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Addiction and Treatment in a rational framework - can lowering health care costs have adverse effects? Preliminary report.

In this paper we construct a formal model to analyze how a change in the price of health care services affects the consumption of addictive goods. We build upon the seminal paper of Becker and Murphy (1988) on rational addiction in that we investigate the optimal paths of consuming an addictive good c (say drugs or alcohol) and treatment h for the addiction from the point of view of a utility maximizing agent. An added feature of our model is that we allow past consumption of c to have an effect the present consumption of h and vica-versa. We find that in certain cases our model can predict an increase in the consumption of an addictive good as a consequence of a decrease in the price of health care services. For example if the treatment of an addiction is itself addictive, then given symmetric preferences and price structure, a decrease in the price of the treatment triggers an increase in the use of the addictive good. We obtain a similar result with less restrictive assumptions on the agent's preferences and on the price structure. Though one can obtain a general solution to our model, the qualitative analysis of the general solution is less tractable. Thus we restrict our analysis to cases of simplified preference structures. (Received September 18, 2009)