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What should (public) health insurance cover?☆

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Abstract

In any system of health insurance, a decision must be made about what treatments the insurance should cover. One way to make this decision is to rank treatments by their ratios of health benefits to treatment costs. If treatments that are not offered by the health insurance can be purchased out of pocket, the socially optimal ranking of treatments to be included in the health insurance is different from this standard cost-effectiveness rule. It is no longer necessarily true that treatments should be ranked higher the lower are treatment costs (for given health benefits). Moreover, the larger are the costs per treatment for a given benefit–cost ratio, the higher priority should the treatment be given. If the health budget in a public health system does not exceed the socially optimal size, treatments with sufficiently low costs should not be performed by the public health system if treatment may be purchased privately out of pocket.

JEL classification: H42; H51; I10; I18

Keywords: Health insurance; Prioritization; Cost-effectiveness

1. Introduction

In any health insurance system, public or private, one must make a decision about what treatments the health insurance should cover. Health economists have often argued that cost-effectiveness analysis should play an important role in choosing what should be offered by health

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insurance. Cost-effectiveness is in this context usually defined as the minimum cost for a given health benefit, or equivalently, maximal health benefits for given expenditures on health care.[1] There is a large literature that is critical to this type of analysis. One line of criticism is that cost-effectiveness analysis requires an aggregate measure of health benefits. Whether this measure is "quality adjusted life years" (QALYs) or some other measure, one needs severe restrictions on a general preference ordering over life years and health quality of each life year to be able to represent preferences by any simple aggregate measure.[2] A second line of criticism has been that whatever aggregate health benefit measure one uses to represent preferences at the individual level, one might question the ethical or welfare theoretical basis for aggregating health benefits across individuals.[3]

The present paper ignores the above-mentioned problems with cost-effectiveness analyses of prioritization issues. The focus is instead on a different important issue: at least for public health insurance, most of the literature that discusses how a health budget should be allocated across potential medical interventions explicitly or implicitly assumes that the health interventions that are not funded by the public budget are not carried out. However, both under public and private health insurance it is often possible to purchase treatment out of pocket if treatment is not covered by the health insurance. Examples of treatments that typically may be purchased out of pocket are surgical sterilization, assisted fertilization, cataract surgery, dental care, prescription medicine. Comparing different insurance arrangements one will find that they differ with respect to what is covered and what is not. When treatments of the type above are not covered by the health insurance, they are nevertheless available for those who want to finance the treatment out of pocket.

The paper discusses the use of cost-effectiveness analyses for prioritizing a health budget for a public health system or a private insurance company when an out of pocket option exists. It is shown that when there is an out of pocket option, a simple cost-effectiveness criterion of maximizing the sum of some aggregate measure of health benefits for a given budget is not necessarily the best way to allocate the health budget. In particular, such standard cost-effectiveness analysis does not maximize the sum of utility levels of the members of the health insurance. The reason for this is that the benefit of including a particular treatment in the insurance program can no longer be measured simply by the gross health improvement this treatment gives: some of the health care would otherwise have been performed in any case, so the net health increase is lower than the gross increase. On the other hand, by including a treatment in the health insurance, there are reduced personal costs of treatment financed out of pocket. This cost saving should be included in the benefit side of including the treatment in the health insurance. In order to add the benefits of improved health with the personal cost saving one is thus forced to make a monetary valuation of the net increase in health benefits. The paper shows that maximizing the sum of utility levels of the members of the health insurance (given the budget) gives a different outcome than simply maximizing gross or net health benefits for the given health budget. A comparison is also

[1] For a further discussion of analyses based on the cost-effectiveness see e.g. Weinstein and Stason (1977), Johannesson and Weinstein (1993), Garber and Phelps (1997) and Garber (2000).

[2] See e.g. Broome (1993), Mehrez and Gafni (1989), Culyer and Wagstaff (1993), Bleichrodt and Quiggin (1999) and Gafni et al. (1993).

[3] Criticism of this type of aggregation has been given by e.g. Harris (1987), Wagstaff (1991), Nord (1994), Olsen (1997) and Dolan (1998), while e.g. Bleichrodt (1997), Bleichrodt et al. (2004) and Østerdal (2005) have provided axiomatic analyses showing how one can aggregate individual QALYs to reach a social objective function with a sound welfare theoretical basis.