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Performance incentives and the structure of contracts

Manoj Mohanan¹

¹Associate Professor, Sanford School of Public Policy, Duke University, Durham, North Carolina, United States.



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Keynote on Health Economics

Health and social care systems involve a myriad of relationships between the agents involved. From an economics point of view, the health-care systems can be described by the economic relationships and interactions between patients and health-care providers and funding bodies. These relationships and interactions depend on the incentive structure underlying the health systems. Different incentive schemes could alter the interactions among different agents involved. Economics provides a way to analyze those interactions and choose an efficient incentive structure that may have profound implications for health-care resources' efficient and equitable distribution. The designing and assessing performance incentive contracts should be systematized. Incentives could be linked to the output variables or to the use of specific inputs. The former rewards innovation in health intervention but involves more risk, which may deter health care workers at the grass root level. Heterogeneity among care providers may require a flexible approach to design and advance contracts.

In field research conducted in the state of Karnataka, obstetricians were incentivized with two types of reward contracts. The first type rewarded physicians for increased use of some quality inputs, and the other type provided monetary incentives to improve overall health outcomes. Karnataka was chosen primarily because it had poor maternal and neonatal health levels – maternal mortality and infant mortality in the state were 144 deaths/100,000 live births and 31/1000 live births, respectively. In contrast, the analogous figures in Kerala, one of the best states in terms of health outcomes and infrastructure, were 66/100,000 live births and 12/1000 live births, respectively. The primary objective of this experiment was to test the trade-offs between payment contracts that rewarded health outcomes vis-à-vis other payment contracts that stipulated the usage of specific inputs. The latter contract provided financial benefits to physicians if they adopted inputs above a pre-established level. In contrast, the former contract rewarded participants for decreasing three major causes of maternal mortality: Postpartum hemorrhage (PPH), pre-eclampsia, and sepsis, to levels below a pre-specified baseline.

Overall results show that both types of incentive contracts performed similarly in evoking the response from medical practitioners. For instance – in both incentive programs, the probability of PPH among patients saw a 20% decline. However, there were telling differences in the behavior of different subgroups of physicians under two different contract regimes. Contracts designed to incentivize better input usage, improved health outcomes independent of the skill levels of the physicians, while under output-driven contracts, most of the improvement was driven primarily by the medical practitioners with advanced medical training (medical degree with specialization in obstetric training) that evinces the possibility that high-skilled medical workers in the output

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contract were more inclined to adopt and implement new health-care strategies than their counterparts in the input contract.

Moreover, researchers also found that the effect of output incentives varied among providers based on their personality traits. For instance, providing output incentive contracts to medical providers with lower levels of conscientiousness, who on average had a subpar performance, led to a 37% reduction in the incidence of PPH. The same contracts did not affect the performance of providers with higher levels of conscientiousness. Results also indicate that output contracts improved providers' performance with more significant emotional stability, as measured by low levels of neuroticism. The providers with higher levels of neuroticism did not improve their performance when provided with similar contracts.

Incentive-based contracts can help in improving providers' performance, though it differed based on their skill level

and personality traits, specifically in output target-driven contracts. Policy-makers need to consider the provider's skill level and personality traits while designing performance incentives.

Declaration of patient consent

Patient's consent not required as there are no patients in this study.

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Conflicts of interest

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