



Editorial

Experimental and behavioral economics of healthcare



1. Introduction

Experimental and behavioral economics provide a paradigm for informative research in many areas of economics such as industrial organization, public economics, and labor economics. In health economics, however, the experimental method is a rather new approach. This is surprising in that Fuchs (2000) and Frank (2007) proposed using behavioral economics and experimental methods to complement traditional approaches in healthcare research more than a decade ago. Recently, however, the approach became a focus of attention and a growing number of research topics in health economics are currently being addressed by experimental and behavioral research.

Experimental methods and behavioral economics can give new insights into the behavior of actors in the increasingly complex market institutions in the healthcare sector. This is due to the advantageous features of experimental methods. To name only the most important ones: Controlled experiments can implement *ceteris paribus* variations in environment and incentives, and provide robustness checks on empirical outcomes. Laboratory experiments can provide low-cost “test bed” studies that guide design of large-scale field studies and proposed changes in public policy towards healthcare.¹

This special issue provides an overview of the state of the art showing that the interaction between experimental and health economics enriches our understanding of decision-making in the healthcare market and encourages novel methods of healthcare research. Topics included are clinical decision support, physician incentives in healthcare, healthcare systems and insurance, healthcare delivery, and public health.

2. The special issue: an overview

2.1. Clinical decision support

The interaction between experimental economics and health information technology provides a foundation for decision support systems that can improve healthcare decision-making. The first article in the special issue by Cox et al.² reports development and experimental testing of a clinical decision support system (CDSS) for improving hospital discharge decision-making. Subjects in the reported experiment were resident physicians and fourth-year medical students. Results from the experiment provide support for uptake of recommendations that can decrease hospital length of stay and reduce unplanned readmissions. The most significant effects come from combining the information provided by the CDSS with change of the default option from opt in to opt out. This article provides an example of how the expertise of experimental and behavioral economists can be used to create tools for improving healthcare.

¹ For a more extensive discussion see the conclusions section below.

² Articles co-authored by two of the guest editors were put through an anonymous refereeing procedure implemented by the editor of JEBO (W.S. Neilson).

2.2. Physician incentives and reputation in healthcare

Three articles report research on physician incentives in healthcare. Brosig et al. reports artefactual field experiments and laboratory experiments framed as physician decision-making. Treatments involve financial incentives from fee-for-service or capitation. Subjects in the experiments were physicians, medical students, and non-medical students. Findings include more medical services provided under fee-for-service than capitation. Physicians are reportedly less affected by changing incentives than other subjects in the experiment.

The second article by Cox et al. reports an experiment with two pay-for-performance (P4P) compensation plans: bundled payments and bonus payments. Subjects in the experiment were third and fourth year medical students. Findings are that both of the P4P compensation plans cost-effectively meet performance criteria of the Centers for Medicare and Medicaid Services for reducing hospital inpatient length of stay without increasing probability of unplanned readmission. Bundled payments are found to have more significant effects than bonus payments.

Godager et al. reports a laboratory experiment on effects of disclosing performance information to peers of the decision makers. Subjects in the experiment were medical students. Results from the experiment support the conclusion that the information structure does affect supply of medical services. Incidence of optimal care provision or outcomes that maximize joint profit and benefit are significantly higher with public information than with private information about chosen treatments.

2.3. Healthcare systems and insurance

Four articles report research on healthcare systems and insurance. Janssens and Kramer report a framed field experiment in Tanzania on take-up of micro health insurance plans by micro-finance clients. Treatments include individual or group insurance. With joint liability for loan repayment, individual insurance leads to free riding through less than optimal take-up of insurance. Group insurance produces higher take-up of health insurance policies.

Buckley et al. studies mixed private and public social insurance systems in which some type of exit from the public system is possible. With universal exit, anyone can opt for private insurance and exit the public system; with conditional exit, only high income individuals can exit. Results from the laboratory experiment are that high income individuals are less likely to exit in the universal exit treatment than in the conditional exit treatment although their incentives to do so are the same.

Huck et al. reports an experiment with a credence good interpreted as medical treatment. Patients do not know what treatment is appropriate; physicians know the appropriate treatment but have an incentive to over treat. Patients are free to choose their physicians in a system with competition among physicians. Treatments include medical insurance and observability of physicians' market shares. With insurance, patients consult more often and physicians over treat more often than in the baseline treatment. Competition decreases over treatment but causes patients to consult more often.

Mimra et al. study how second opinions affect the level of over treatment in a general credence good environment, similarly interpreted as the healthcare industry in the Huck et al. article. Patients were provided the option to search for a costly second opinion from another physician. When compared to an environment without that option, the authors found that costly second opinions reduced the level of over treatment. Market efficiency rises but only under low search costs.

2.4. Healthcare delivery

Five articles report research on healthcare delivery. Jakobsson et al. reports a survey of healthcare managers responsible for decisions about public provision of formal care for the elderly. Family members' provision of informal care can be a substitute for public provision of formal care. The paper focuses on the relationship between gender of the care recipient and the offspring providing care. The authors find evidence of significant discrimination by healthcare managers against mothers of daughters when comparing the gender of the offspring of individuals requiring care.

Herr and Normann reports a laboratory experiment with the priority rule for allocation of human organs for transplantation. Previous experiments indicate that giving priority to registered donors increases willingness to register. But many survey respondents report negative opinions on the priority rule. This motivates the authors' experiment in which they explore this discrepancy by implementing a vote on the priority rule within the donation experiment and also elicit opinions. A central finding is that participants in the donation experiment were more likely to indicate support for the priority rule in everyday life than were nonparticipants.

Li reports a laboratory experiment on the impact of persuasive messages on stated willingness to donate organs for transplantation. Subjects in the persuasive message treatment were informed of the potential value to the recipient of a donated organ both before the experiment and at the beginning of each round. Results from the experiment support efficacy of persuasive messages for increasing stated willingness to donate.

Lindeboom et al. reports a large-scale field experiment on the effects of conditional and unconditional audits on compliance with policy in provision of immediate (home and nursing) care. A central finding is neither varying unconditional audit rates nor switching to a conditional audit regime affects quantity and quality of applications for immediate care. This finding indicates that audit regimes that lack direct sanctions for noncompliance are likely to be ineffective in improving allocations.

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