

A Model of Hospital Quality Competition with Heterogeneous Quality and Medical Malpractice

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Preliminary draft - November 2019

Abstract: Hospital quality is a key factor in reducing risks of medical malpractice and ensuing litigations. Hospital competition can increase quality, when marginal costs are constant, hospitals are profit maximisers and have positive price-cost margins. Yet the effect of the litigation process on quality within a competitive market remains to be examined. Building on a model of optimal quality under competition, *à la Brekke*, we examine how the effect of competition on quality is sensitive to the litigation process in case of medical accident. Our game-based framework combines models of hospital competition and of strategic pretrial negotiation under asymmetric information *à la Bebchuk*.

Following the literature, we assume that an intensified competition increases the responsiveness of demand to quality and decreases demand for one hospital. Demand and costs are increasing in qualities. According to their sizes, hospitals may operate under excess supply (economies of scale) or excess demand (diseconomies of scale). Our contribution is to incorporate the costs for the hospital of malpractice (i.e. litigation) and to distinguish two dimensions of quality, one that reduces the probability of accident and one which doesn't. We assume the hospital is less likely to be found liable as the quality level increases.

We find that under excess demand, a rise in competition between hospitals will directly increase both levels of qualities. However, interactions between dimension of quality can reverse this standing, by a substitution effect between the two types of quality. Under excess supply, competition has an ambiguous direct effect on both qualities and both types of quality are complementary. We show that the system for allocating litigation costs (US or UK) does not affect the impact of competition on the equilibrium probability of trial but the equilibrium settlement amount is lower as well as the probability of litigation under the UK litigation rule.

Keywords: Hospital competition, quality, litigation.

JEL Codes: I11, L13, K41