a Professor at Strathclyde Business School, at LSE between 2004 and September 2013). All three have been on</p>

the project since its inception in 2005. Nikos Argyris (2008-2010) and Chiara de Poli (2011-) have been employed as a research fellow and research assistant on the project, respectively. Jenifer Smith (Public Health England Centre Director, South Midlands and Hertfordshire) has been a Visiting Fellow at LSE since 2011.

3. References to the research (indicative maximum of six references)

1. Airoidi, M. and Morton, A. (2011). "Portfolio Decision Analysis for population health". In A. Salo, J. Keisler and A. Morton (Eds.), *Portfolio Decision Analysis: improved methods for resource allocation*. New York: Springer. <http://eprints.lse.ac.uk/39436>
2. Airoidi, M., G Bevan, A Morton, M Oliveira and J Smith (2008) "Requisite models for strategic commissioning: the example of type 1 diabetes", *Health Care Management Science*, 11: 89-110. DOI: 10.1007/s10729-008-9056-9
3. Airoidi, M. and Morton, A. (2009). "Adjusting Life for Quality or Disability: Stylistic Difference or Substantial Dispute?" *Health Economics*, 18(11), 1237-1247. DOI: 10.1002/hec.1424
4. Airoidi, M. (2013). "Disinvestments in practice: overcoming resistance to change through a socio-technical approach with local stakeholders". *Journal of Health Policy, Politics and Law*, 38 (6): 1151-73. DOI: 10.1215/03616878-2373175
5. Airoidi, M., Morton, A., Smith, J., and Bevan, G. (2011). Healthcare prioritisation at the local level: a socio-technical approach. *SYMPOSE working paper no 7*. London: Department of Management, London School of Economics and Political Science. [http://www.lse.ac.uk/management/documents/WP7 - Healthcare prioritisation at the local level A socio-technical approach.pdf](http://www.lse.ac.uk/management/documents/WP7_-_Healthcare_prioritisation_at_the_local_level_A_socio-technical_approach.pdf) A revised version of this paper is under review at Medical Decision Making.

Evidence of quality: LSE's conceptual critique (3) won the Award for Excellence in Methodology from the International Society for Pharmacoeconomics and Health Outcomes Research: (http://www.ispor.org/awards/methodology_.asp). Reference (1) appears in an award winning book for best publication in decision analysis in 2011 (<https://www.informs.org/Recognize-Excellence/Community-Prizes-and-Awards/Decision-Analysis-Society/Decision-Analysis-Publication-Award>).

Grant income: £500,000 for QQUIP project in 2005-10 (PI: Gwyn Bevan funded by The Health Foundation); £300,000 for Sympose project in 2010-13 (PI: Gwyn Bevan funded by The Health Foundation)

4. Details of the impact (indicative maximum 750 words)

Nature of the Impact: the LSE research described in Section 2 led to three main types of impact:

A. The assessment framework developed by LSE researchers is shaping the way of thinking of those responsible for setting healthcare priorities in the UK and beyond:

- the Health Foundation, a leading healthcare think-tank in the UK, has invested £200,000 (in addition to the grant to LSE listed above) to produce toolkit and guidance material for implementing the assessment framework LSE has developed. The LSE team has been contributing as a key member of a steering group to the development of the tool. The tool is called "socio-technical allocation of resources" or "STAR" and can be downloaded for free (<http://www.health.org.uk/areas-of-work/star/>) Free training modules are also available several times a year;
- the Global Fund, which is the world's largest financial supporter of programmes to fight AIDS, malaria and tuberculosis, invited the LSE team to run pilots to test its approach in helping recipient countries in developing clear investment plans that are good value-for-money. The first pilot was successful (Reference 15, in particular conclusions on p 35-36) and more are being scheduled for 2013/14;

- the action research programme LSE conducted to design and test our approach has influenced the way of thinking of those the School involved (managers, clinical staff, patients, public representatives), as discussed by Collier (6), as well as of healthcare planners in Tuscany (Italy) as discussed by Nuti and Vainieri (7);
- the work done in the Isle of Wight won an award for Excellence in Commissioning from the Institute for Innovation and Improvement (8), drawing the attention, and influencing the thinking, of healthcare planners in the English NHS;
- IMPRESS, a joint initiative between the two leading respiratory clinical societies in the UK; <http://impressresp.com/> used the LSE approach in the development of a commissioning guide on chronic obstructive pulmonary disease (9). This work was highly praised in an Editorial in the British Medical Journal by the Chief Knowledge Office of the NHS (10): “The tool used by IMPRESS ... should be adopted and adapted by all clinical communities of practice to estimate and visualise the marginal benefits of all aspects of care for the benefit of patients”.

B. Positive site-specific impacts on the local health economy:

- NHS Sheffield changed the pathway of care for eating disorder services by expanding the scale of early interventions (which were estimated to be highly cost-effective) and hence reducing the need for later intensive care (which was estimated not to be cost-effective) (6 and 11). According to recent interviews with executives, this program of action has improved the experience of patients, reduced costs by 15% and improved service coordination (p 18-19 in 11). Furthermore, resources thus saved could be used to produce additional health for other patients.
- The Isle of Wight decided a strategy to fund seven from a short-list of 21 initiatives from £1m of ‘growth money’ in 2008 (12). One of the results of LSE’s collaboration with the Isle of Wight was the reduction of emergency asthma admissions by 50% (page 17-18 in 12; description of award in 8).

C. Shaping the way healthcare planners think about setting priorities:

- Gwyn Bevan has been invited to be a witness to give evidence to two Health Committees of the House of Commons (13).
- Morton and Airoidi (14) were commissioned by the Department of Health to contribute to a seminar series to show how the approach we have developed could be used in developing policies for reducing health inequalities. They were also invited to present the LSE STAR tool to the Marmot Review on the social determinants of health inequalities in England.

Wider Implications:

Total health-care spending in England is over £100 billion annually. LSE research is contributing significantly at the margin to improvements in the ways that health-care funding is spent, and in some localities already to improvements in health-care outcomes per unit of resource spent.

5. Sources to corroborate the impact (indicative maximum of 10 references)

All Sources listed below can also be seen at <https://apps.lse.ac.uk/impact/case-study/view/30>

6. Collier (2010). Commentary on the Sheffield PCT/ LSE commissioning workshops facilitated by the Sympose research team in 2009. Unpublished evaluation document.
<https://apps.lse.ac.uk/impact/download/file/1270>

7. Nuti, S. and M. Vainieri (2013) Priority setting in sanità: l’esperienza del percorso scopenso

cardiaco e diabete mellito di tipo 2, Il Mulino: Bologna. Available from LSE on request.

8. NHS Isle of Wight (2009). NHS Regional Health and Social Care Awards 2009 This provides a description of the award received for the collaboration with the Isle of Wight. (<http://onthewight.com/2009/05/28/isle-of-wight-nhs-managers-win-award/>).

9. IMPRESS (2012). IMPRESS Guide to the relative value of COPD interventions. British Thoracic Society Reports Volume 4 ISSN 2040-2023: British Thoracic Society Reports, Vol 4, <https://apps.lse.ac.uk/impact/download/file/1168>

10. Gray, M. and El Turabi, A. (2012) "Optimising the value of interventions for populations". *British Medical Journal*, 345: e6192. <http://www.bmj.com/content/345/bmj.e6192>. Source files: <https://apps.lse.ac.uk/impact/download/file/1167>

11. Health Foundation (2012). Looking for value in hard times. <http://www.health.org.uk/publications/looking-for-value-in-hard-times/> . Source files: <https://apps.lse.ac.uk/impact/download/file/1172>

12. Health Foundation (2010). Commissioning with the community: exploring how the isle of Wight used a value for money approach to set local priorities. <http://www.health.org.uk/publications/commissioning-with-the-community/>. Source files: <https://apps.lse.ac.uk/impact/download/file/1173>

13. Health Select Committee. Commissioning, Session 2008-09 HC 1020-i. London, the Stationery Office, 2009. <http://www.publications.parliament.uk/pa/cm200809/cmselect/cmhealth/uc1020-i/uc102002.htm>. Accessed 20/11/2013.; and Third Report of Session 2010-11, evidence, HC 513-II. London, the Stationery Office, 2010. <http://www.publications.parliament.uk/pa/cm201011/cmselect/cmhealth/513/10111603.htm> Accessed 20/11/2013.

14. Morton, A. and Airoidi, M. (2010). Incorporating health inequalities considerations in PCT priority setting. LSE Management Science Group working paper LSEOE10.122. This is a paper commissioned by the Department of Health to shape the thinking of healthcare planners on how to set priorities to reduce health inequalities (<http://www.lse.ac.uk/management/documents/WP-10-122.pdf>)

15. Candidate 80146. Evaluating a methodology to improve the allocation of resources in country disease strategies supported by the Global Fund. Dissertation submitted in September 2013 for the degree of MSc in Management Science. <https://apps.lse.ac.uk/impact/download/file/1271>