

## Health Providers' Payment Schemes with Precision Medicine

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### Abstract

We study the incentives for health providers to use personalized medicine in their everyday work. We develop a model with two types of patients and two treatments (a default one, and a personalized one), where two (non-exclusive) technologies can be used by health providers to ascertain any specific patient's type and treat them with the corresponding preferred treatment. The first technology is a classical diagnostic effort, which results in an imperfect signal of the patient's type. The second technology is a diagnostic test revealing the patient's type with certainty. We first study the optimal testing and treatment decisions by a utilitarian social planner. We then analyze the case where imperfectly altruistic health providers have to be incentivized to use the personalized treatment. The optimal payment scheme is a combination of a capitation and of a pay-for-performance fee. We then extend the model to a setting where public funds are costly, where altruism is non observable and where diagnostic tests are imperfect (making both type I and type II errors).