

## Examination guidelines for HECON4220 – Paying Providers of Health Care

### Question 1: (50 %)

- a) Explain the difference between price rationing and non-price rationing of health care. Give examples of the two types of rationing.**

With price rationing, access to goods is determined by willingness and ability to pay according to a stated price for the good. The content of Section 1 Price rationing in Siciliani (2012) is a good start of the explanation. Non-price rationing occurs when the total demand for a good at the prevailing price is greater than the total supply. Examples of non-price rationing are rationing by waiting lists, bedside rationing, threshold rationing, and prioritization according to explicit rules.

- b) Why is non-price rationing more common for health care than for many other goods and services?**

Due to uncertainty with regard to future health, there is a demand for health care insurance. Insurance implies small user charges (co-payment) and a potential excess demand. Hence, types of non-price rationing are required to balance demand with available supply.

An additional argument is a social preference for equitable access to health care.

- c) Explain why demand for health care and supply of health care are functions of the waiting time before treatment. Explain why the impact of a supply shift on waiting time depends on whether or not there is inelastic demand.**

A good answer should describe and discuss elements of “Section 2 Positive Analysis” in Siciliani and Iversen (2012) and “Section 2 Waiting time and other indirect rationing” in Siciliani (2012). The explanation of why the impact of a supply shift on waiting time depends on whether or not there is inelastic demand, should include mechanisms contained in Figure 2 of Siciliani (2012).

**d) Explain why waiting time is considered to be a socially inefficient instrument for rationing health care.**

This part draws on “Section 3. Normative analysis” in Siciliani and Iversen (2012) and Sections 2 and 3 in Siciliani (2012). A good answer would elaborate on the cost of waiting as a dead weight loss. The cost for the waiting patient does not have a corresponding benefit for other agents in the system. A comparison of the patient welfare with threshold rationing should be included either in this part or in part 1e). The comparison should include an exposition of the mechanisms involved in the two types of rationing.

**e) Explain why other types of non-price rationing than waiting times have been more common during recent years in many health systems.**

The content of other types of non-price rationing should be described and some description of their development and prevalence in health systems during recent years should be provided. A good answer requires arguments in favor of improvement in patient welfare. Arguments can be made by words or more formally by using model(s) from the articles.

**Question 2: (50 %)**

**a) Explain what it means that important aspects of health care quality are non-verifiable (not contractible).**

It means that important aspects of health care quality cannot be included in a contract because a proof of violation is insufficient to be taken to court. One reason is that health outcome is uncertain and only partly determined by the effort of health care providers.

**b) Would you recommend some cost reimbursement to providers when treatment quality is non-verifiable? Would your recommendation depend on whether providers care about treatment quality?**

A good answer should include the reasoning of chapter “10.3.1.3 Unverifiable Quality and Treatment Outcomes”. The conclusion from the reasoning is that some cost compensation is optimal from the payer’s perspective when providers care about quality ( $V_q < 0$ ). The reasoning can be done by words or by (part of) the model in the section. The candidate should also explain why it is not optimal with cost reimbursement if the provider derives disutility from providing quality or is neutral.

- c) **Explain why an optimal payment system for health care providers involves a trade-off between cost reducing effort and treatment quality when treatment quality is non-verifiable.**

A good answer should argue by means of the formal textbook model or by means of words that some cost compensation increases quality but also reduces cost-reducing effort because cost compensation implies that the provider keeps only part of the surplus that results from cost reducing effort.

- d) **Show that an optimal level of quality from the payer's perspective can be obtained in this case.**

The model is from "10.3.1.3 Unverifiable Quality and Treatment Outcomes" of the text book. A good answer is expected to derive the first order condition of the provider's utility maximization and show that the chosen quality is optimal from the payer's perspective if  $p_{FB}n_q[q_{FB}] = B_q[q_{FB}]$ , where FB is first best and  $B_q$  is the marginal benefit from the payers perspective. First best quality is found by maximizing welfare with respect to  $e$  and  $q$ .

- e) **During recent years, various types of Pay for performance (P4P) schemes have been common in many health care systems. These schemes require that rewarded quality components are verifiable. Discuss the importance of substitutability and complementarity in the assessment of P4P schemes.**

Quality dimensions are substitutes when they compete for the provider's time. More attention to the measurable dimension would then imply a lower level of the unmeasurable quality dimension. Quality dimensions are complements when there is scope economies or learning by doing. For instance, an investment in a system of electronic patient records can make it less costly for the provider also to increase the quality dimensions that are not rewarded by P4P.